

# PUBLIC SUBMISSION

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Holtec International HI-STORE Consolidated Interim Storage Facility Project

**Comment On:** NRC-2018-0052-0058

Holtec International HI-STORE Consolidated Interim Storage Facility Project

**Document:** NRC-2018-0052-DRAFT-0214

Comment on FR Doc # 2018-10418

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## Submitter Information

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**Organization:** P

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## General Comment

The final attachment is my comment--5000 words is insufficient to identify all the is wrong about this proposal and the high risk of harms to a whole lot of Americans.

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## Attachments

Cities\_Affected

State Maps

115th Congressional Districts 7252017

Summary of Oscar Shirani

mdbargefactsheet92804

vabargefactsheet92804

debargefactsheet92804

SUNSI Review Complete  
Template = ADM-013  
E-RIDS=ADM-03  
ADD= Antoinette Walker-Smith, Jill  
Caverly (JSC1)

COMMENT (213)  
PUBLICATION DATE: 3/30/2018  
CITATION # 83 FR 13802

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mabargefactsheet92804

mibargefactsheet92804

lamsbargefactsheet92804

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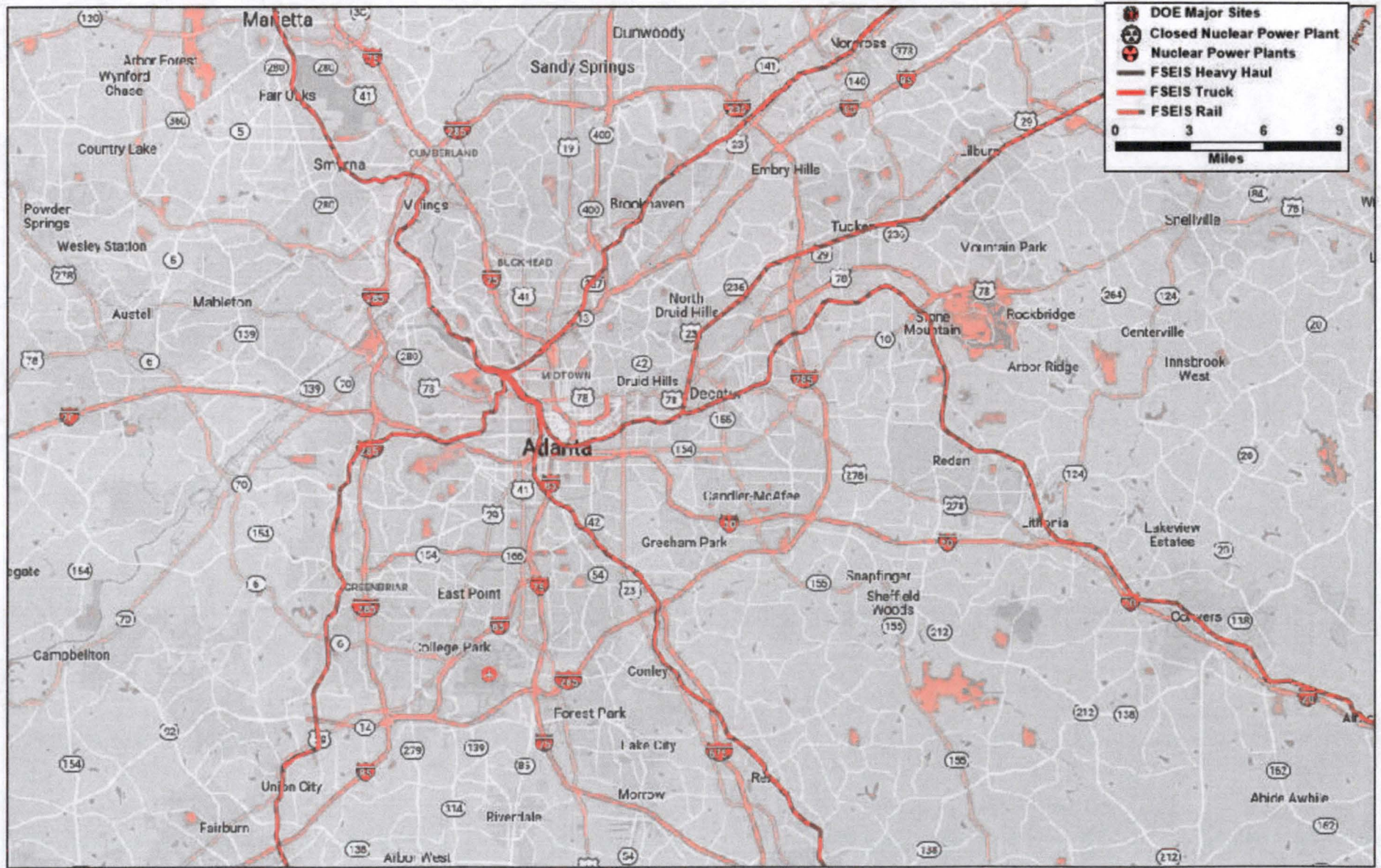
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The Nuclear Regulatory Commission Holtec project comment

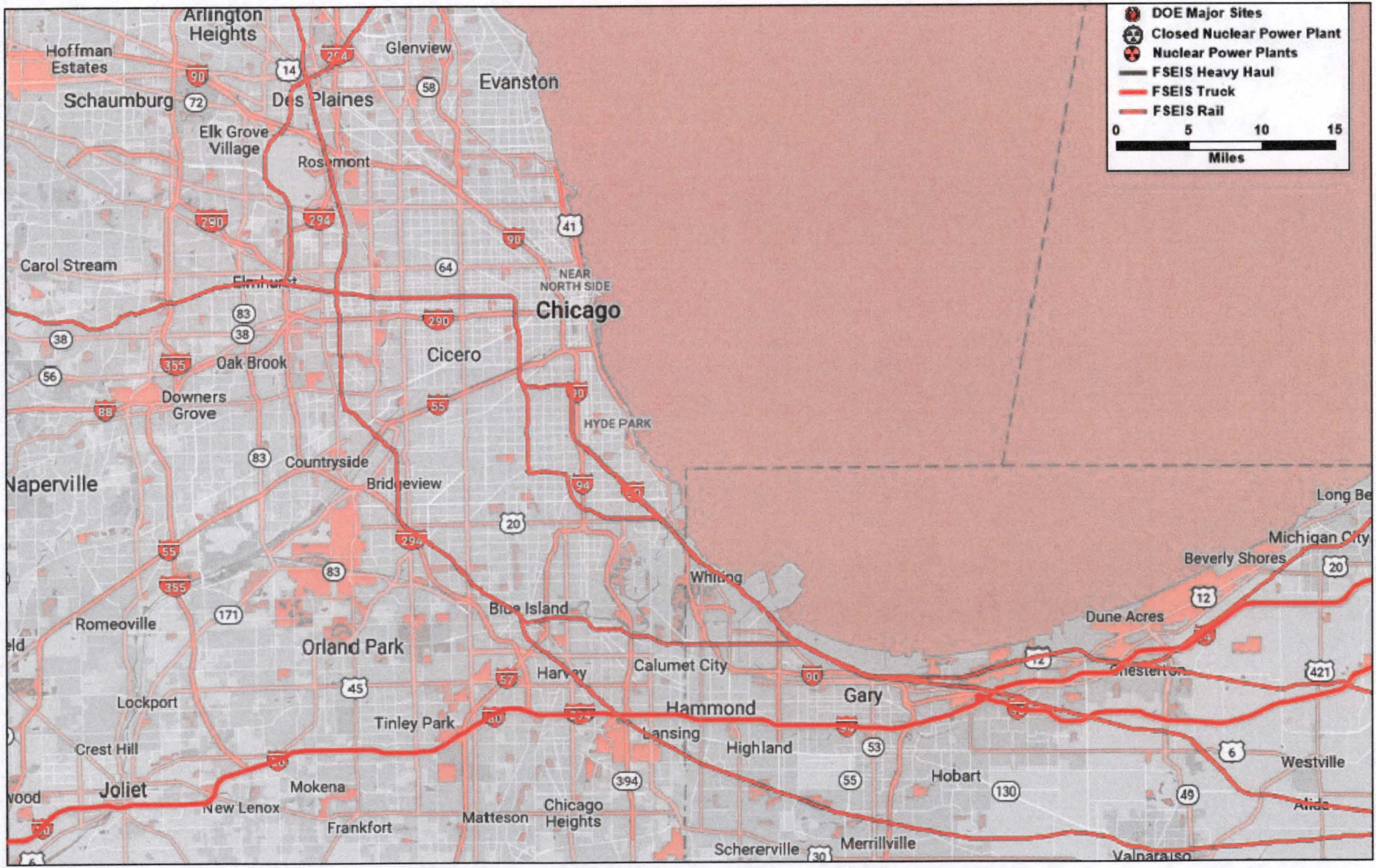












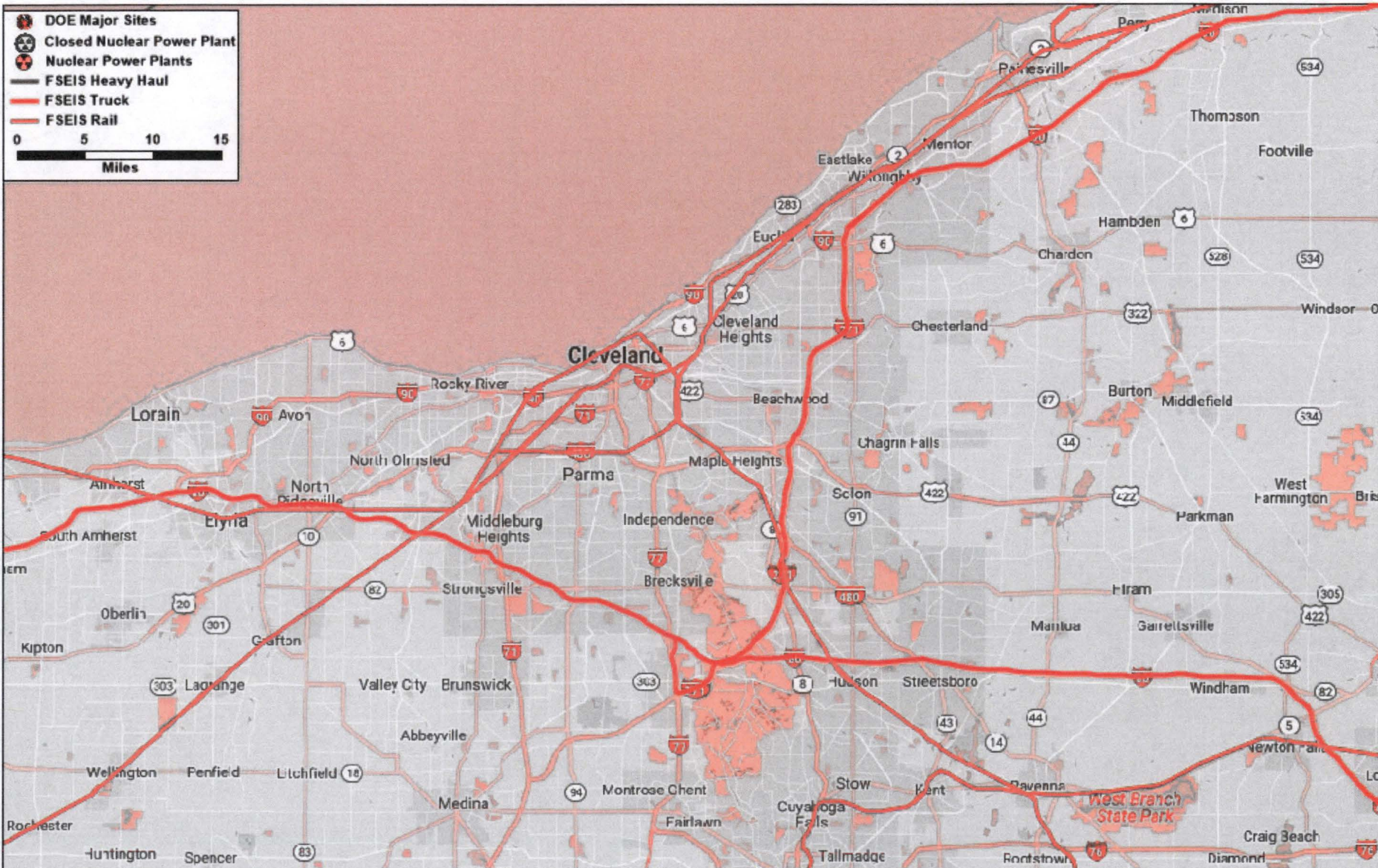
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- Closed Nuclear Power Plant
- Nuclear Power Plants
- FSEIS Heavy Haul
- FSEIS Truck
- FSEIS Rail

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Miles

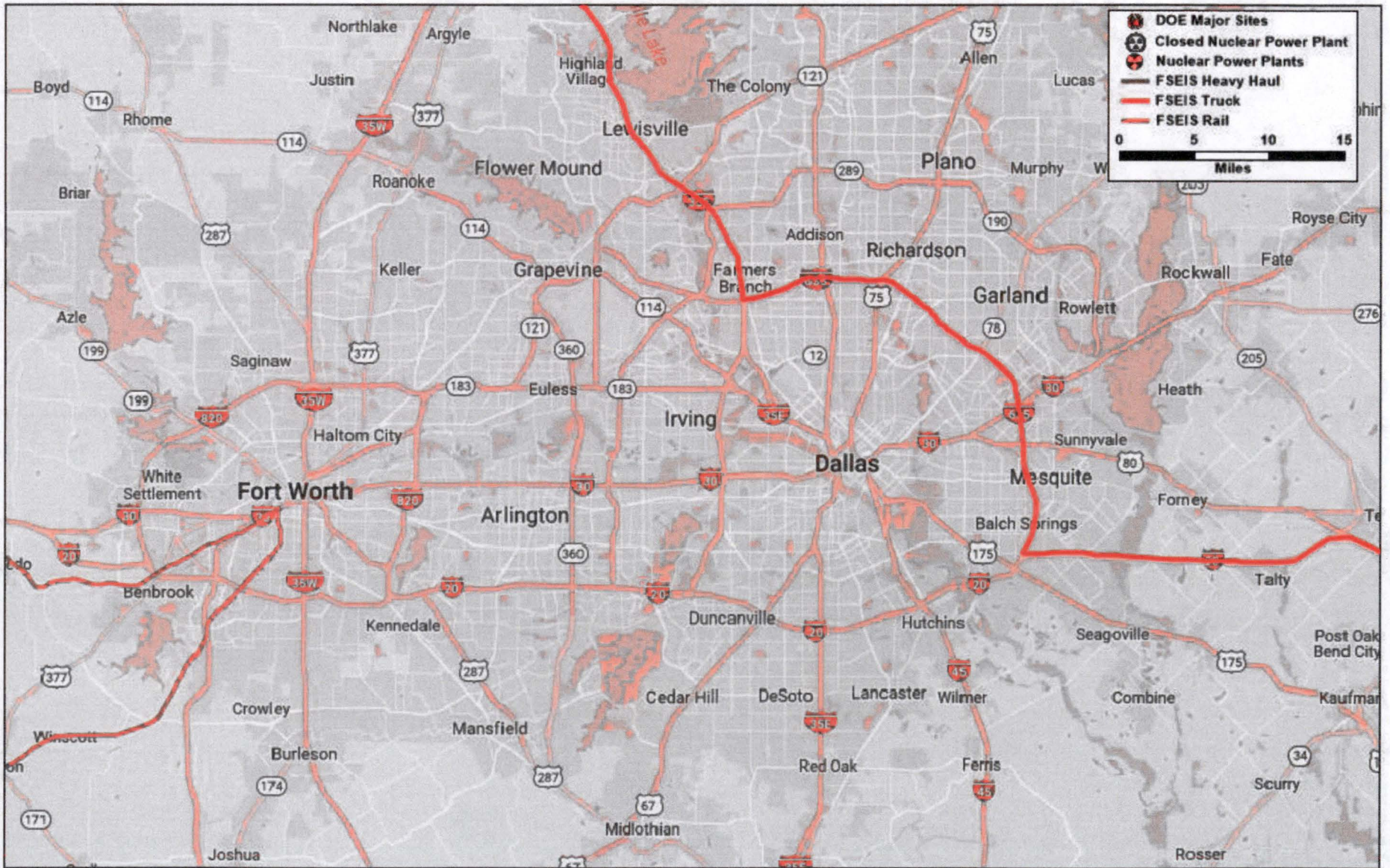


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Closed Nuclear Power Plant  
Nuclear Power Plants  
FSEIS Heavy Haul  
FSEIS Truck  
FSEIS Rail

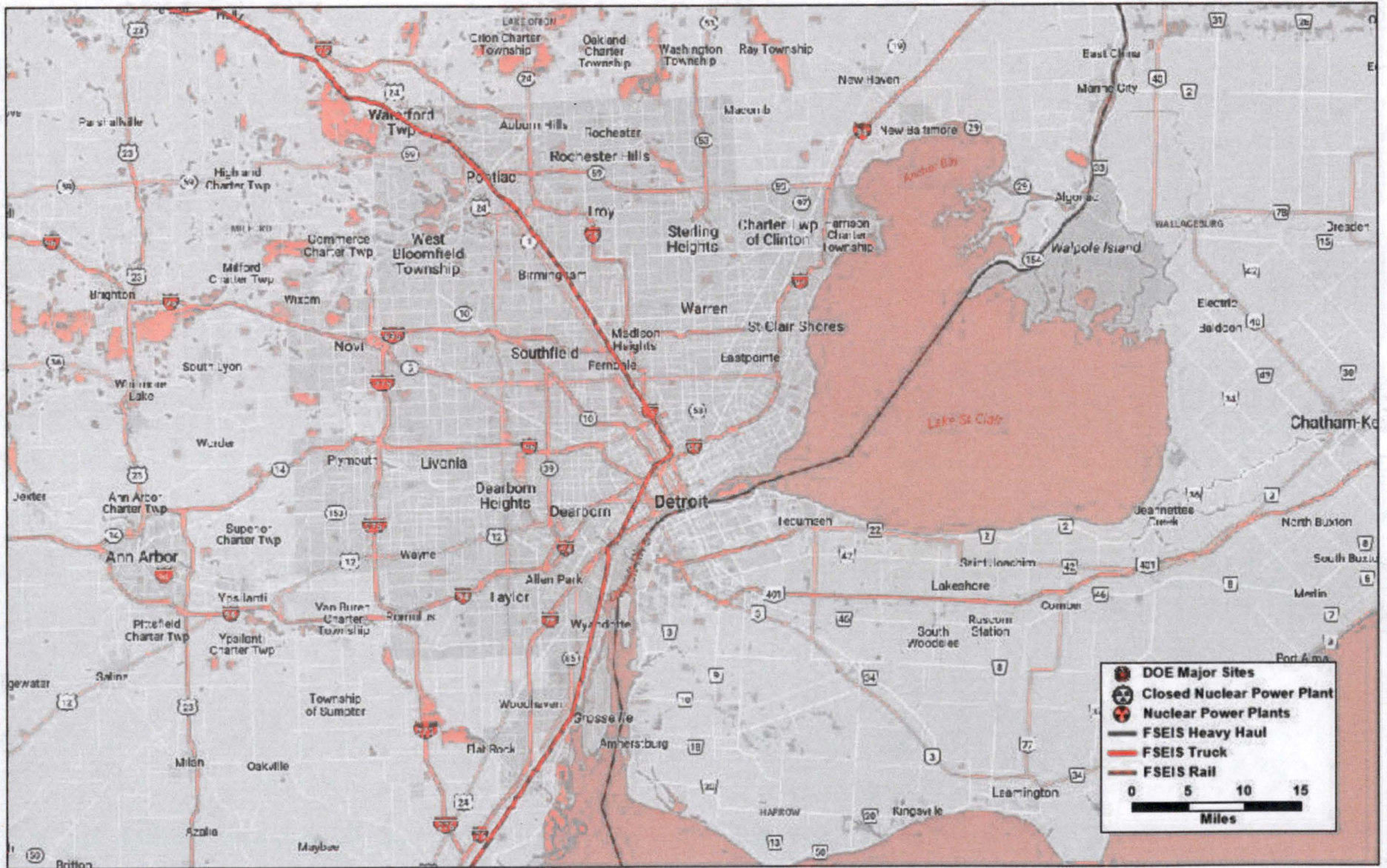
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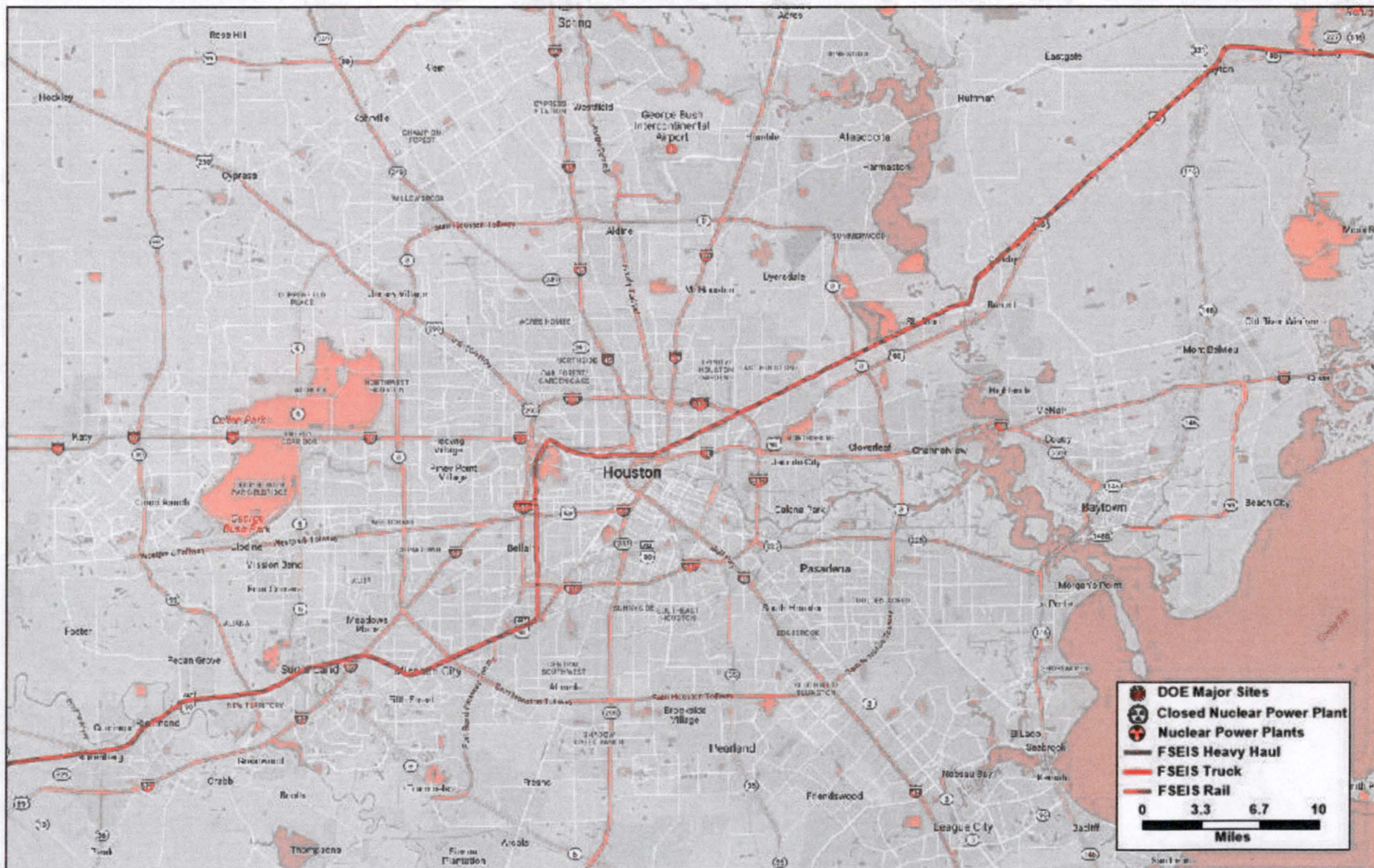




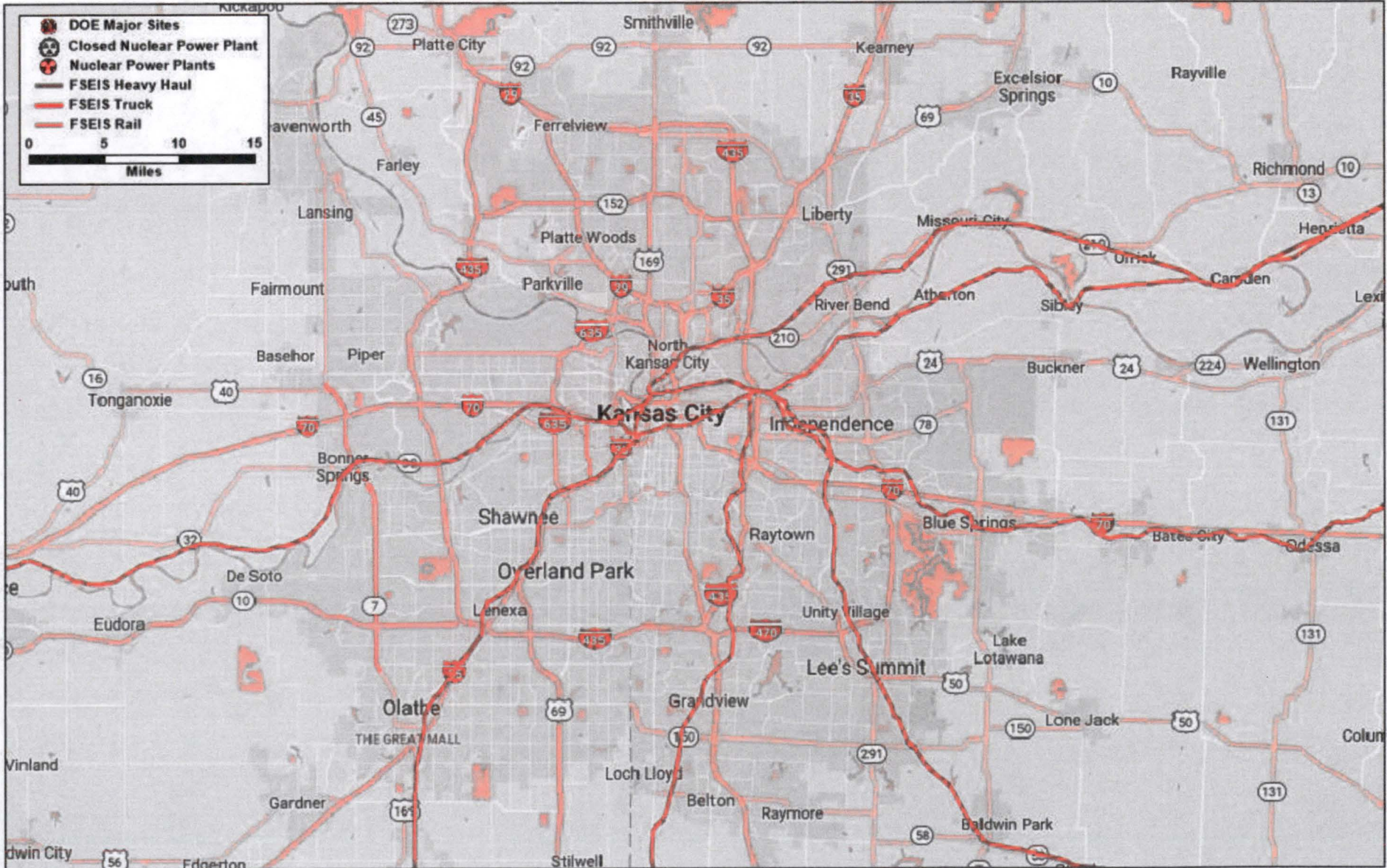




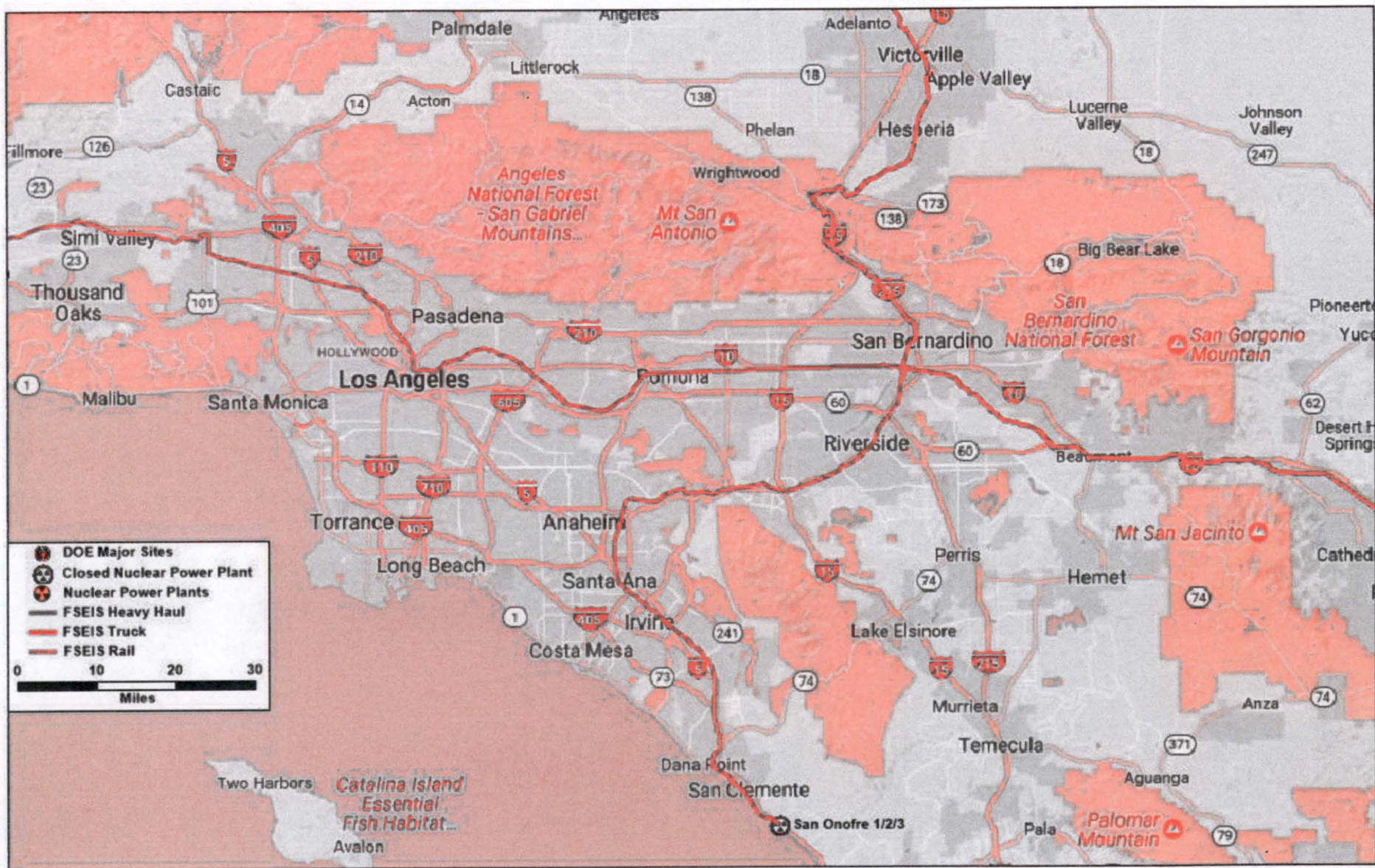




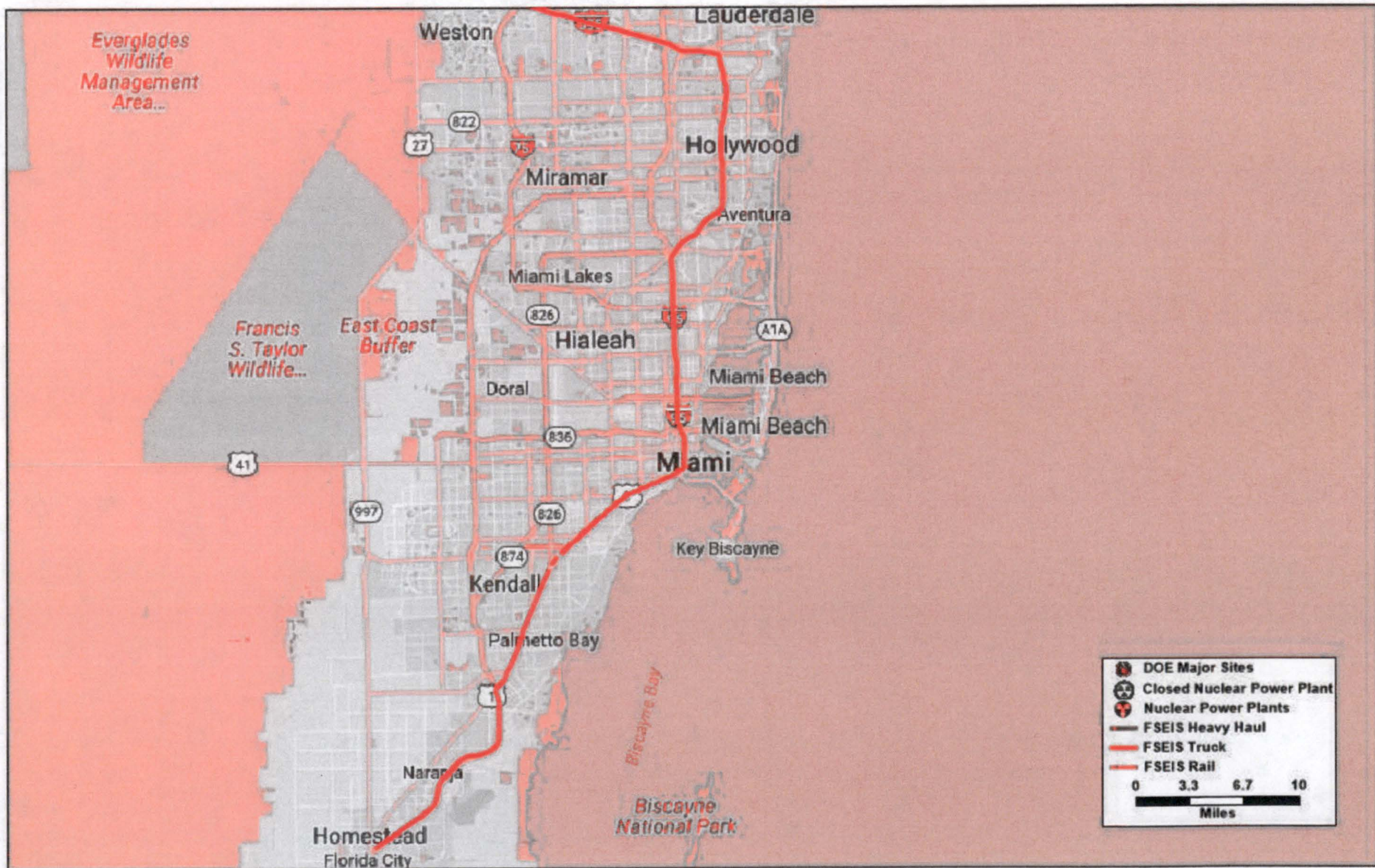












Everglades  
Wildlife  
Management  
Area...

Francis  
S. Taylor  
Wildlife...

East Coast  
Buffer

Biscayne Bay  
Biscayne  
National Park

Weston      Lauderdale

Hollywood

Miramar

Aventura

Miami Lakes

Hialeah

A1A

Doral

Miami Beach

Miami Beach

Miami

Key Biscayne

Kendall

Palmetto Bay

Naranja

Homestead  
Florida City

27

822

75

826

836

41

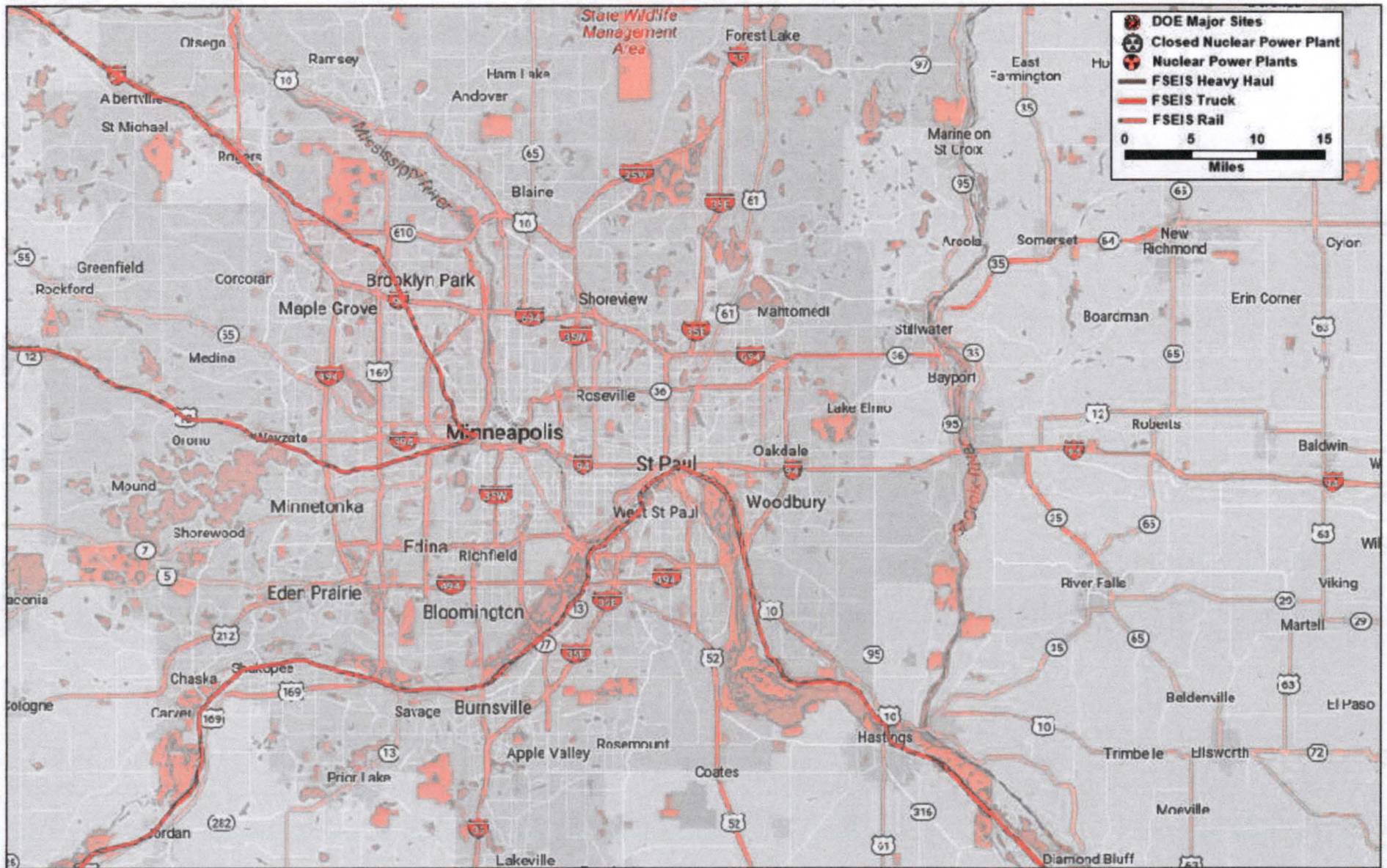
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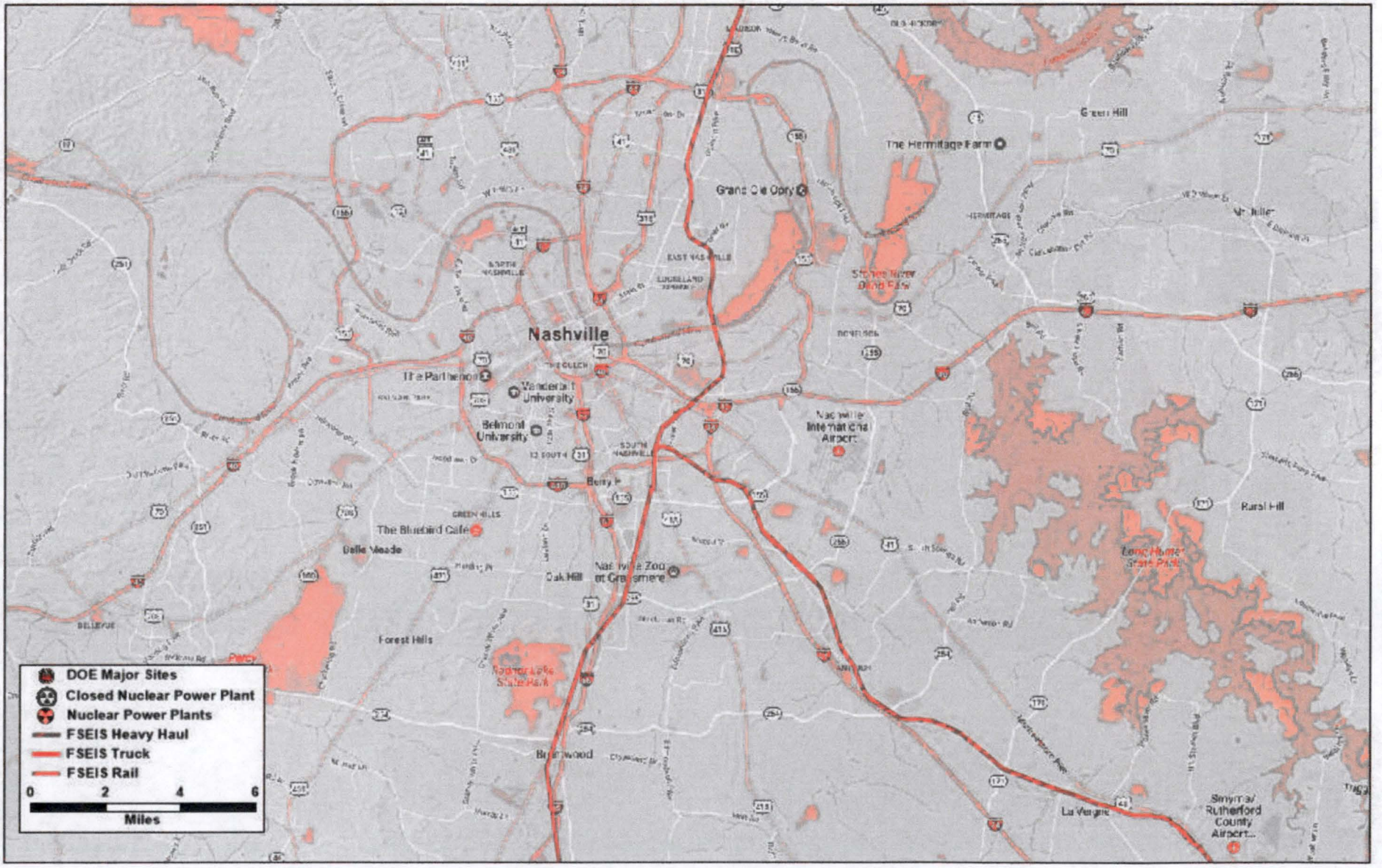
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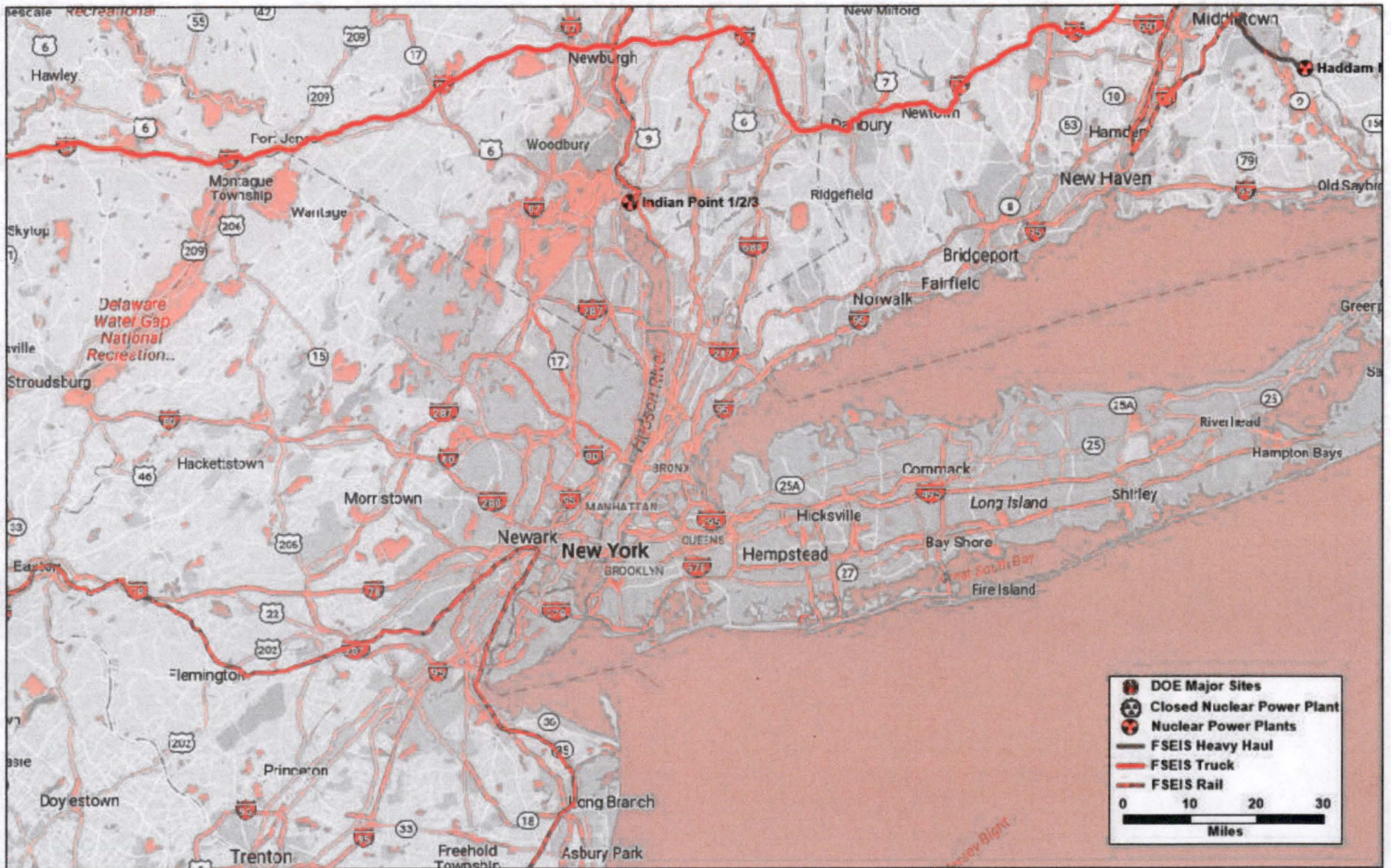




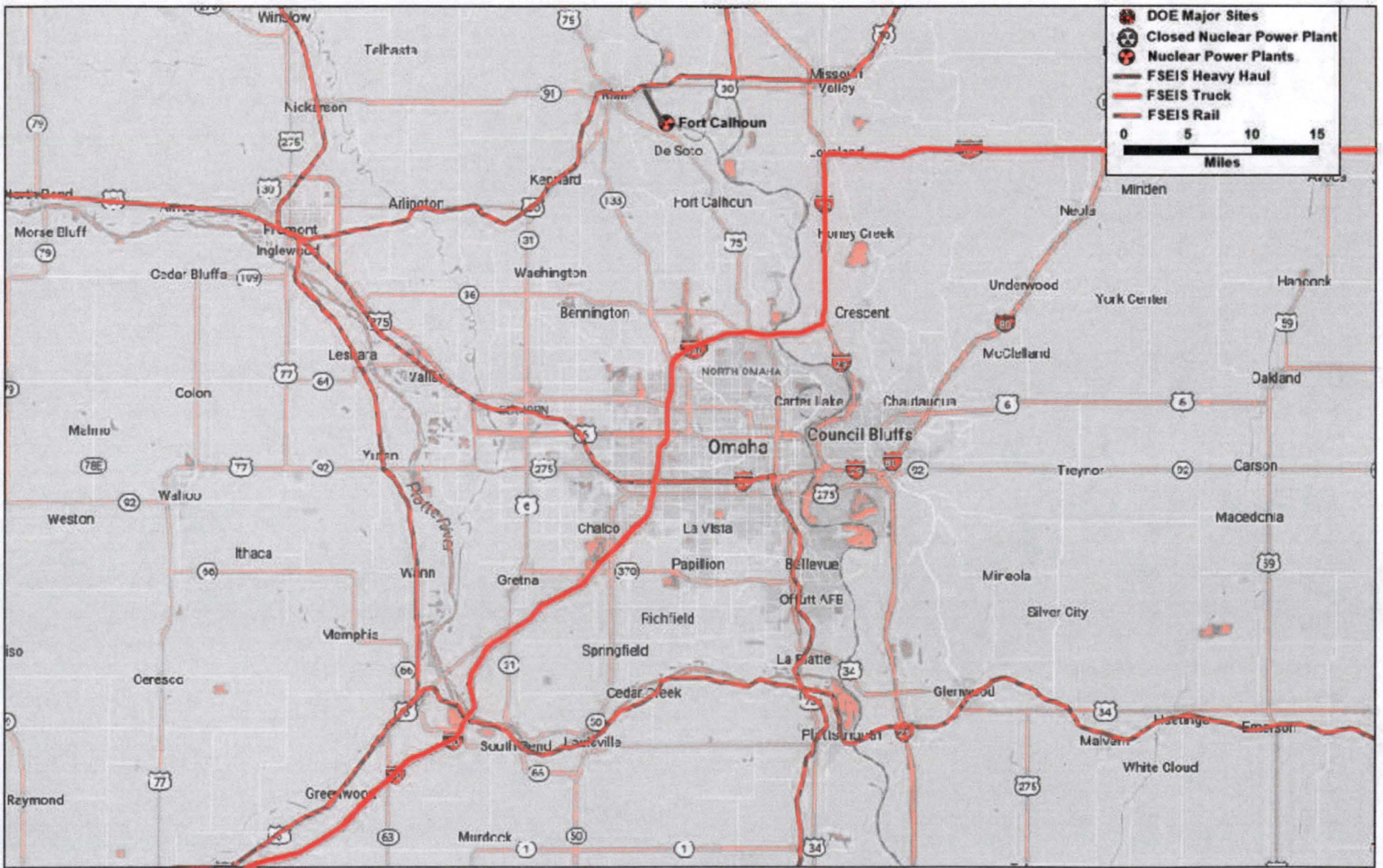
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	FSEIS Heavy Haul
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	FSEIS Rail

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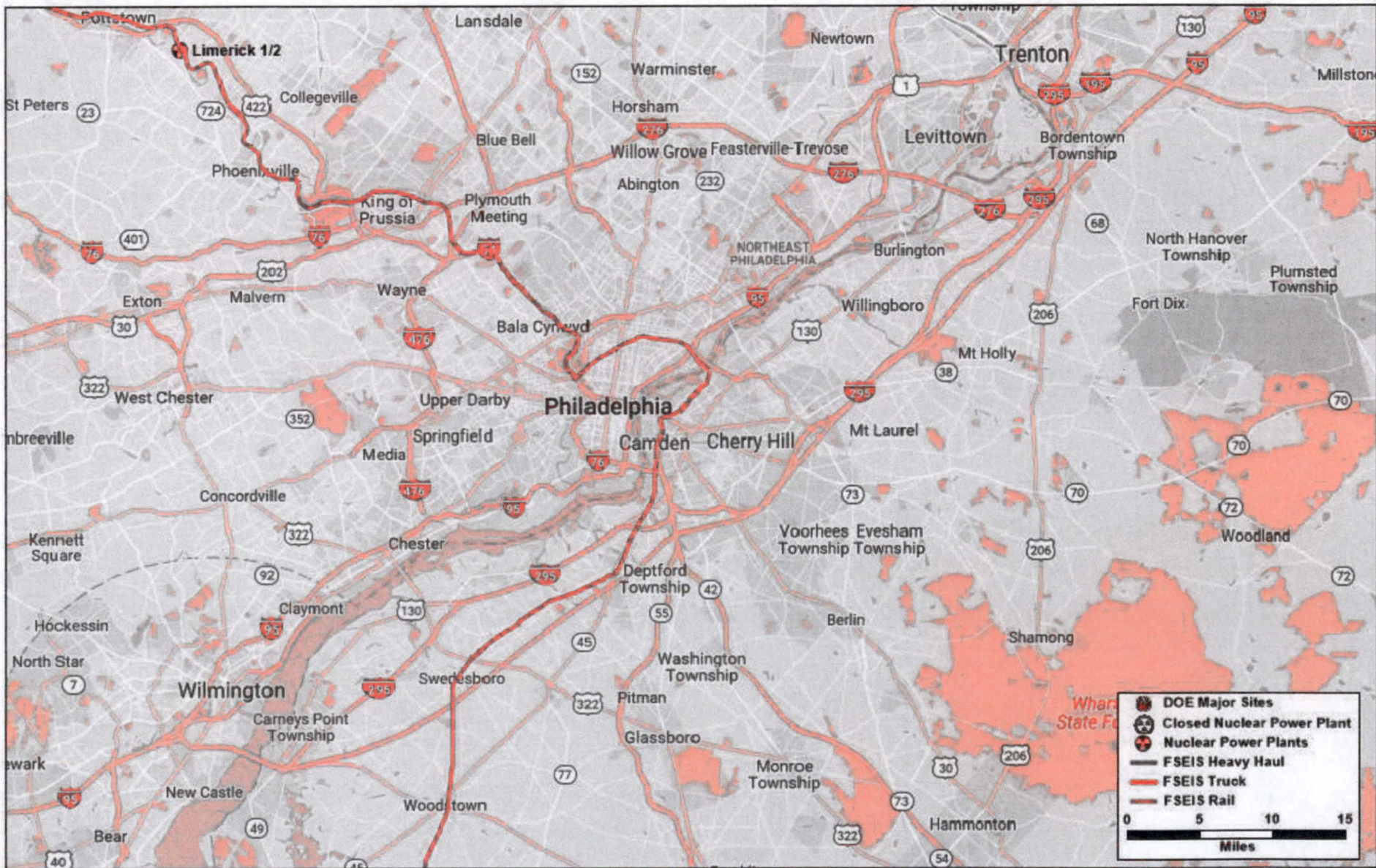




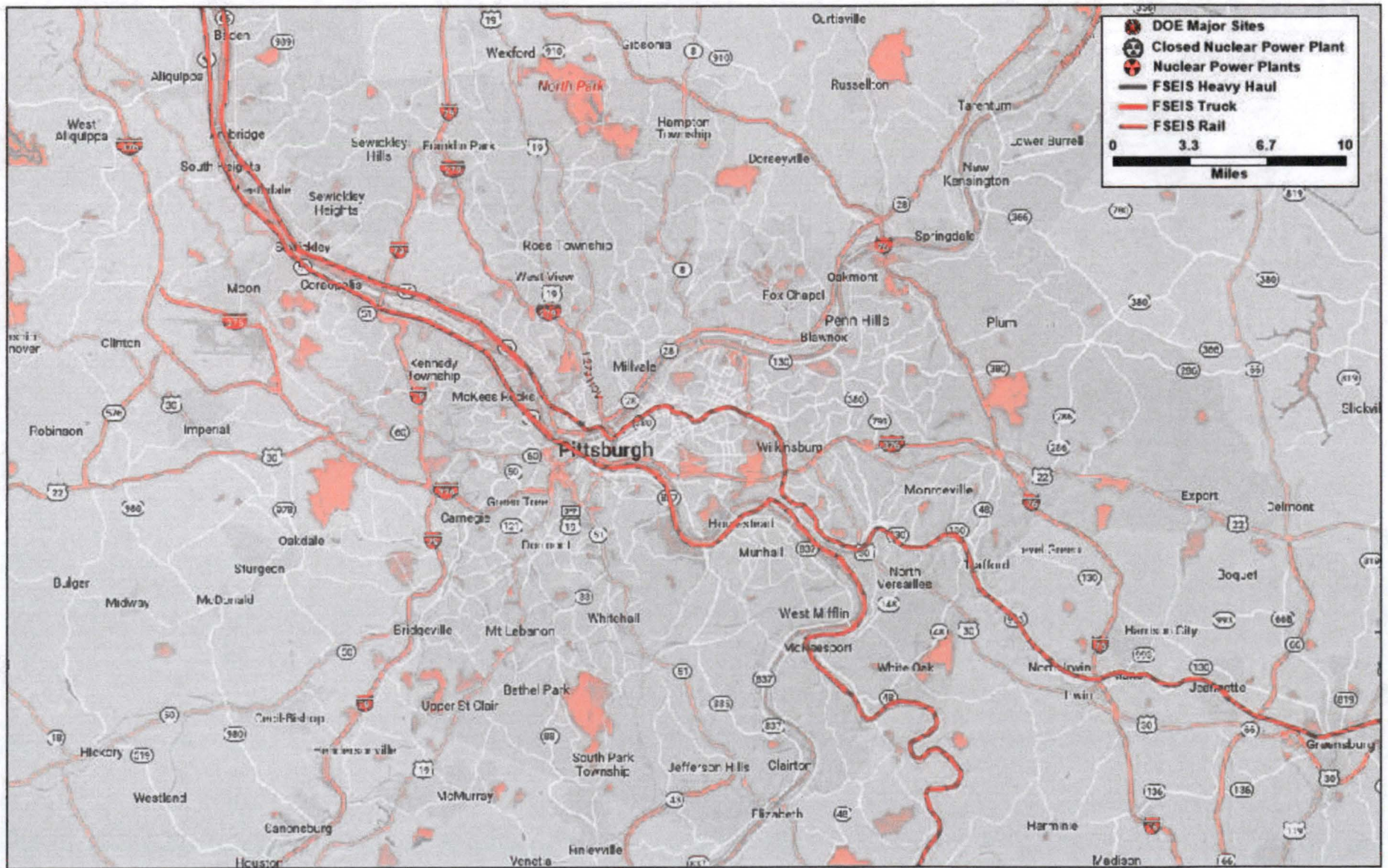
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● Nuclear Power Plants  
 FSEIS Heavy Haul  
 FSEIS Truck  
 FSEIS Rail

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 Miles

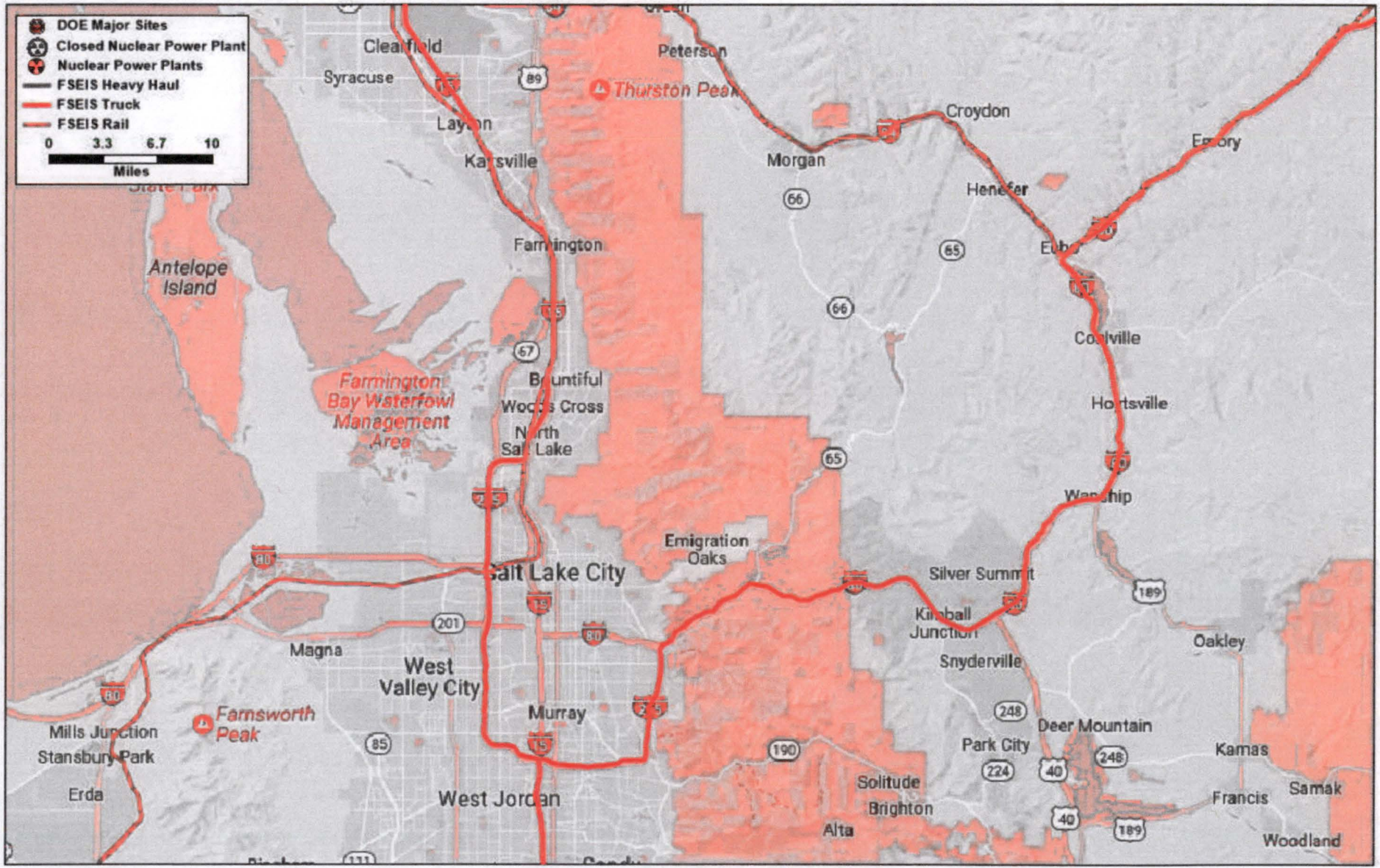








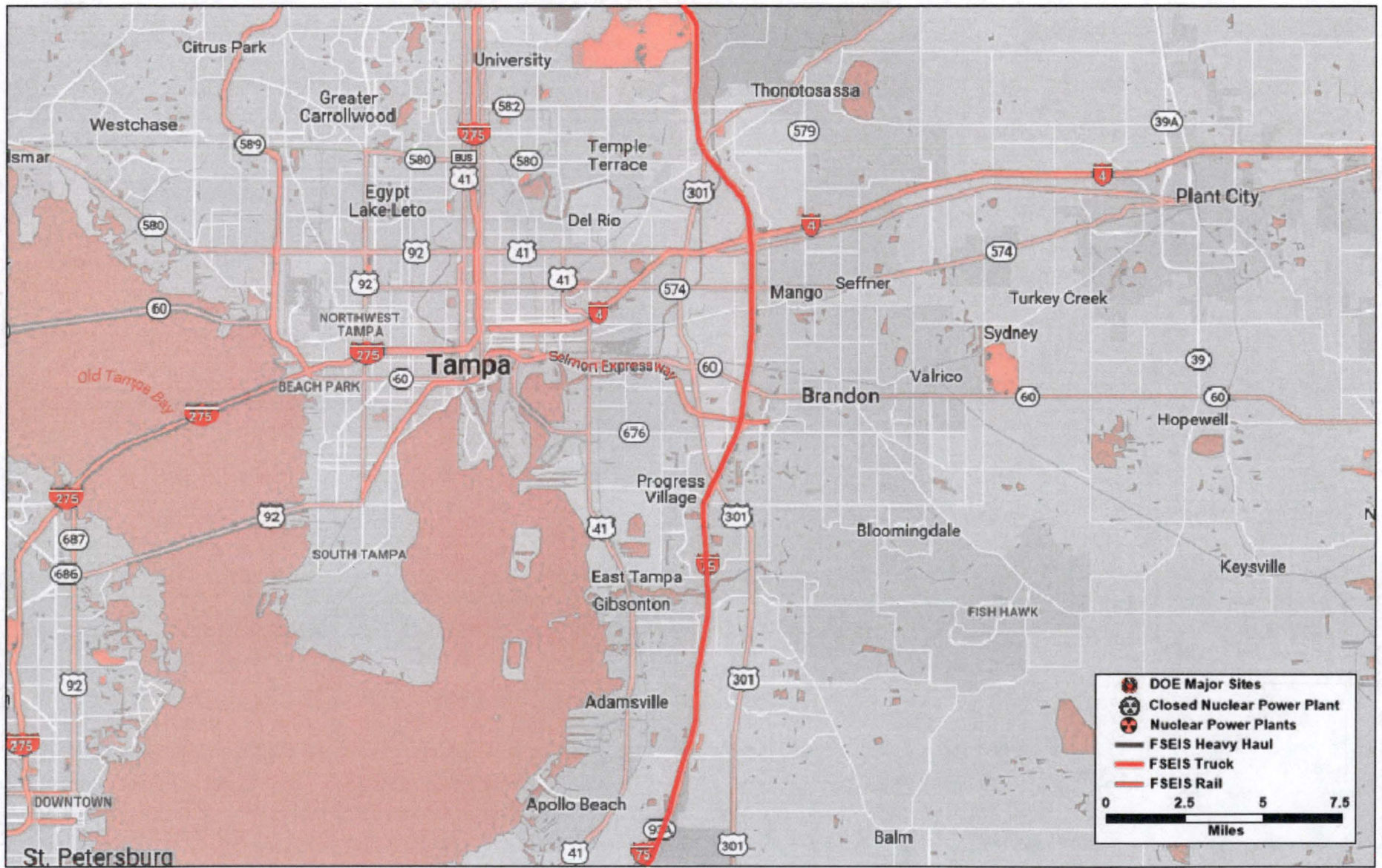














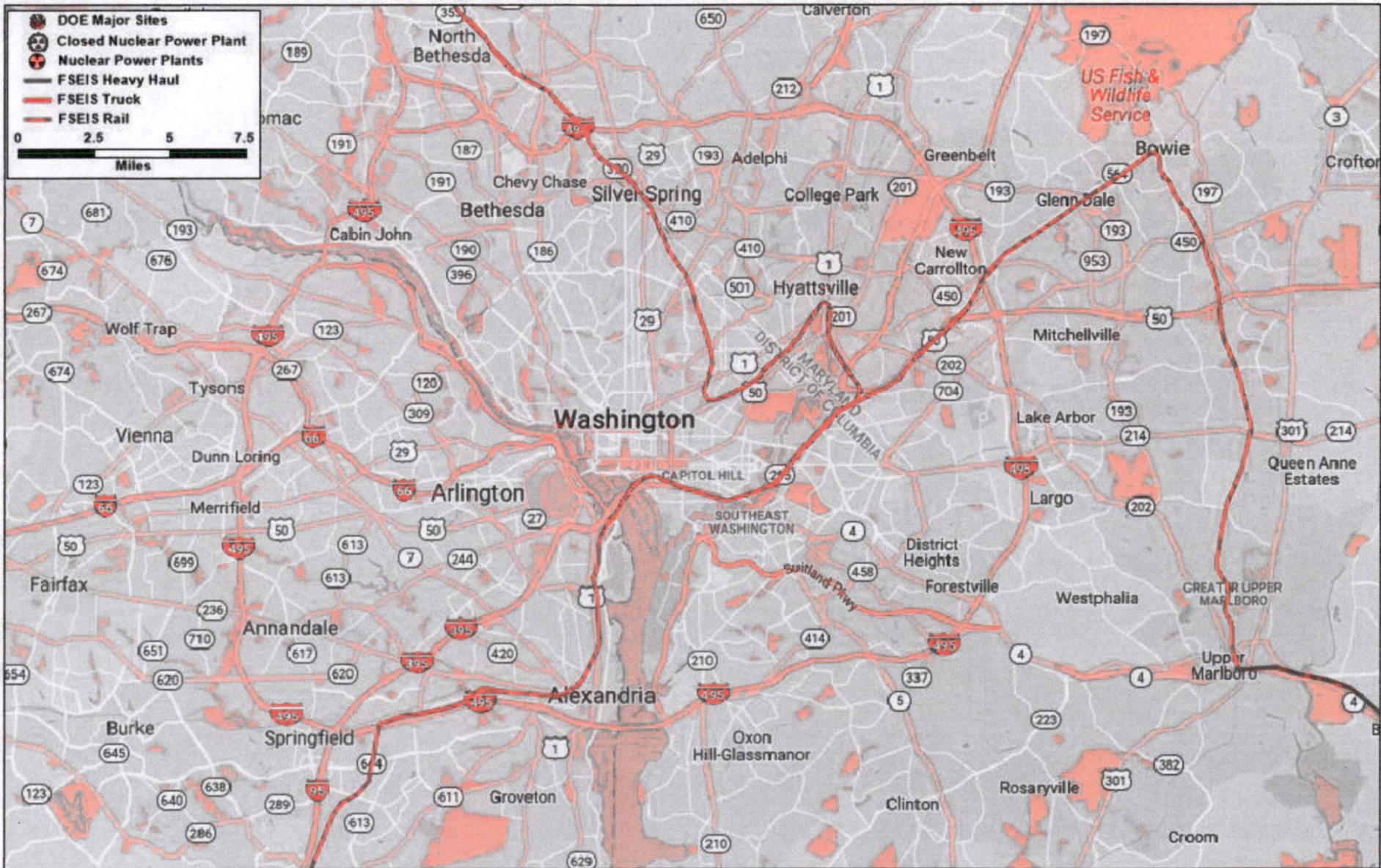






-  DOE Major Sites
-  Closed Nuclear Power Plant
-  Nuclear Power Plants
-  FSEIS Heavy Haul
-  FSEIS Truck
-  FSEIS Rail

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Miles





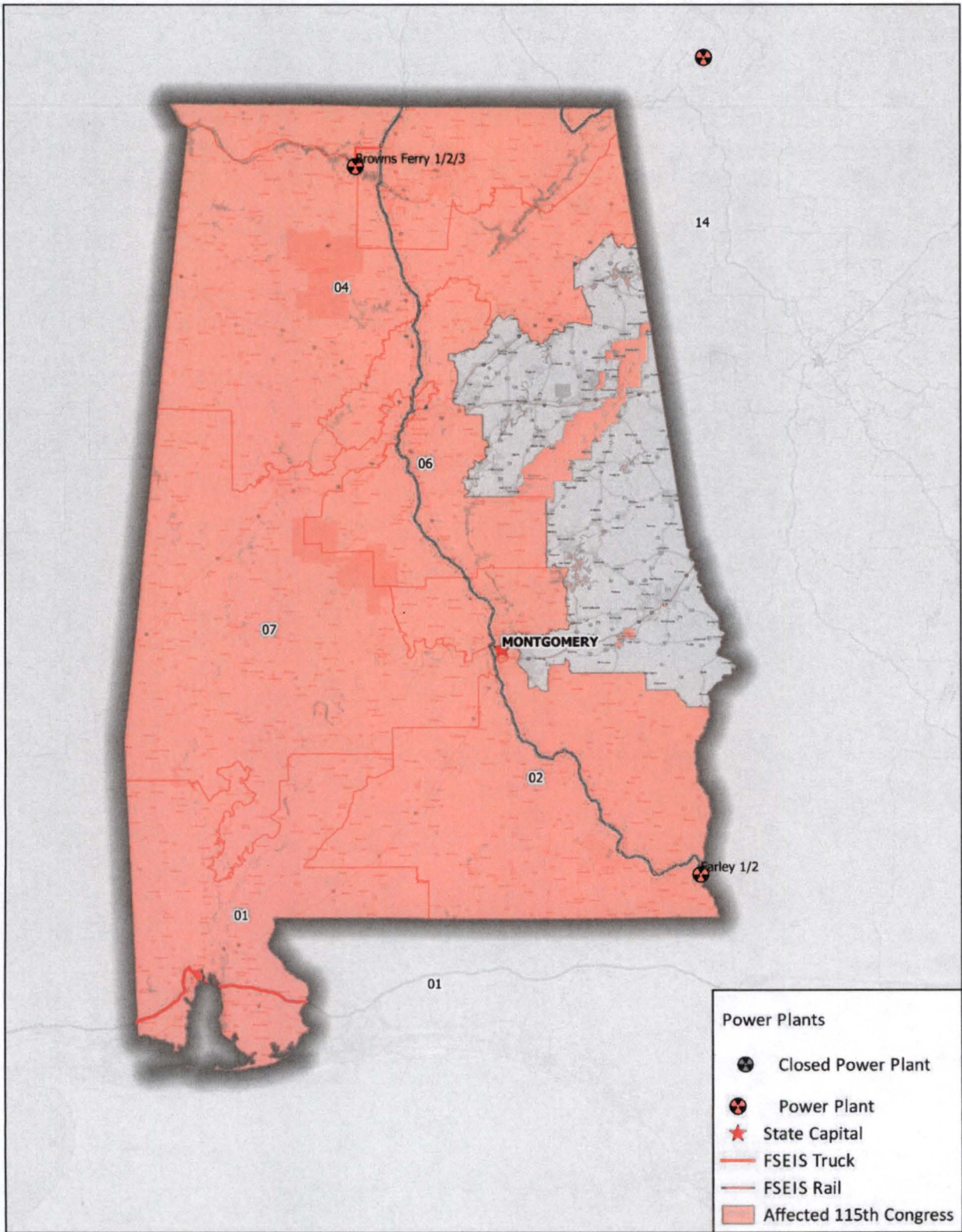


Figure 1 FSEIS Routes through Alabama



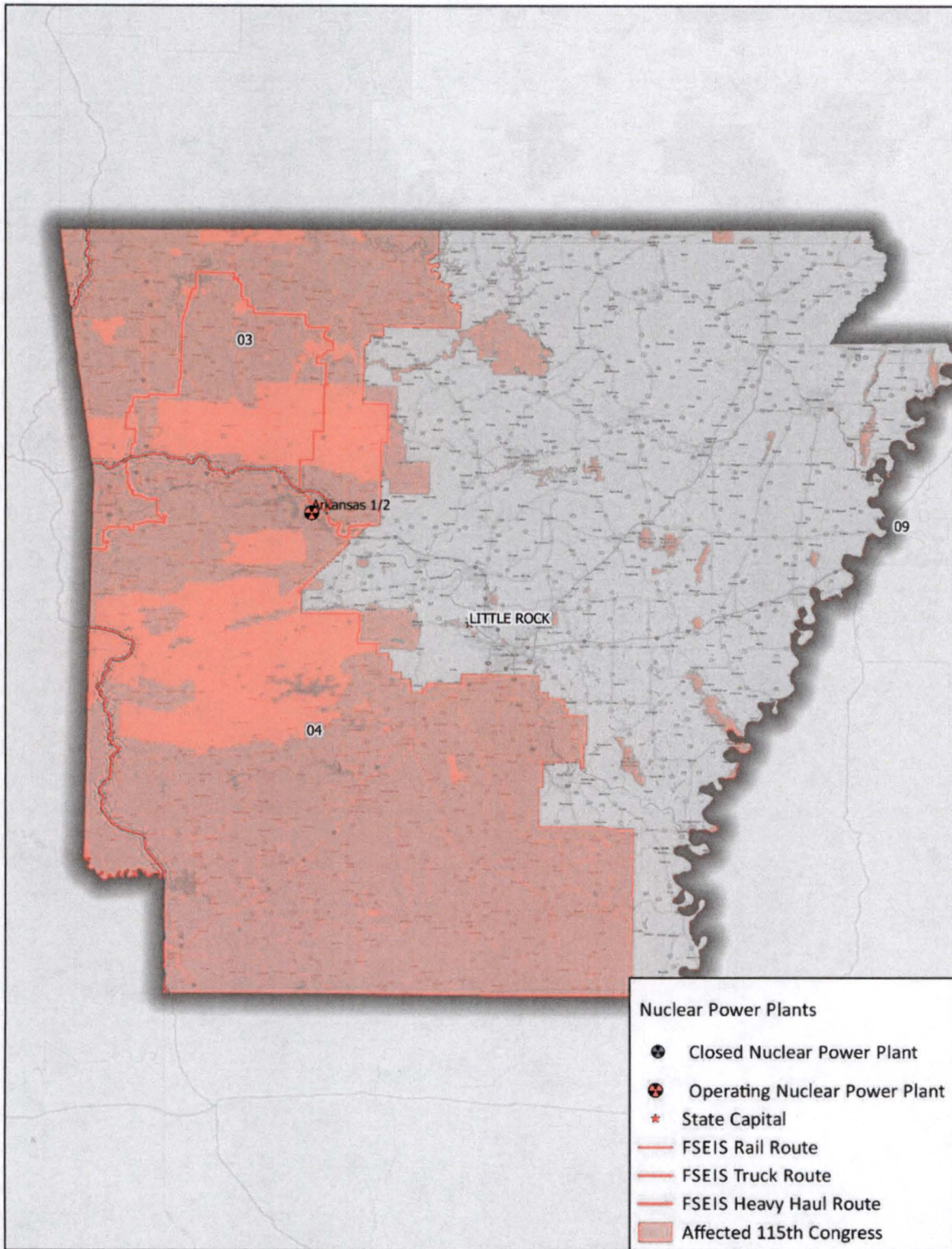


Figure 2 FSES Routes through Arkansas



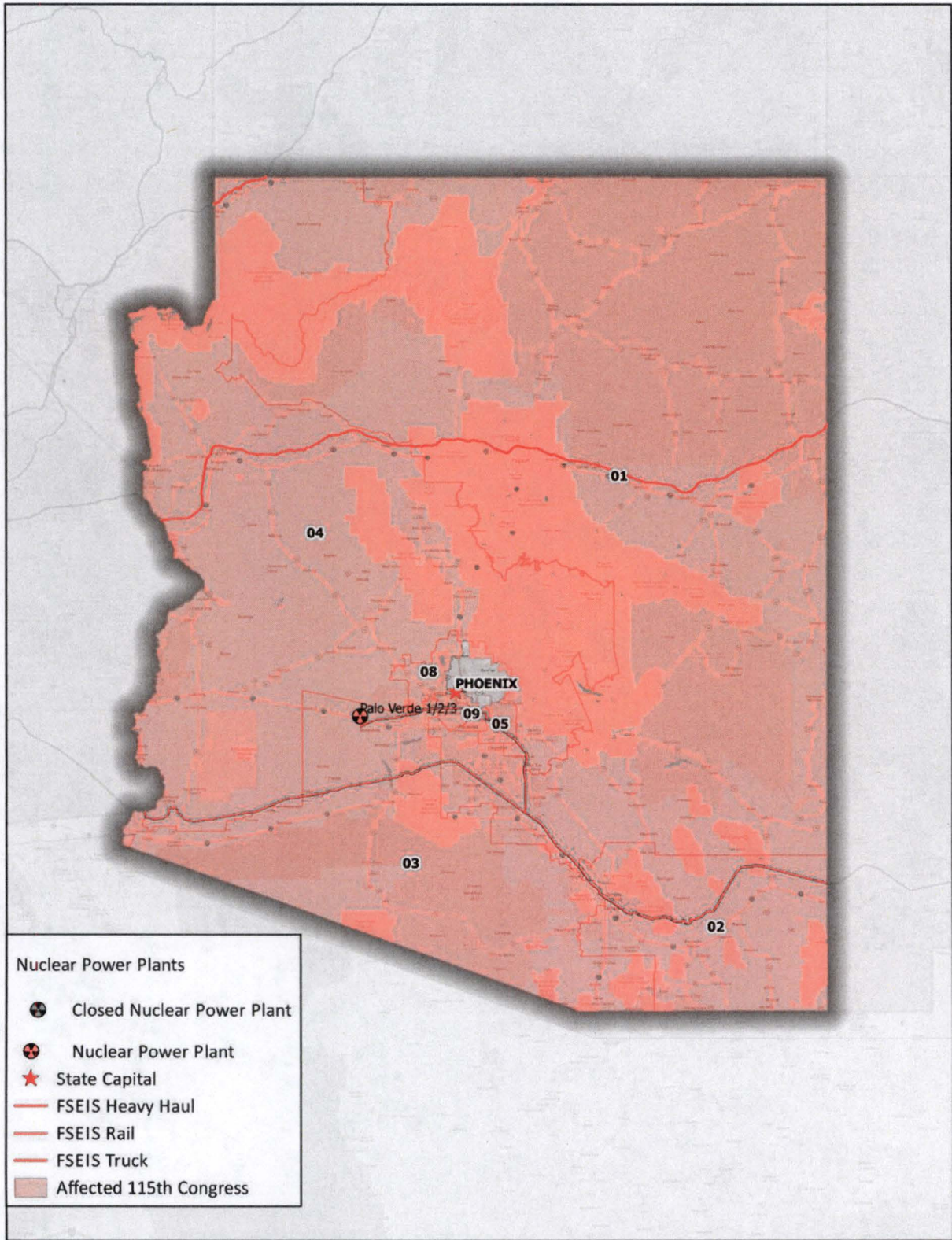


Figure 3 FSEIS Routes through Arizona



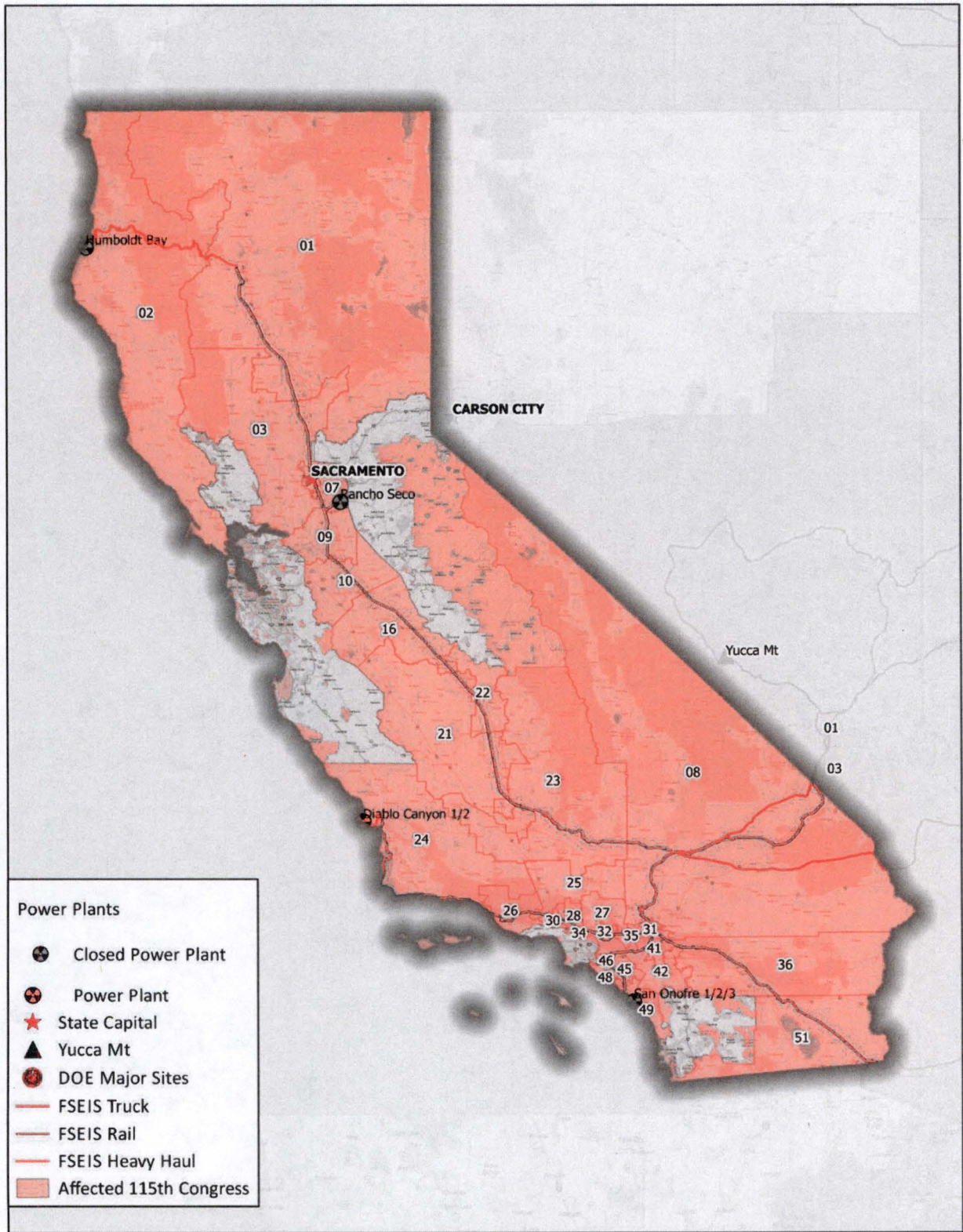


Figure 4 FSEIS Routes through California



Figure 5 FSEIS Routes through Colorado

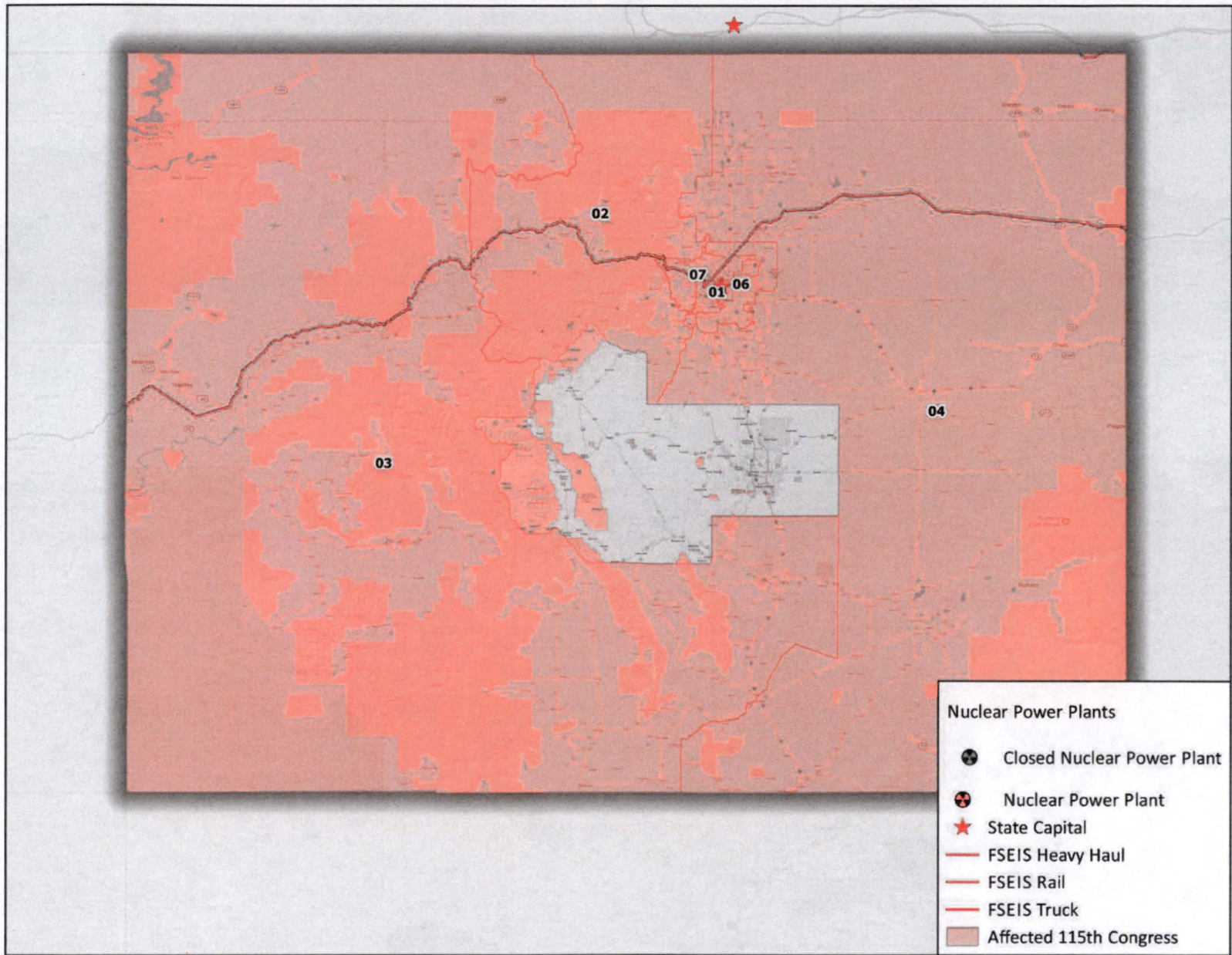
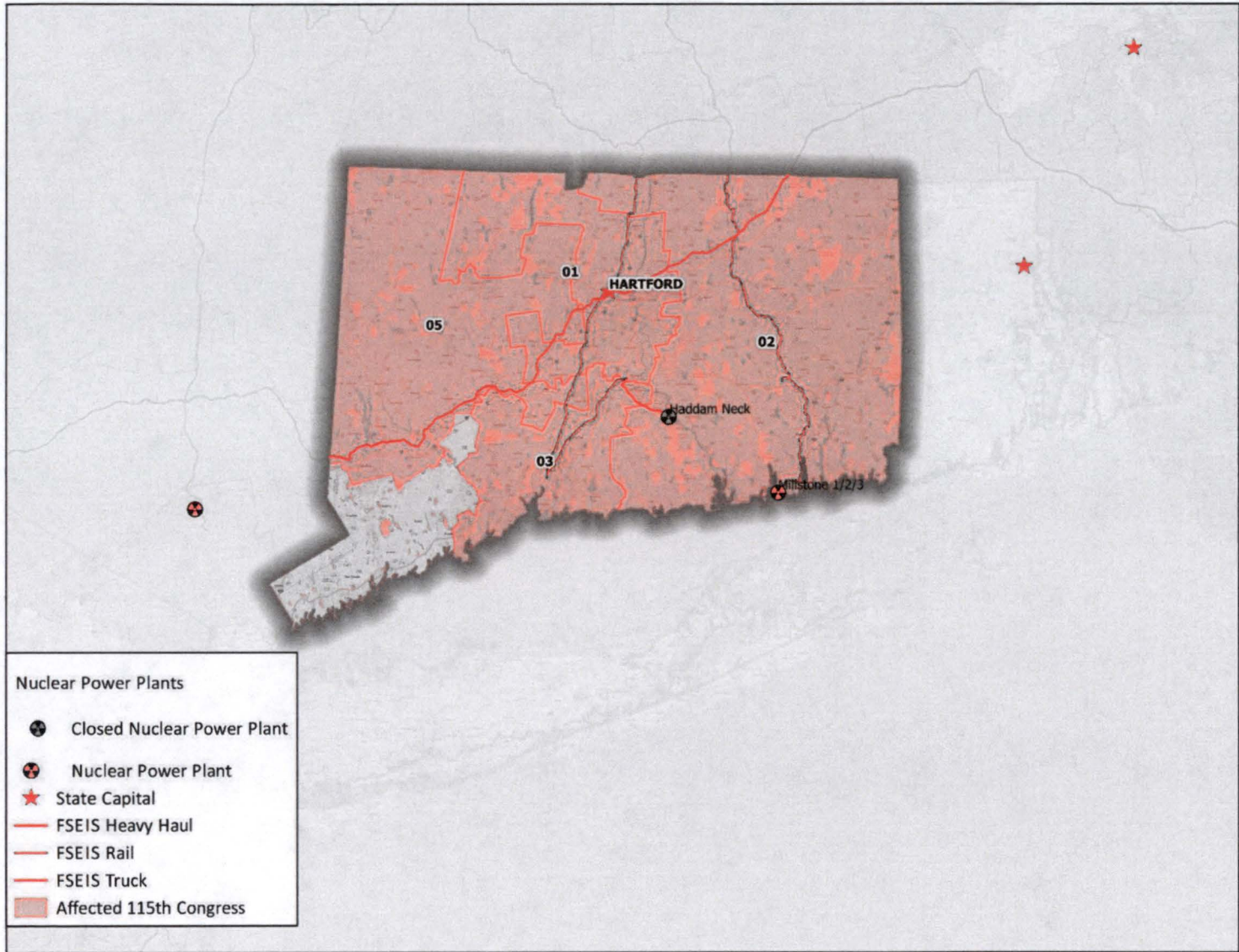




Figure 6 FSEIS Routes through Connecticut





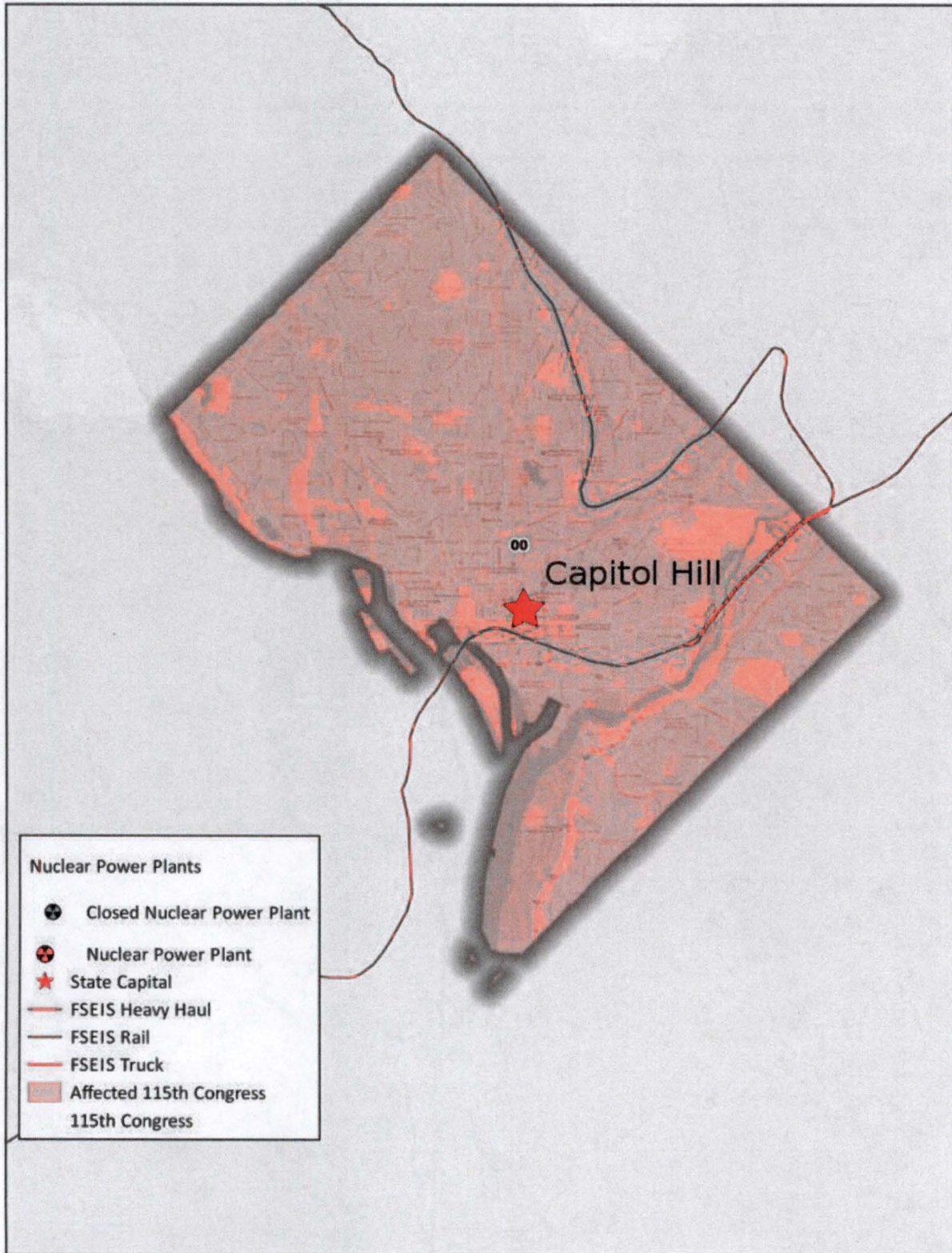
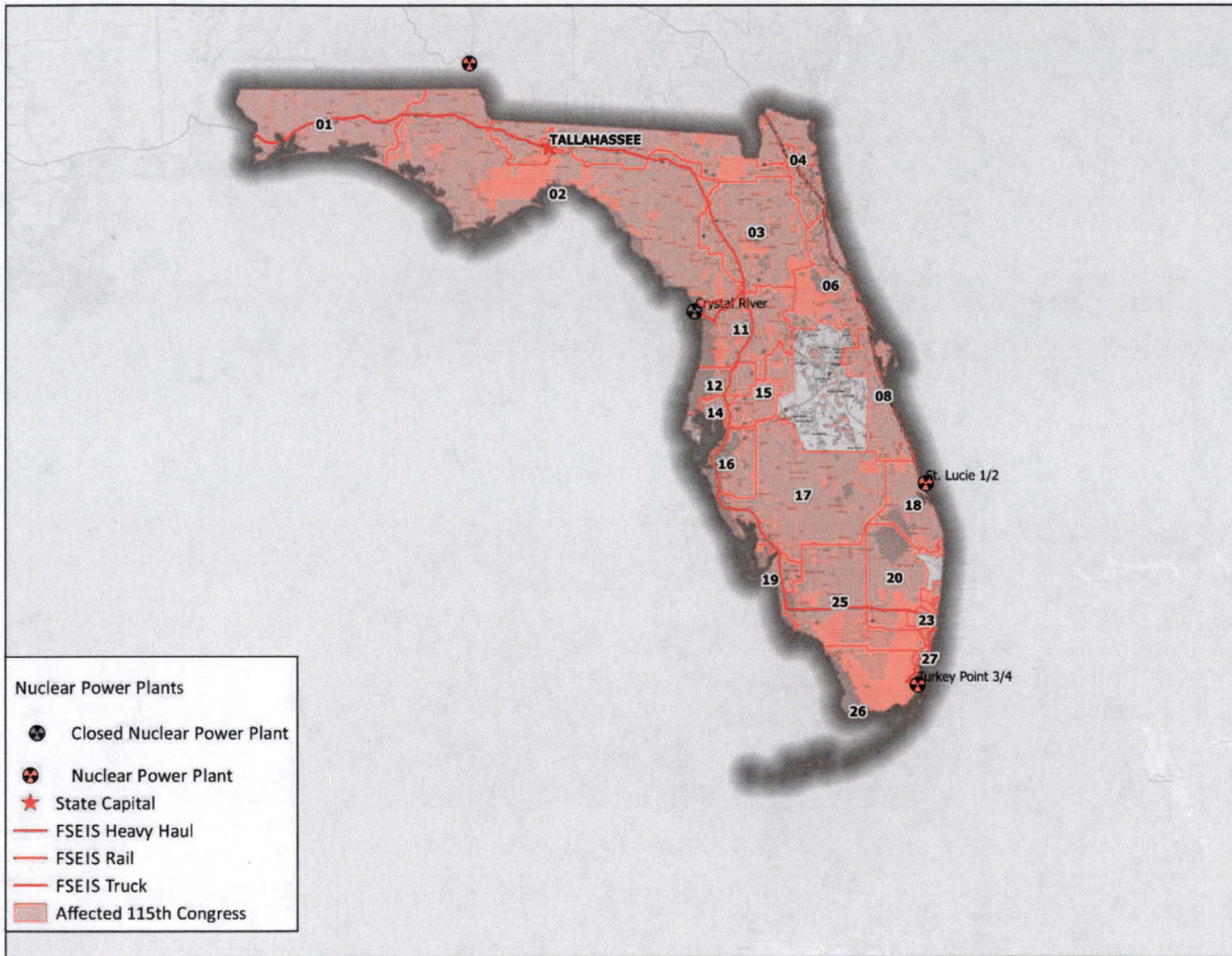


Figure 7 FSEIS Routes through the District of Columbia



Figure 8 FSEIS Routes through Florida





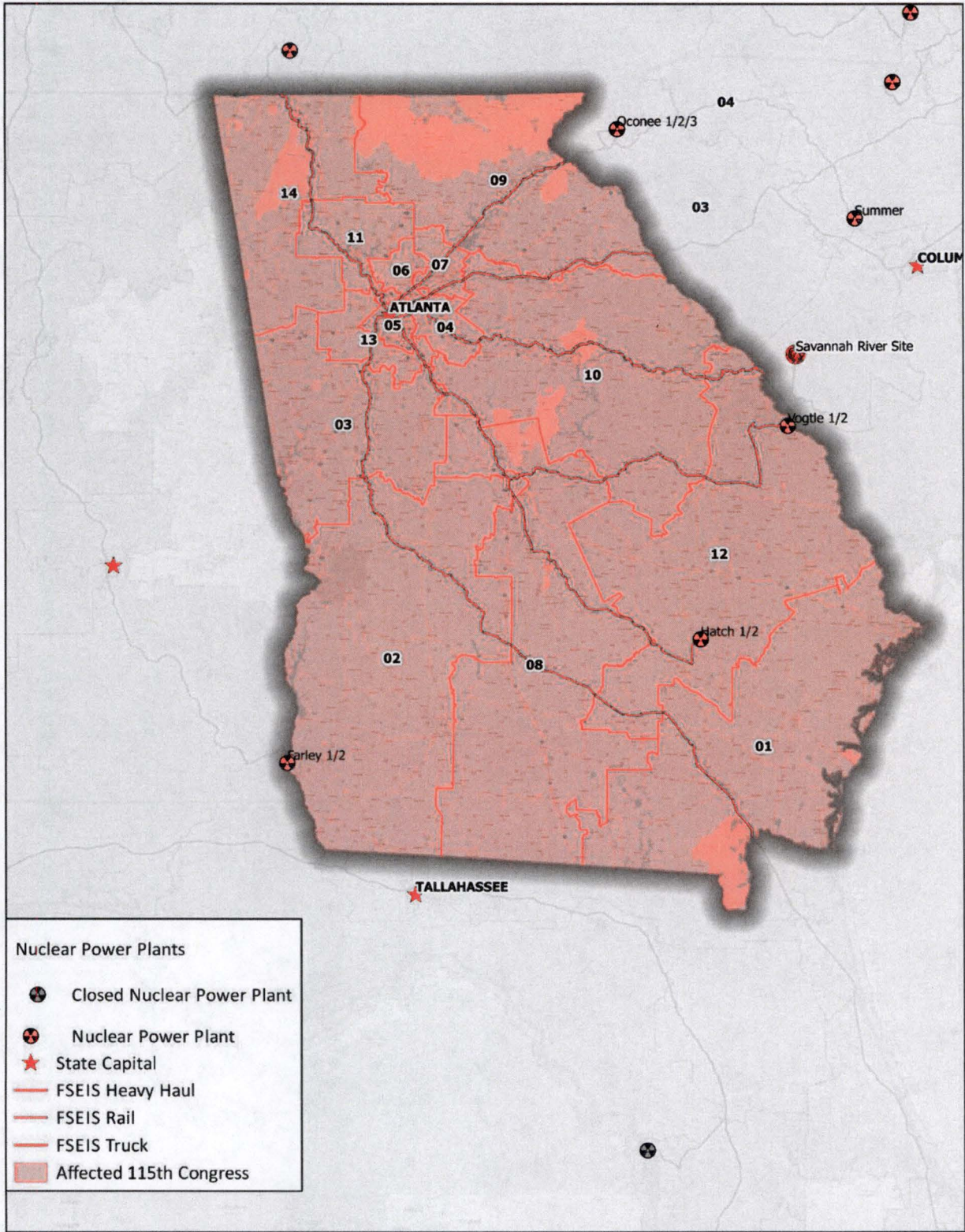


Figure 9 FSEIS Routes through Georgia



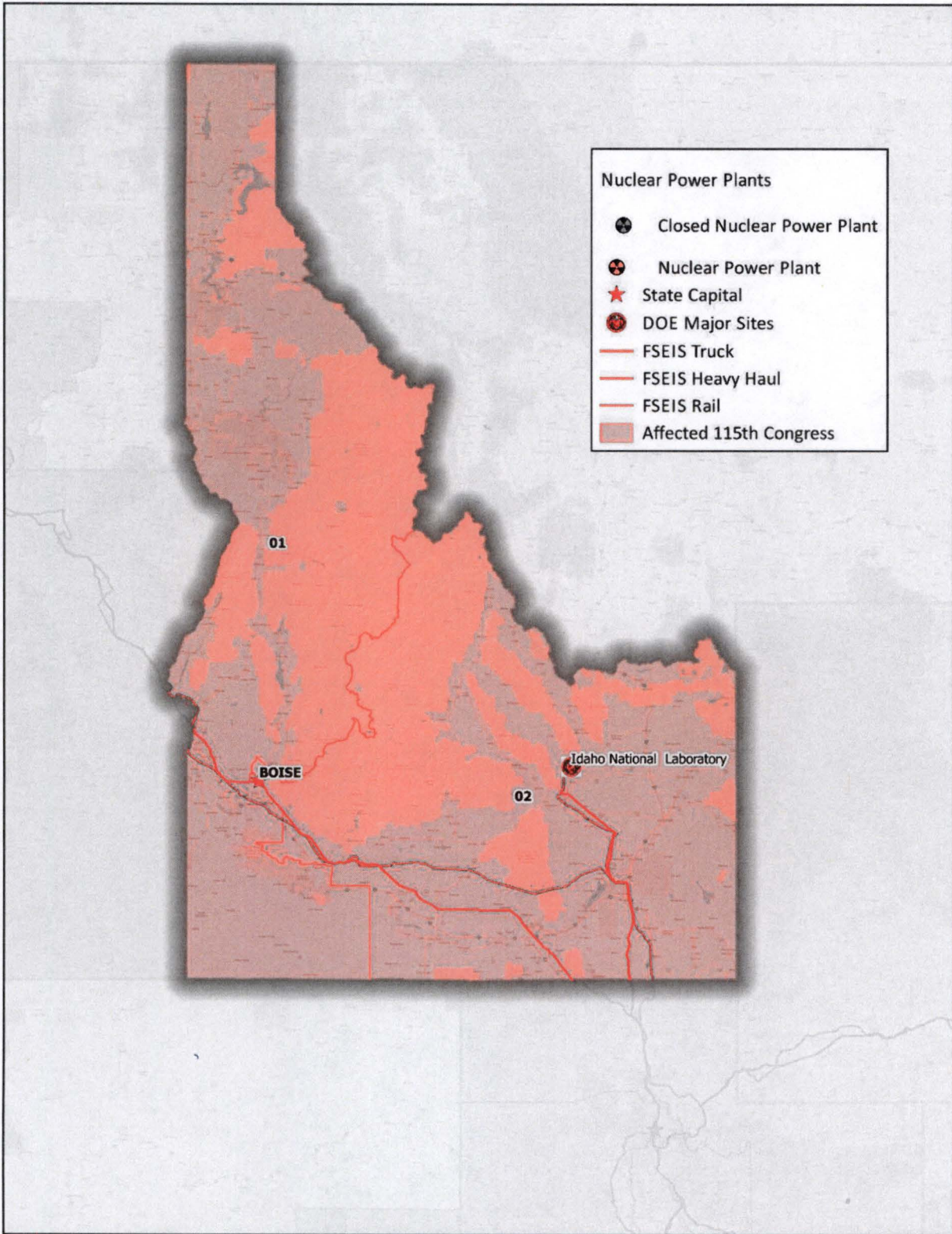


Figure 10 FSEIS Routes through Idaho



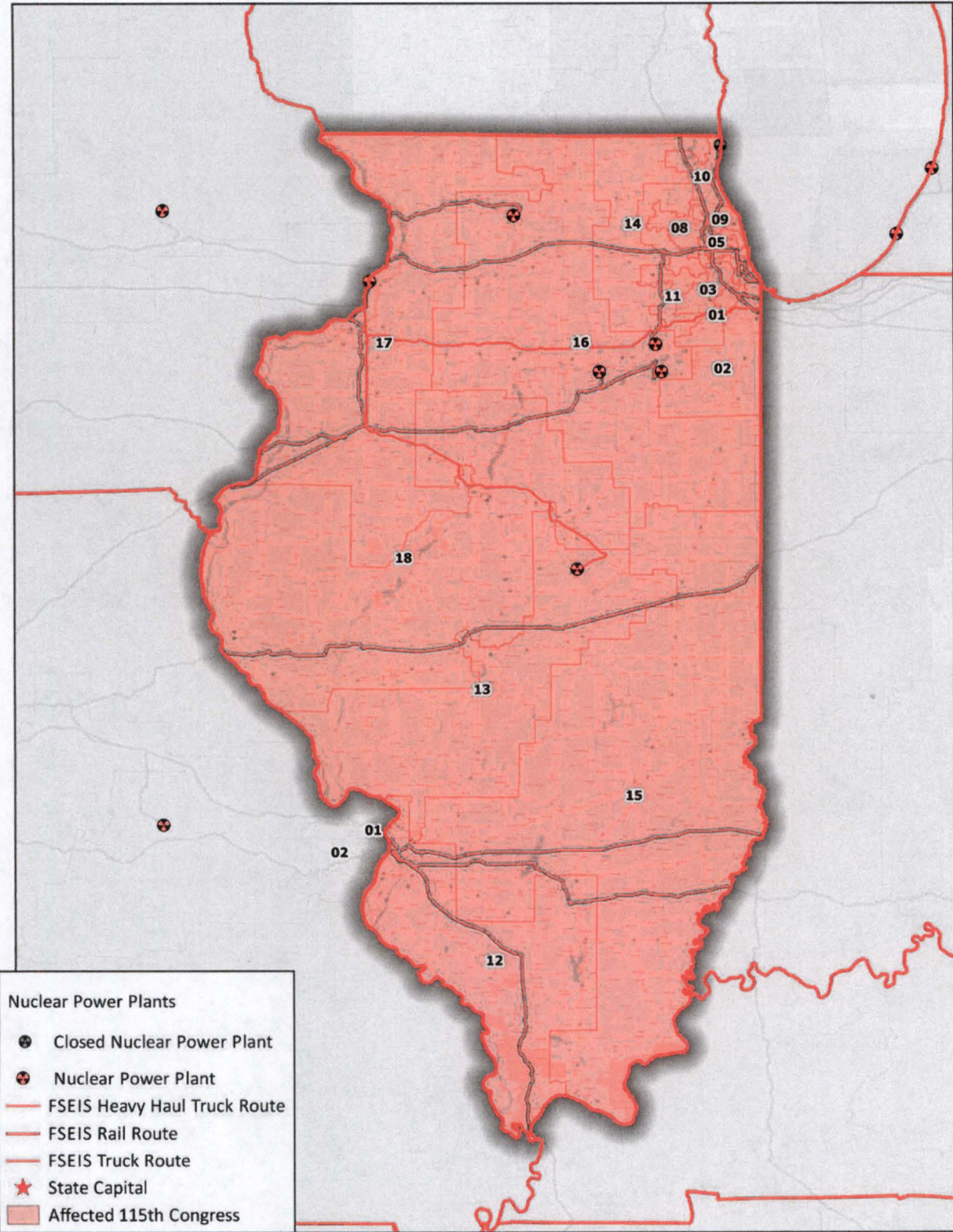


Figure 11 FSEIS Routes through Illinois



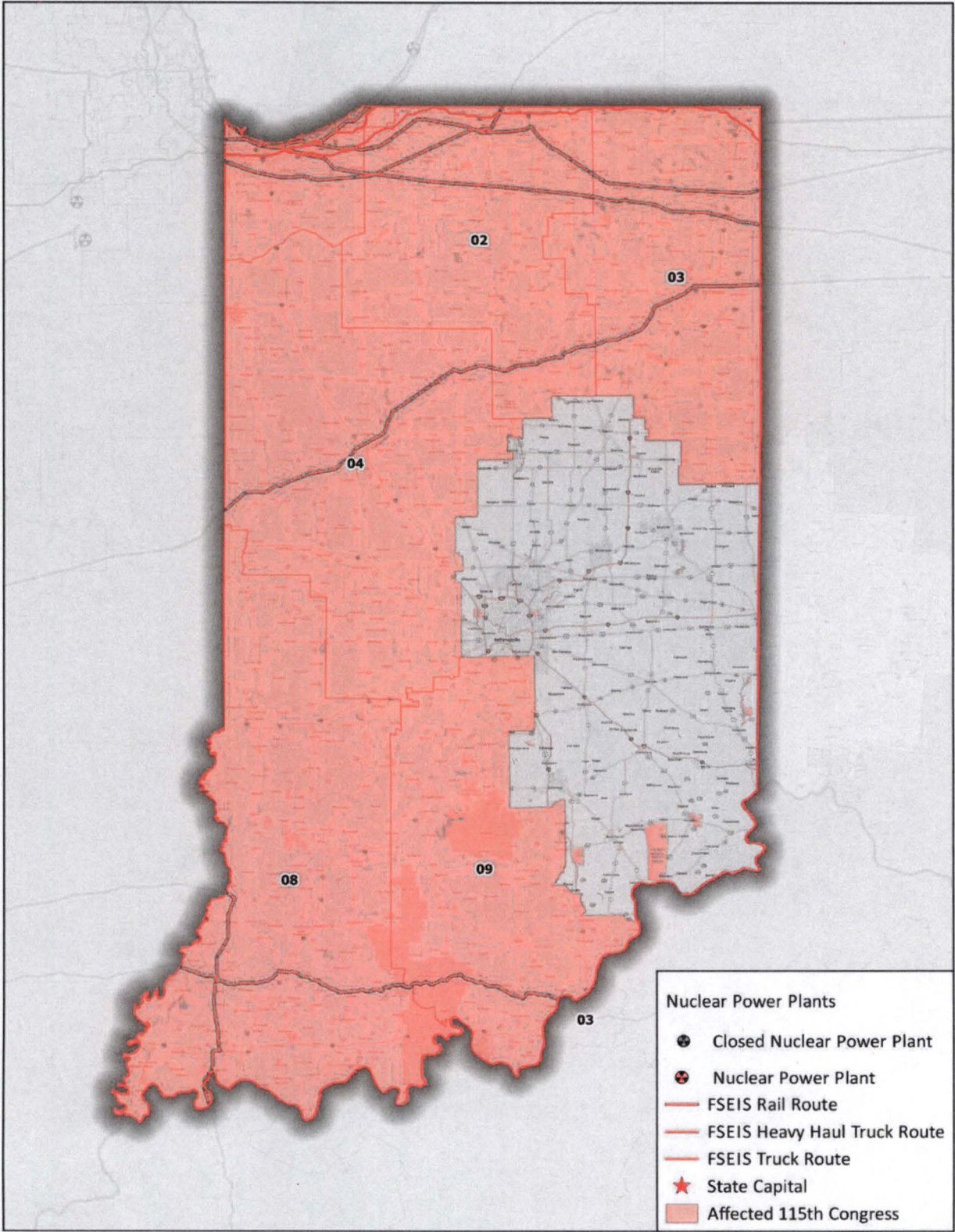


Figure 12 FSEIS Routes through Indiana



Figure 13 FSEIS Routes through Iowa

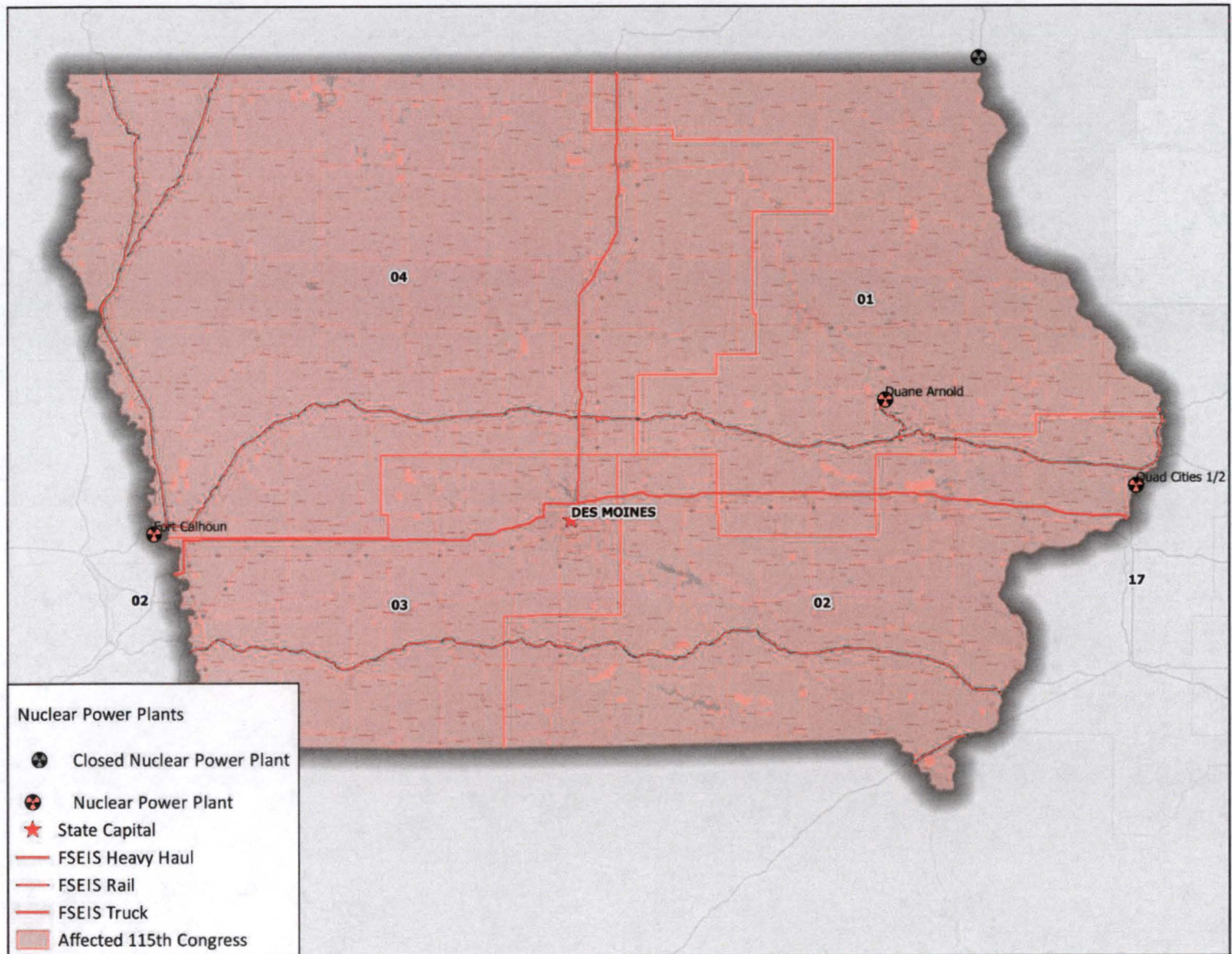




Figure 14 FSEIS Routes through Kansas

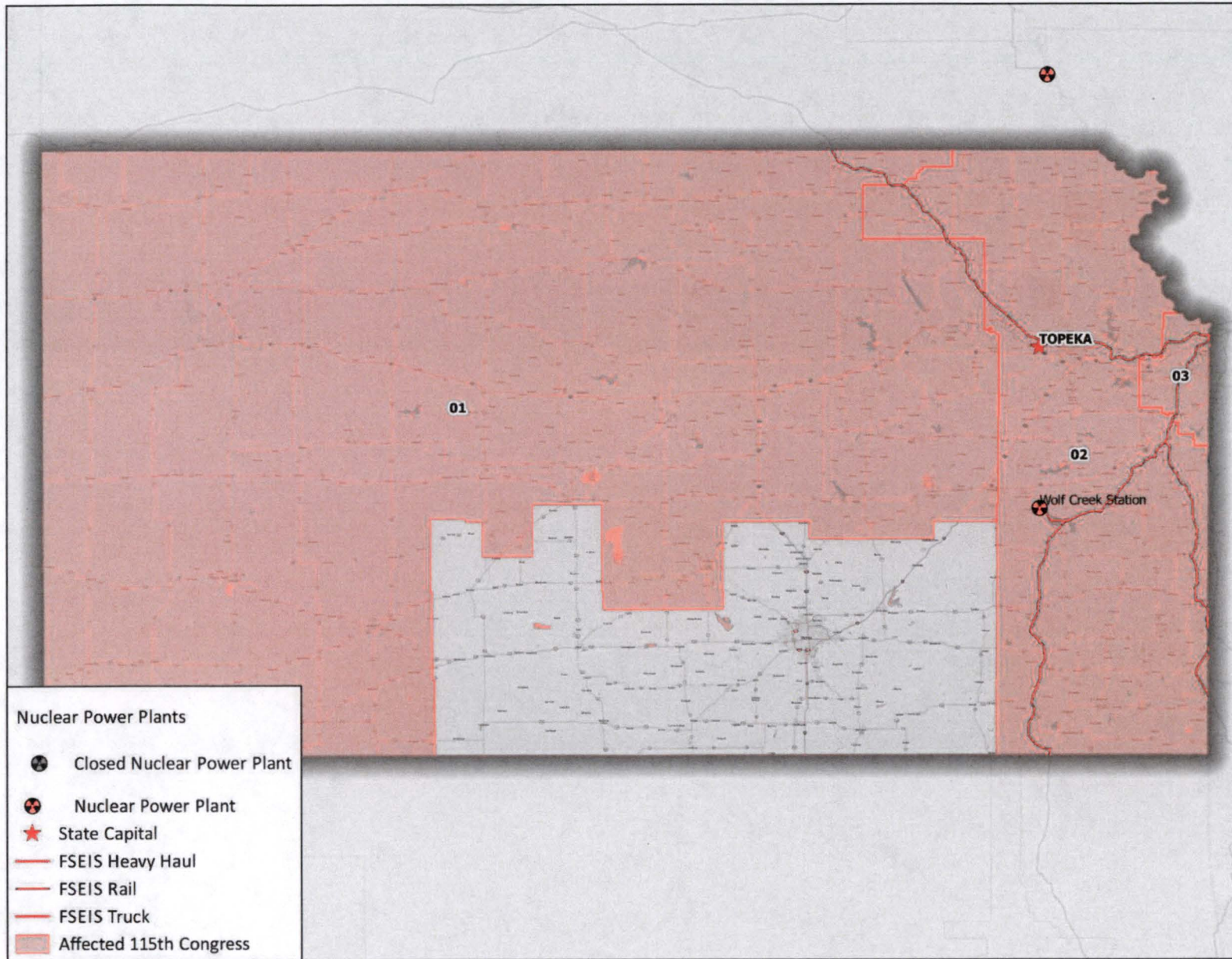
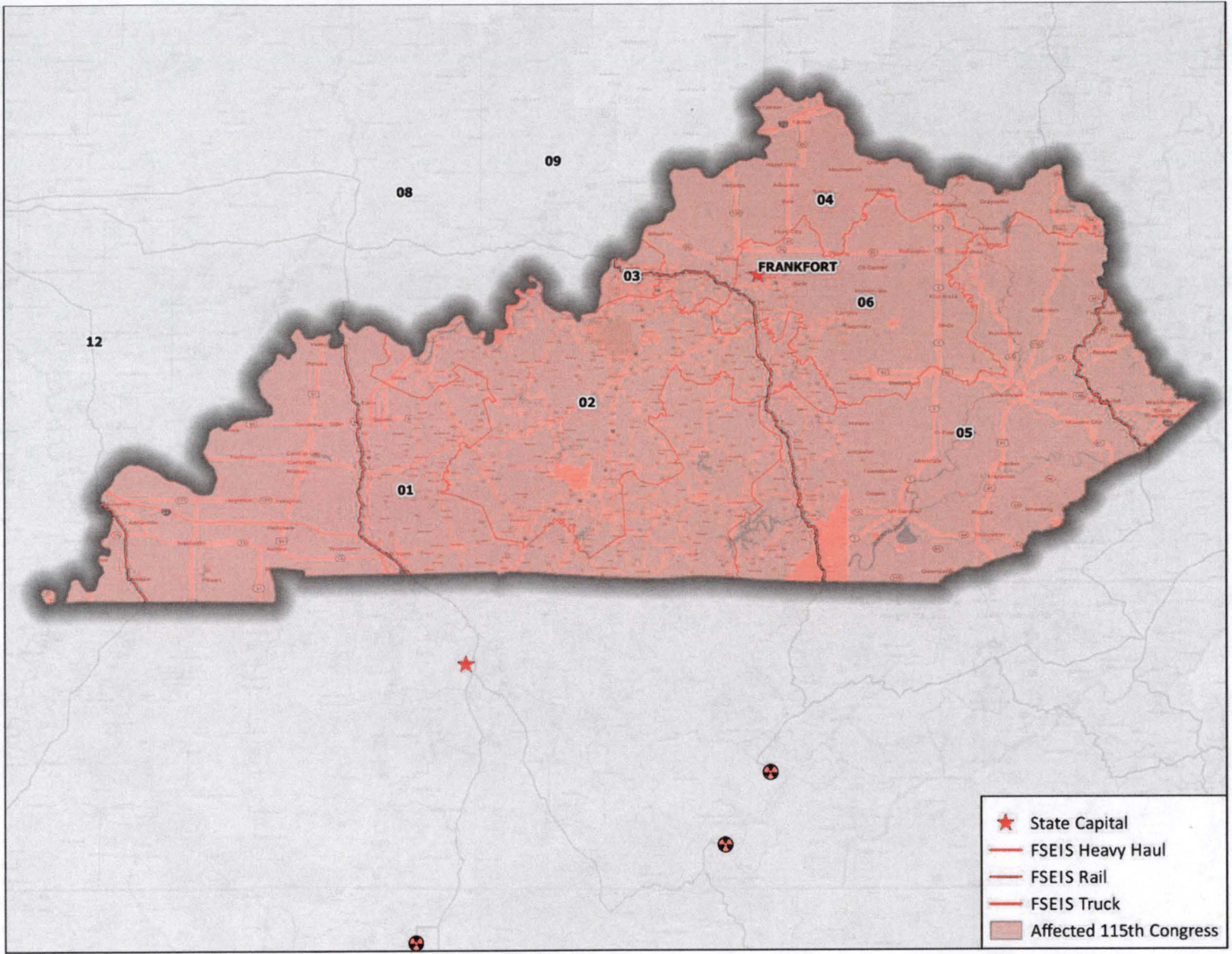




Figure 15 FSEIS Routes through Kentucky





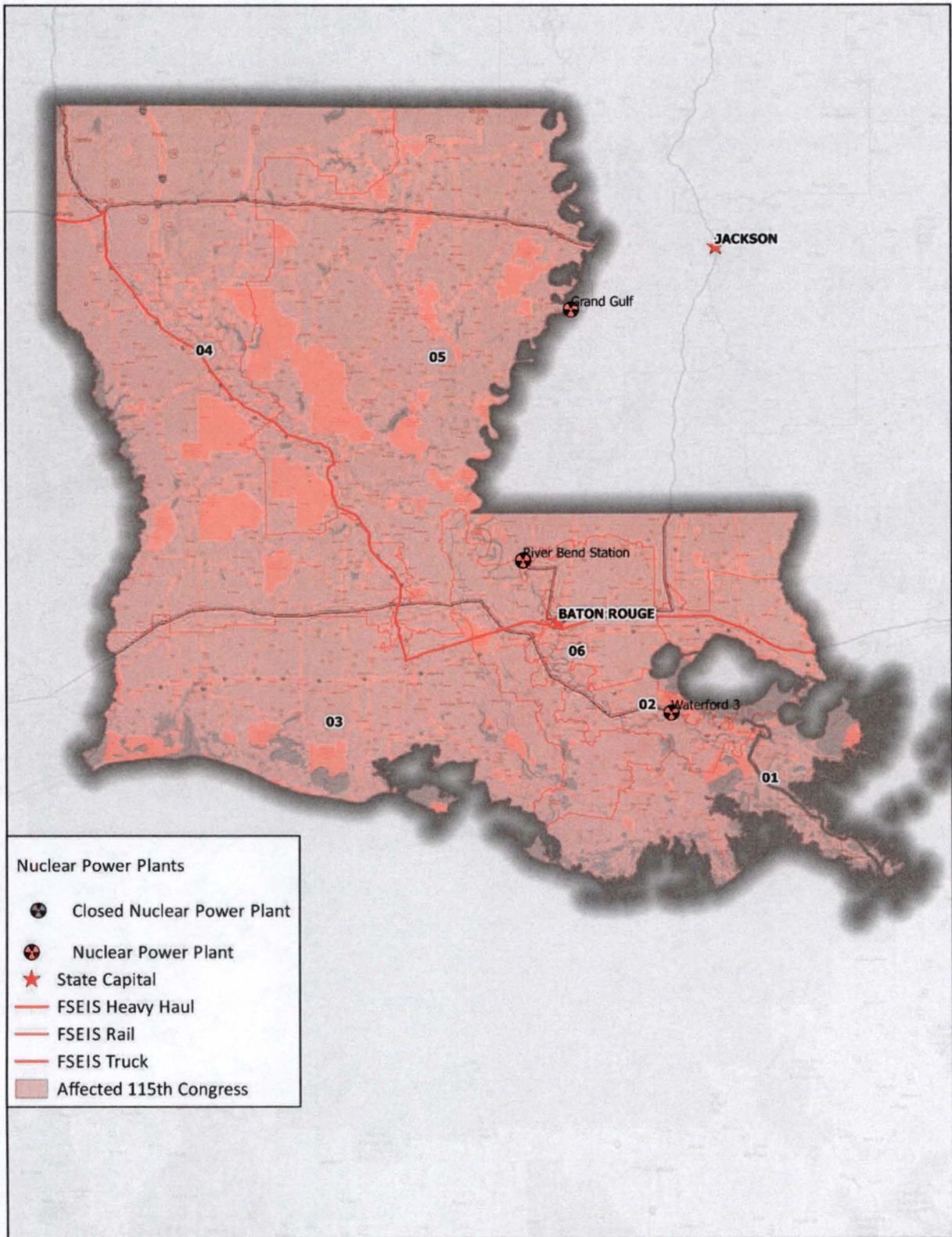


Figure 16 FSEIS Routes through Louisiana



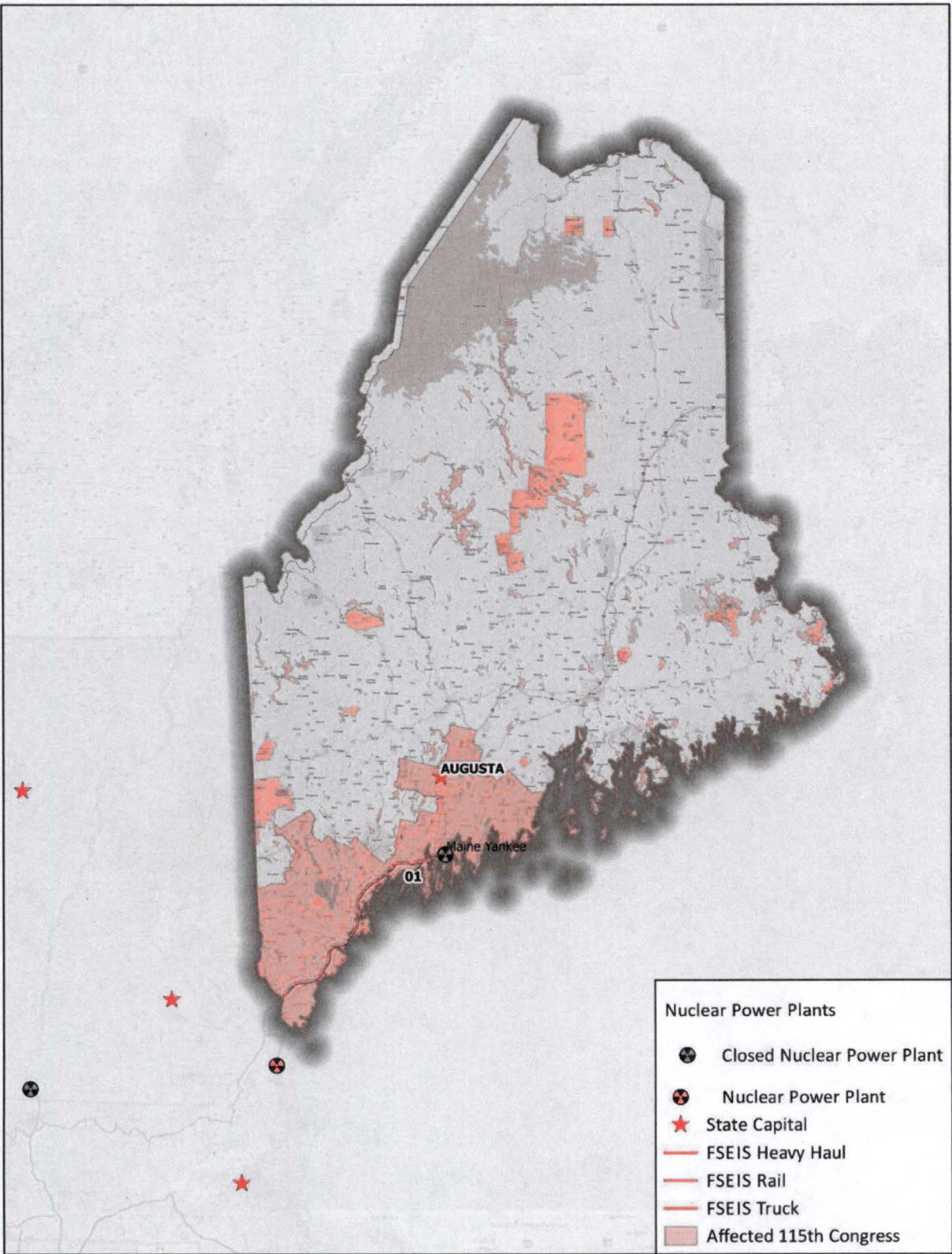


Figure 17 FSEIS Routes through Maine



Figure 18 FSEIS Routes through Massachusetts

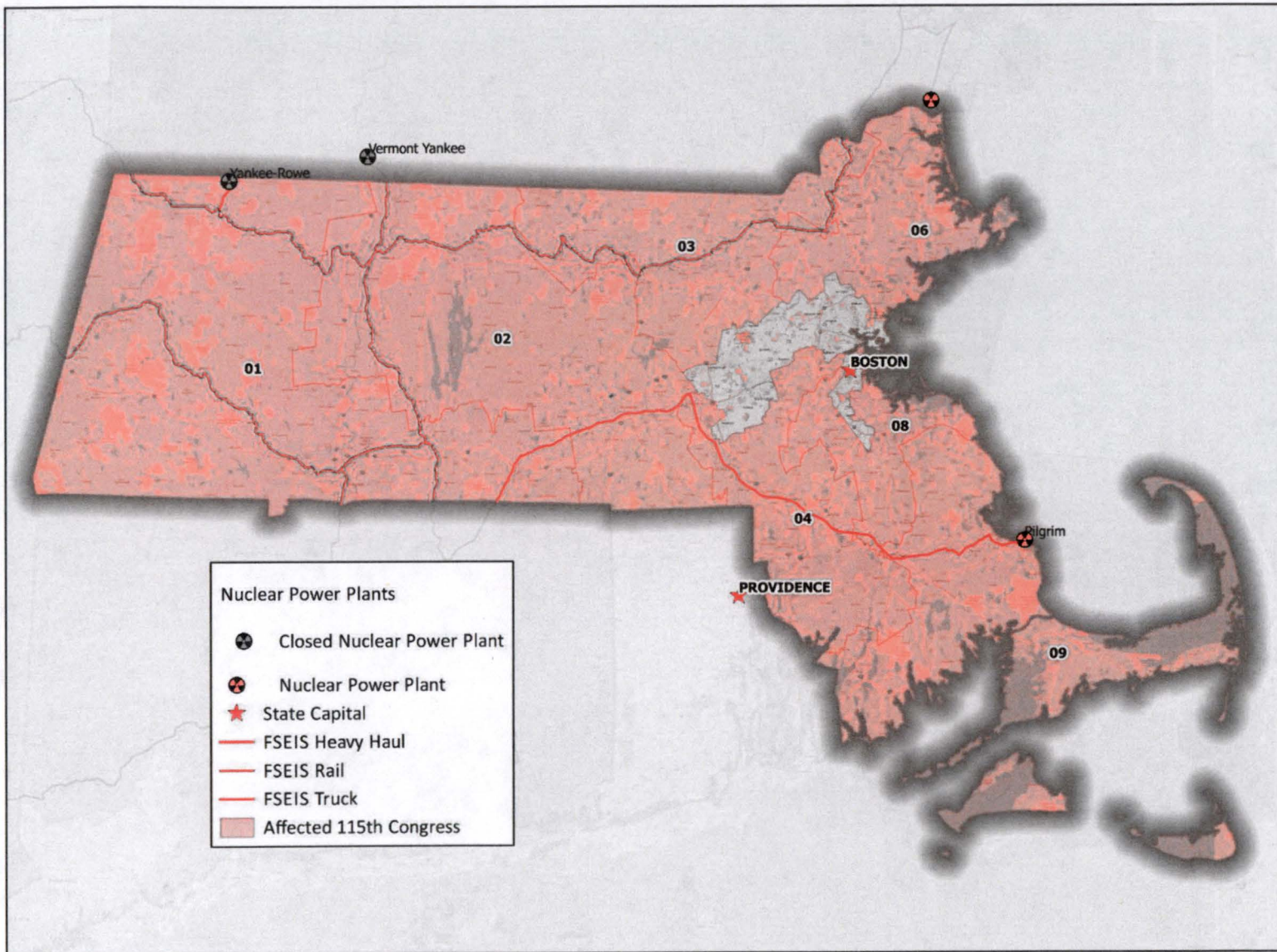
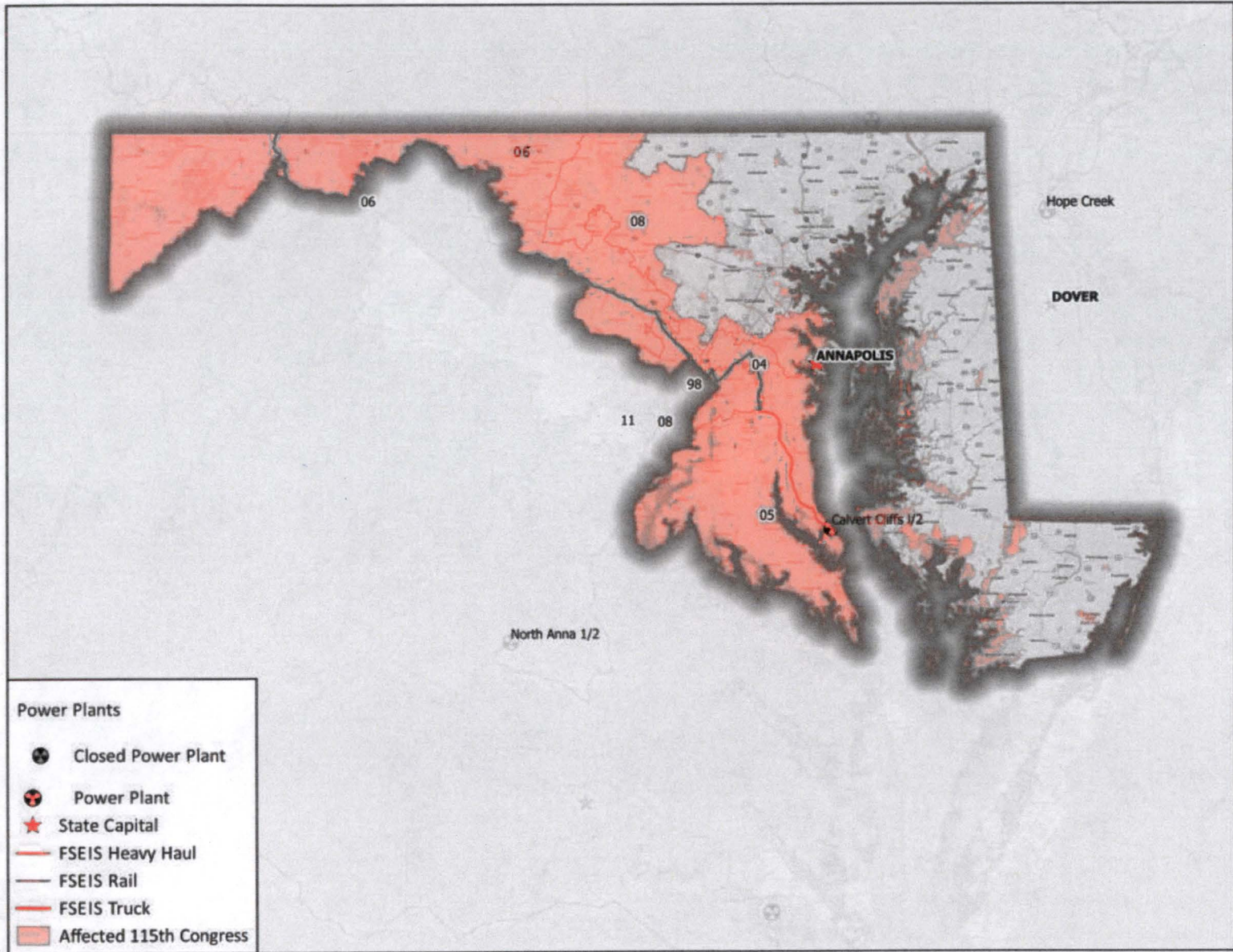




Figure 19 FSEIS Routes through Maryland





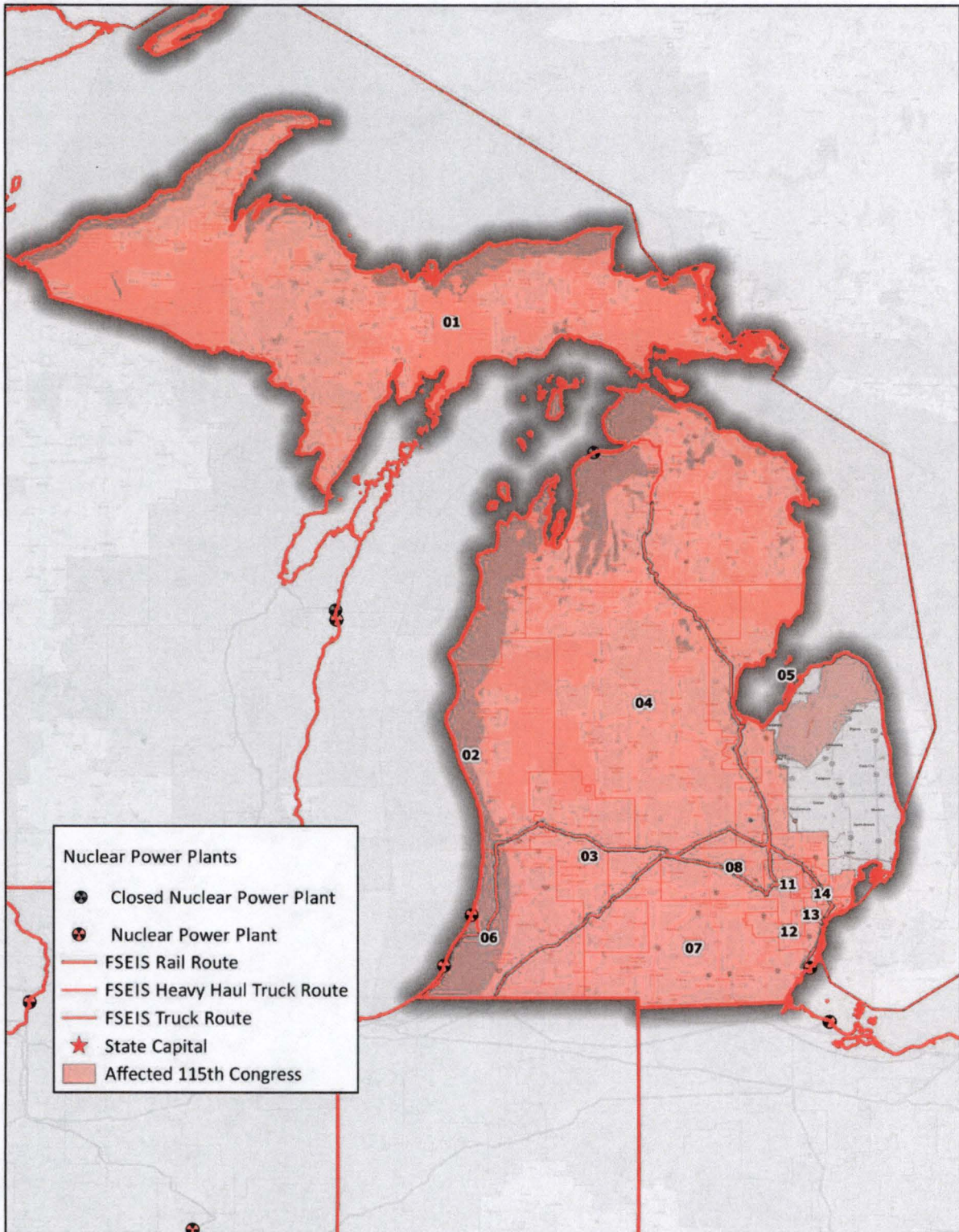


Figure 20 FSEIS Routes through Michigan



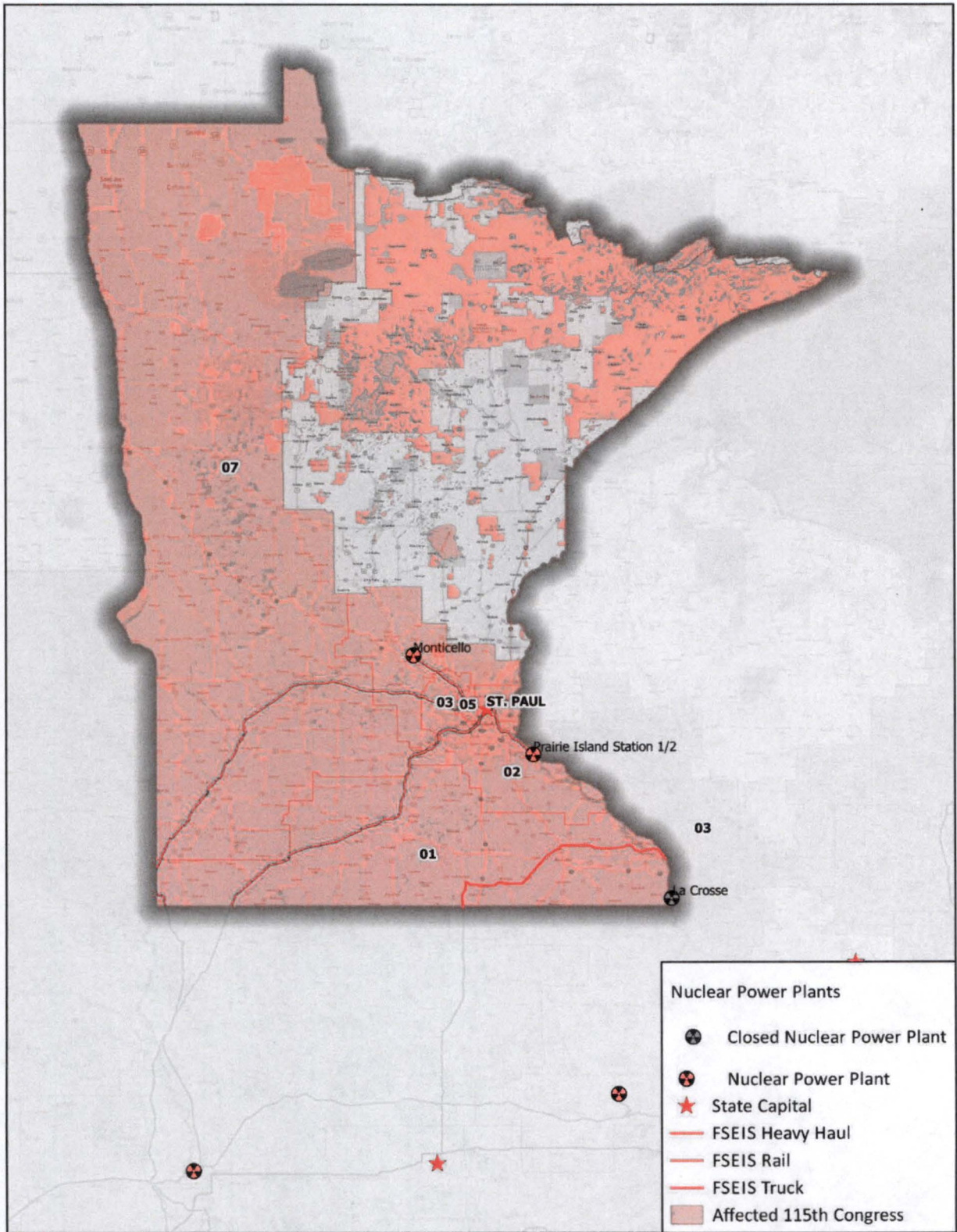


Figure 21 FSEIS Routes through Minnesota



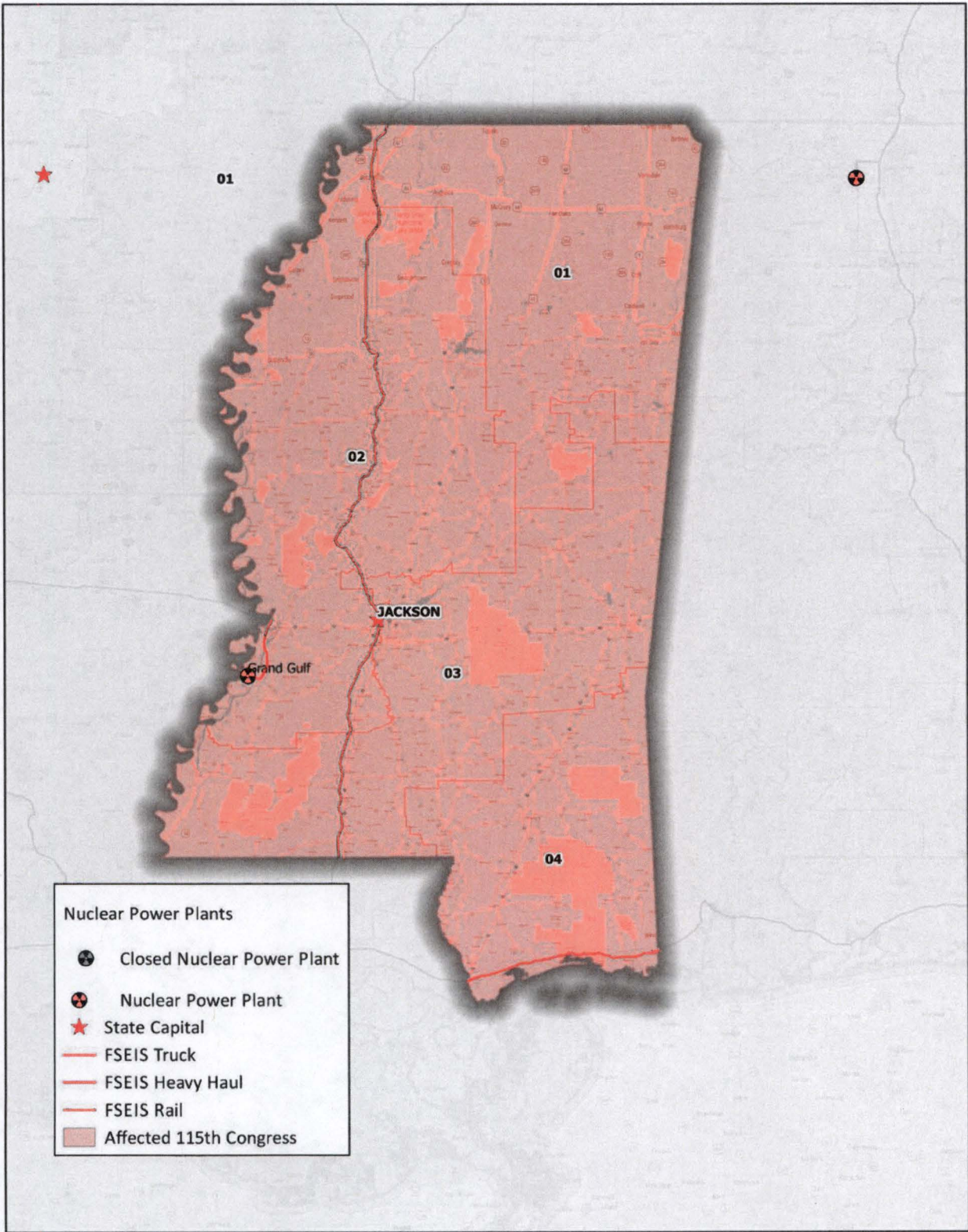


Figure 22 FSEIS Routes through Mississippi



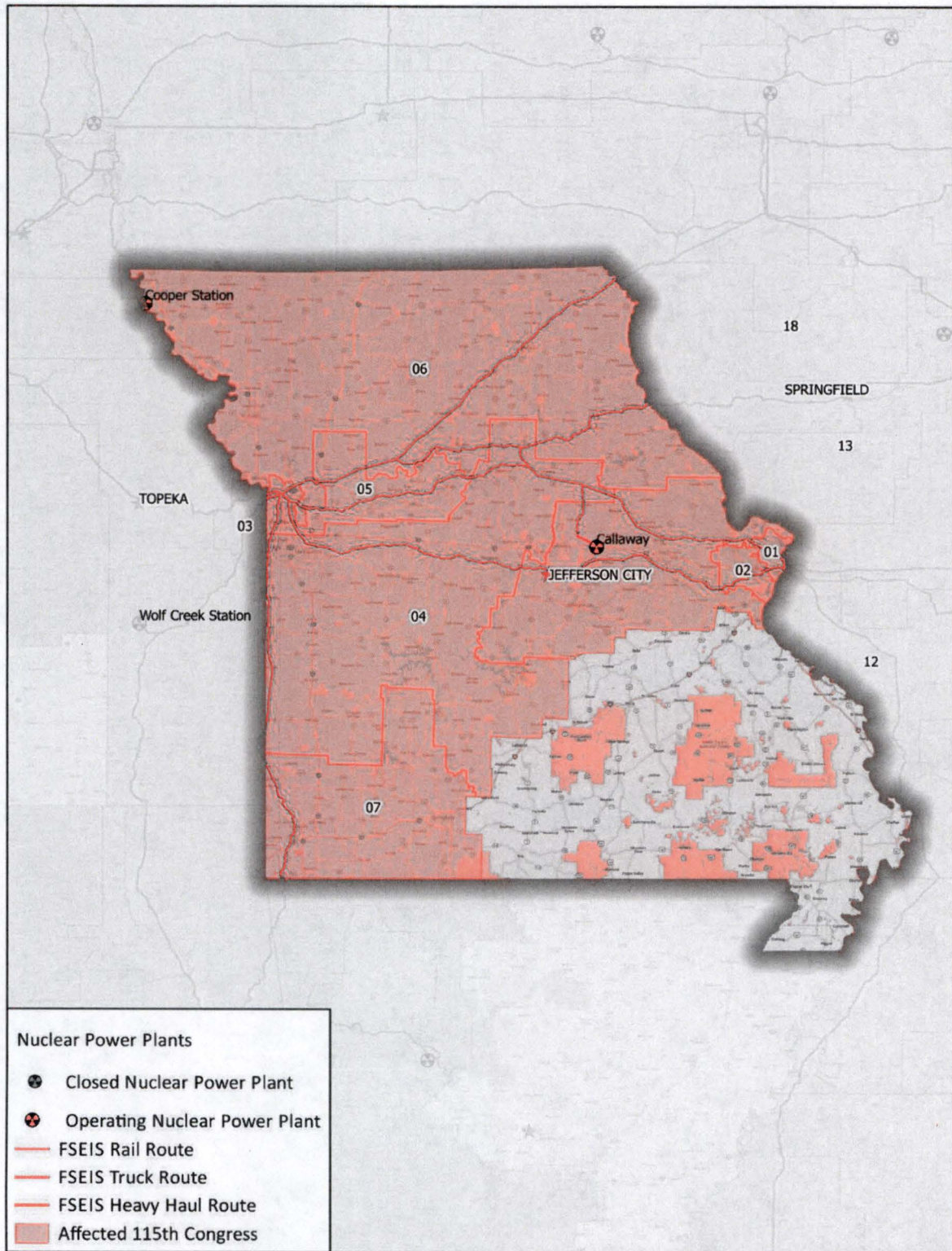
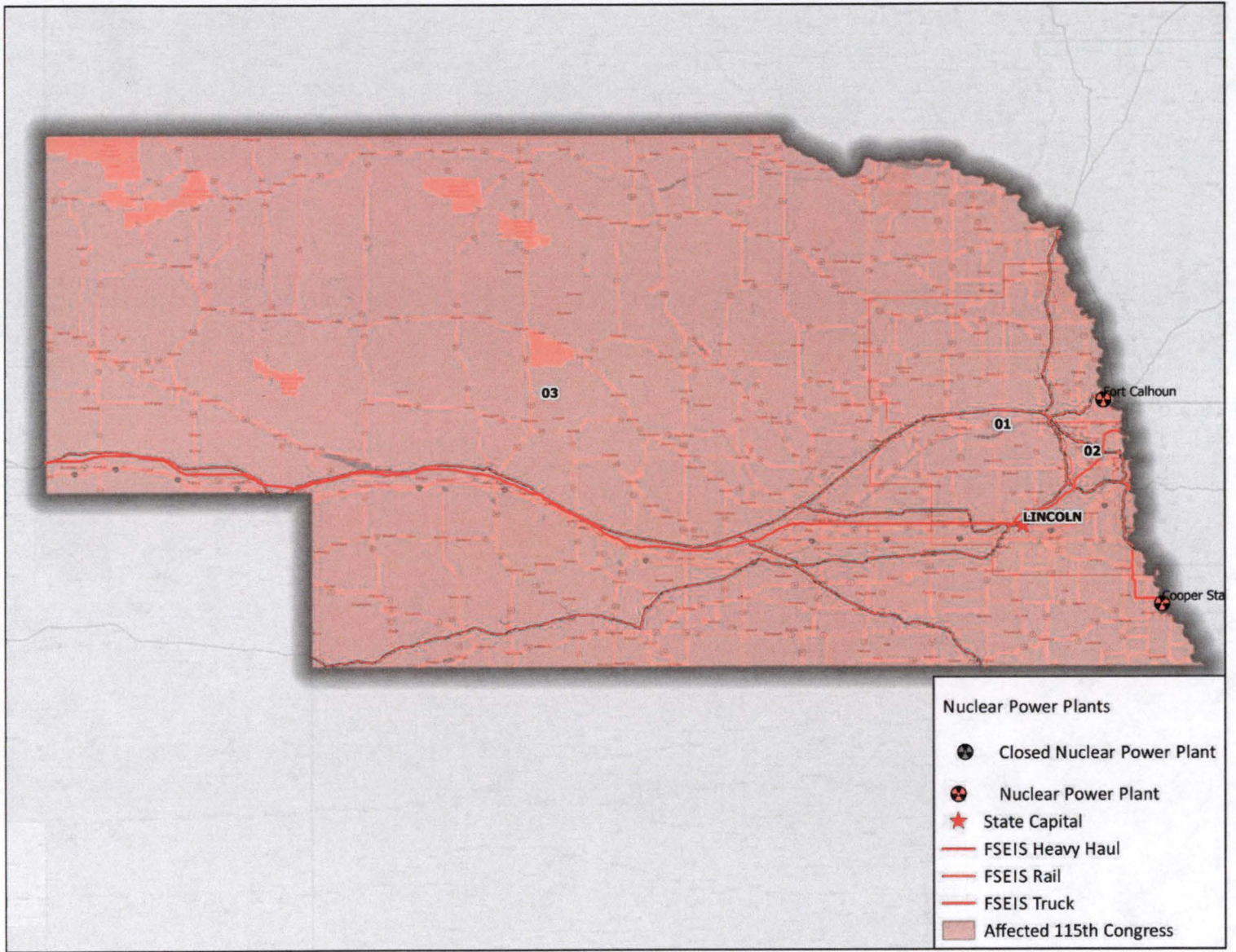


Figure 23 FSEIS Routes through Missouri



Figure 24 FSEIS Routes through Nebraska





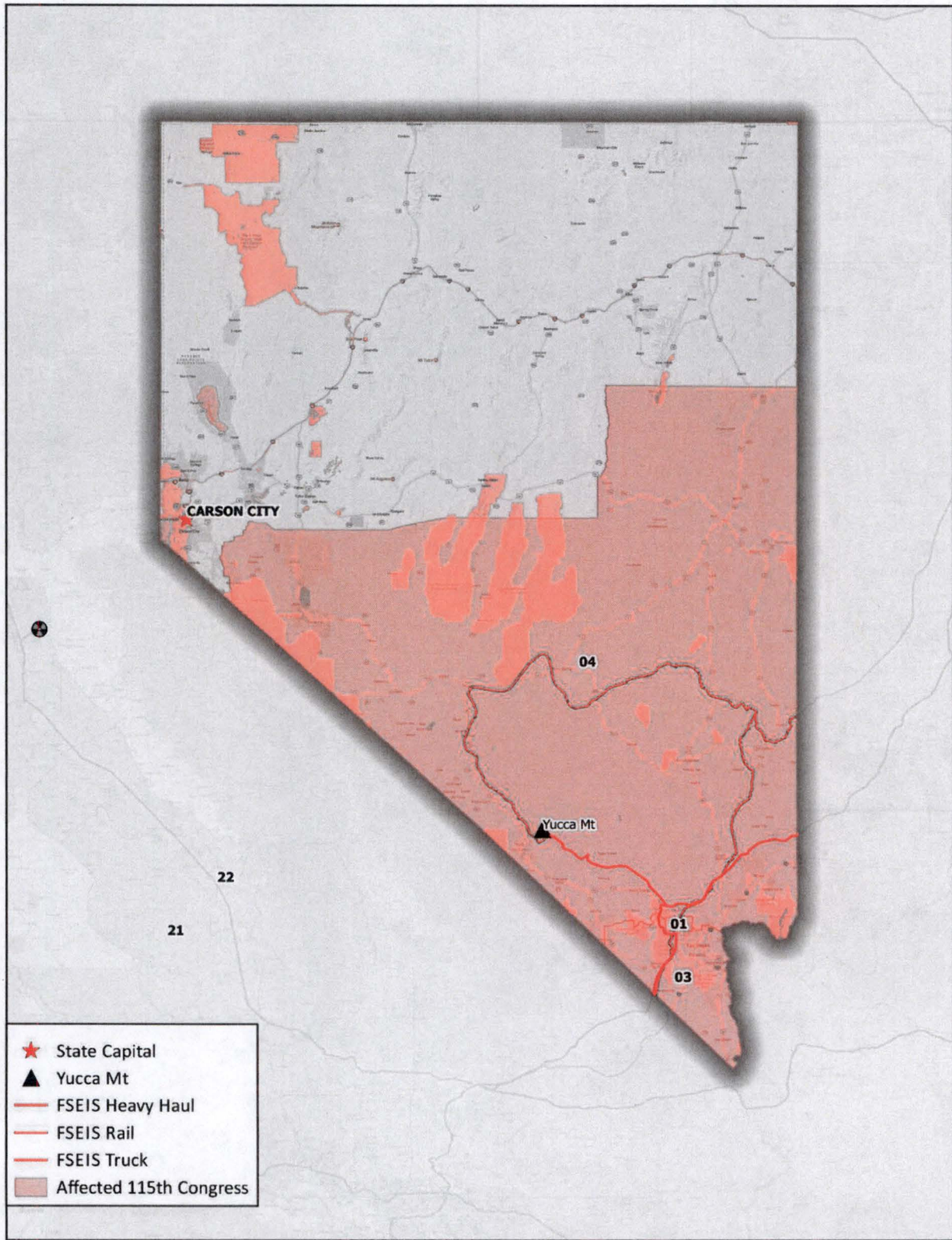


Figure 25 FSEIS Routes through Nevada



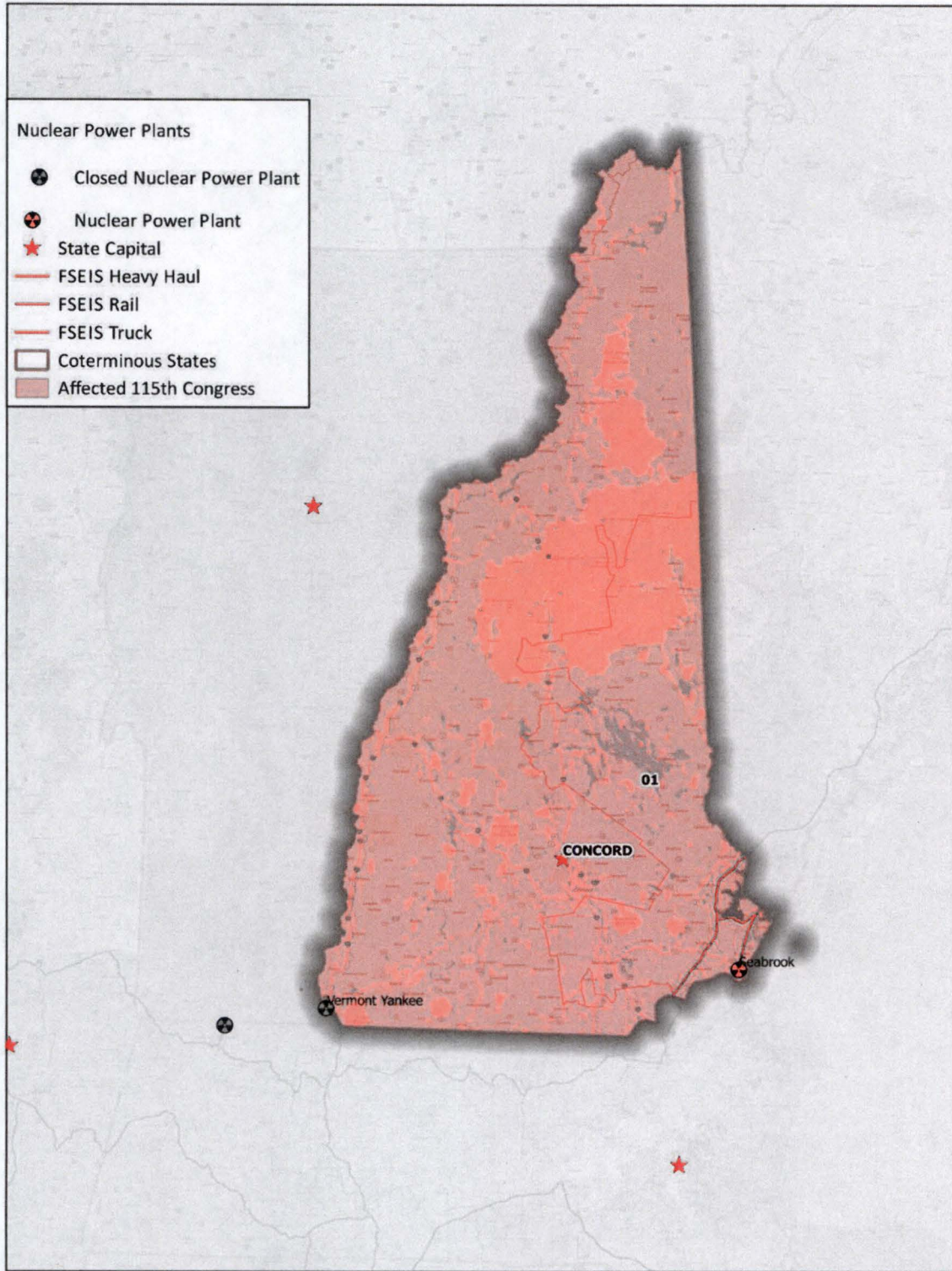


Figure 26 FSEIS Routes through New Hampshire



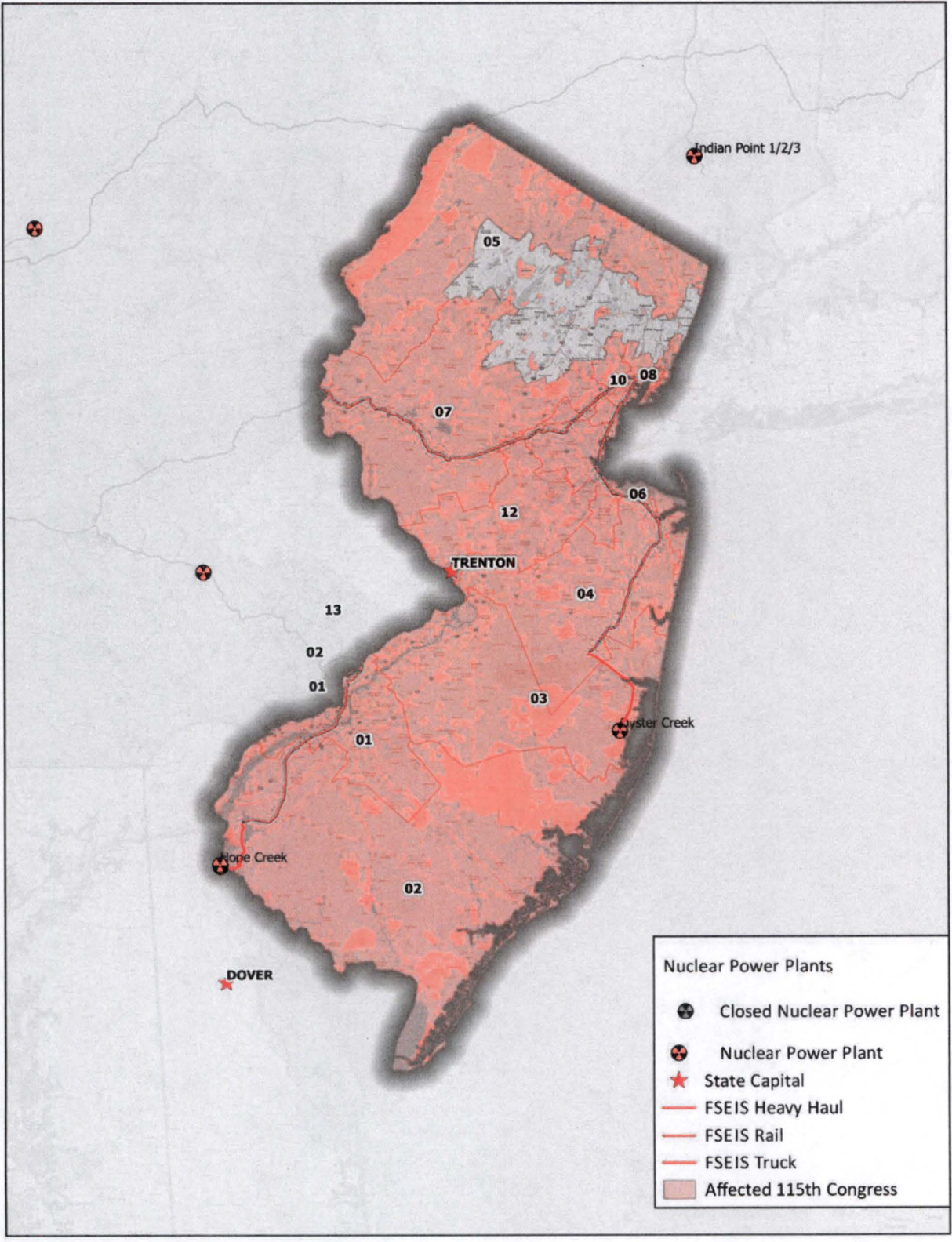


Figure 27 FSEIS Routes through New Jersey



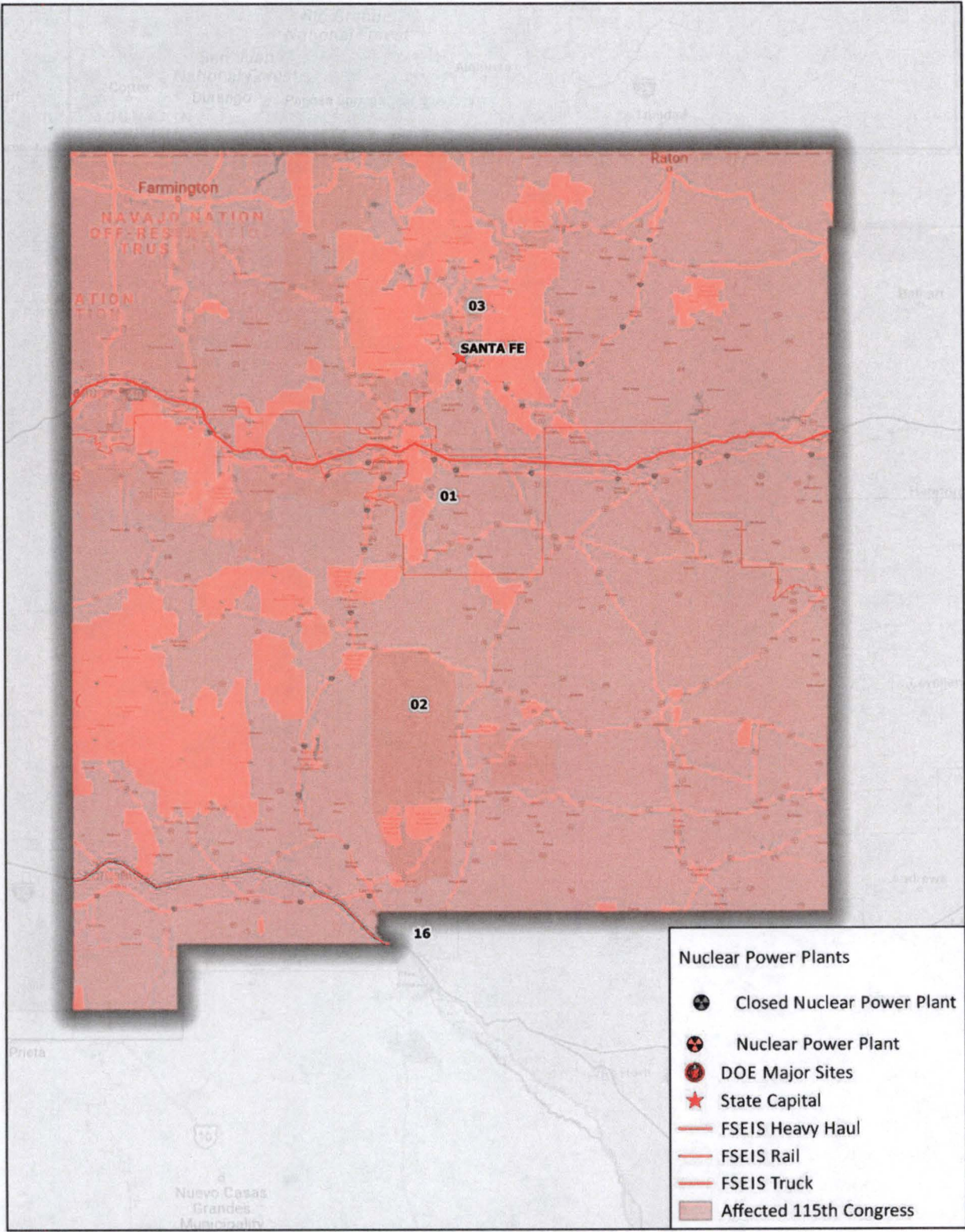


Figure 28 FSEIS Routes through New Mexico



Figure 29 FSEIS Routes through New York

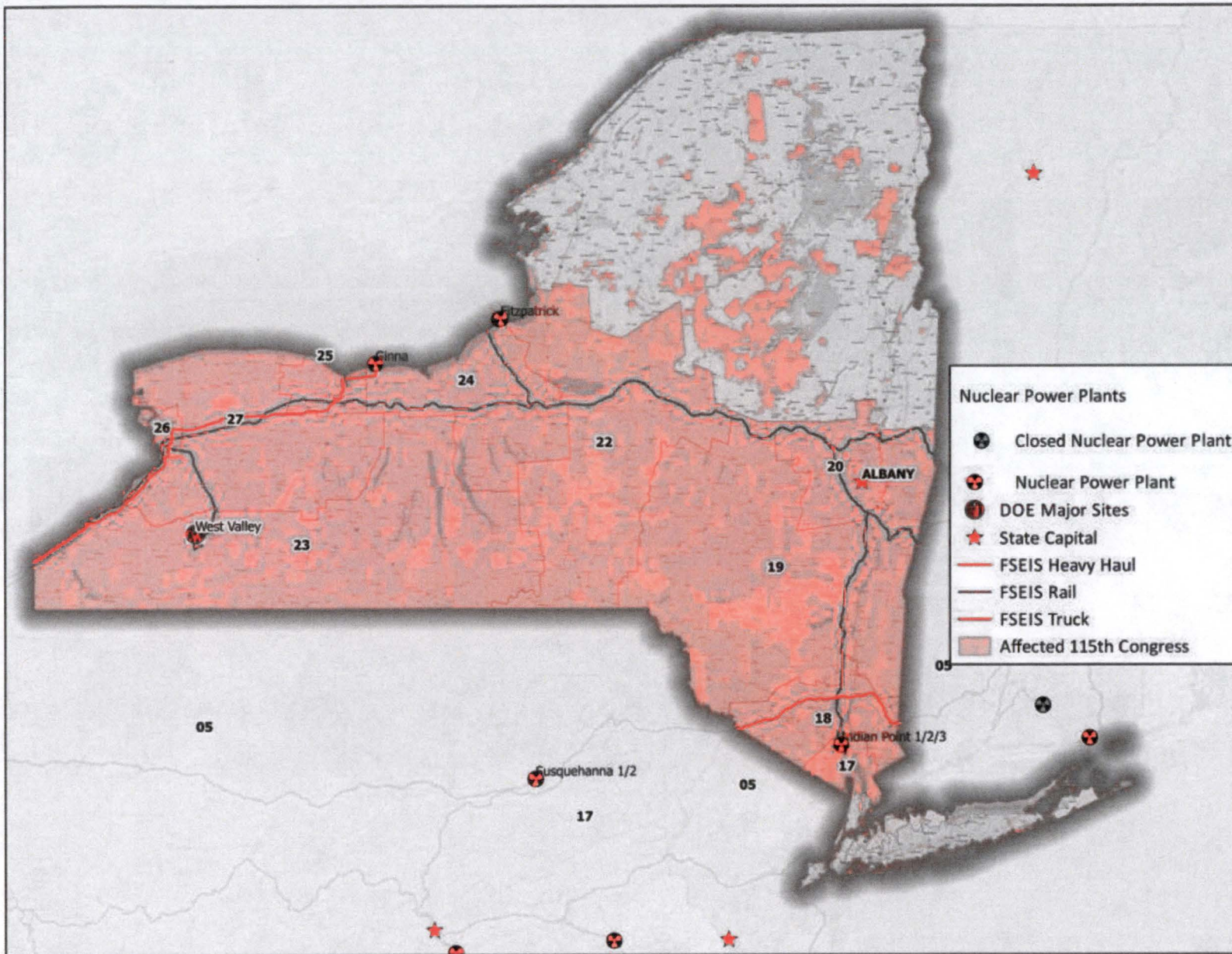
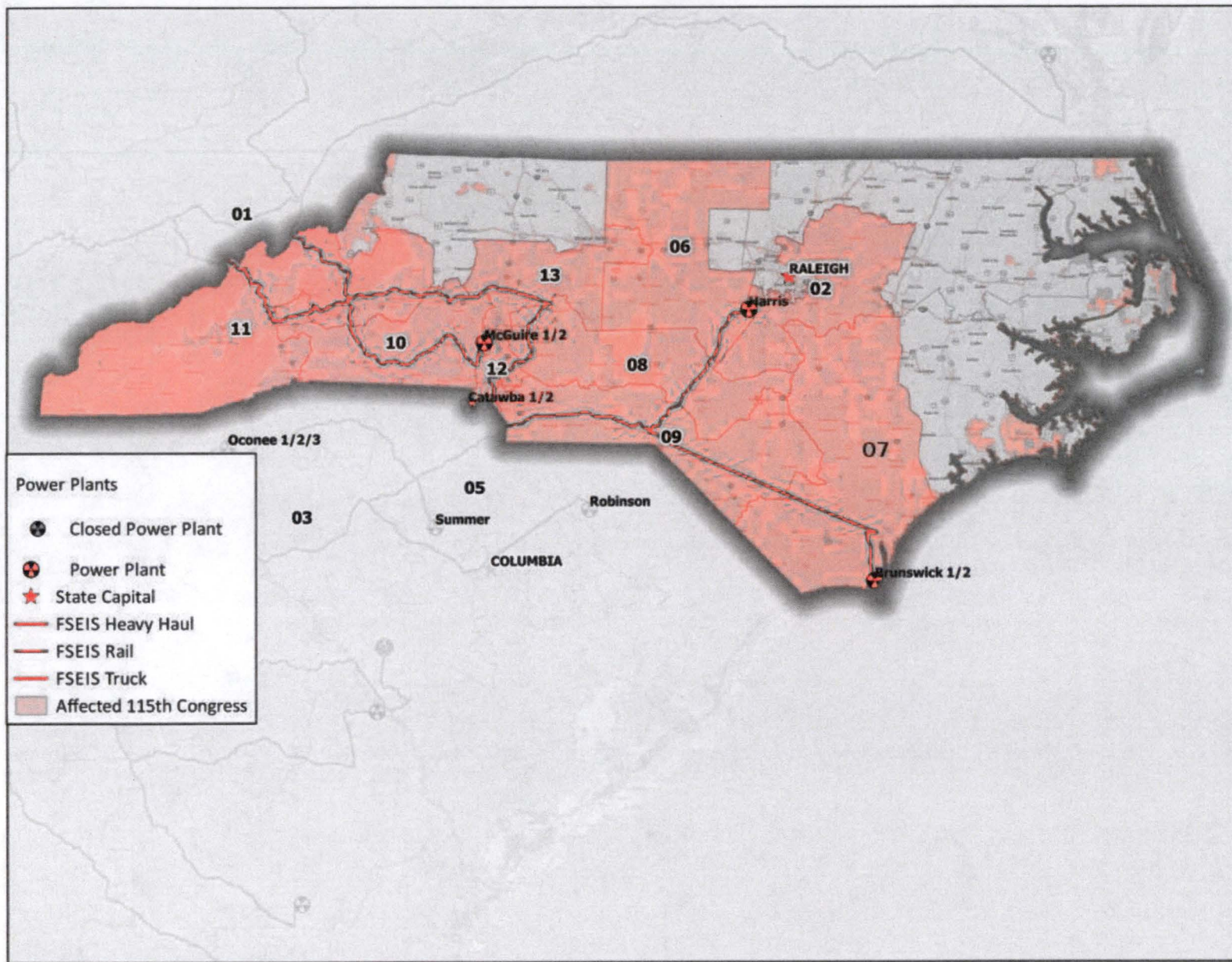




Figure 30 FSEIS Routes through North Carolina





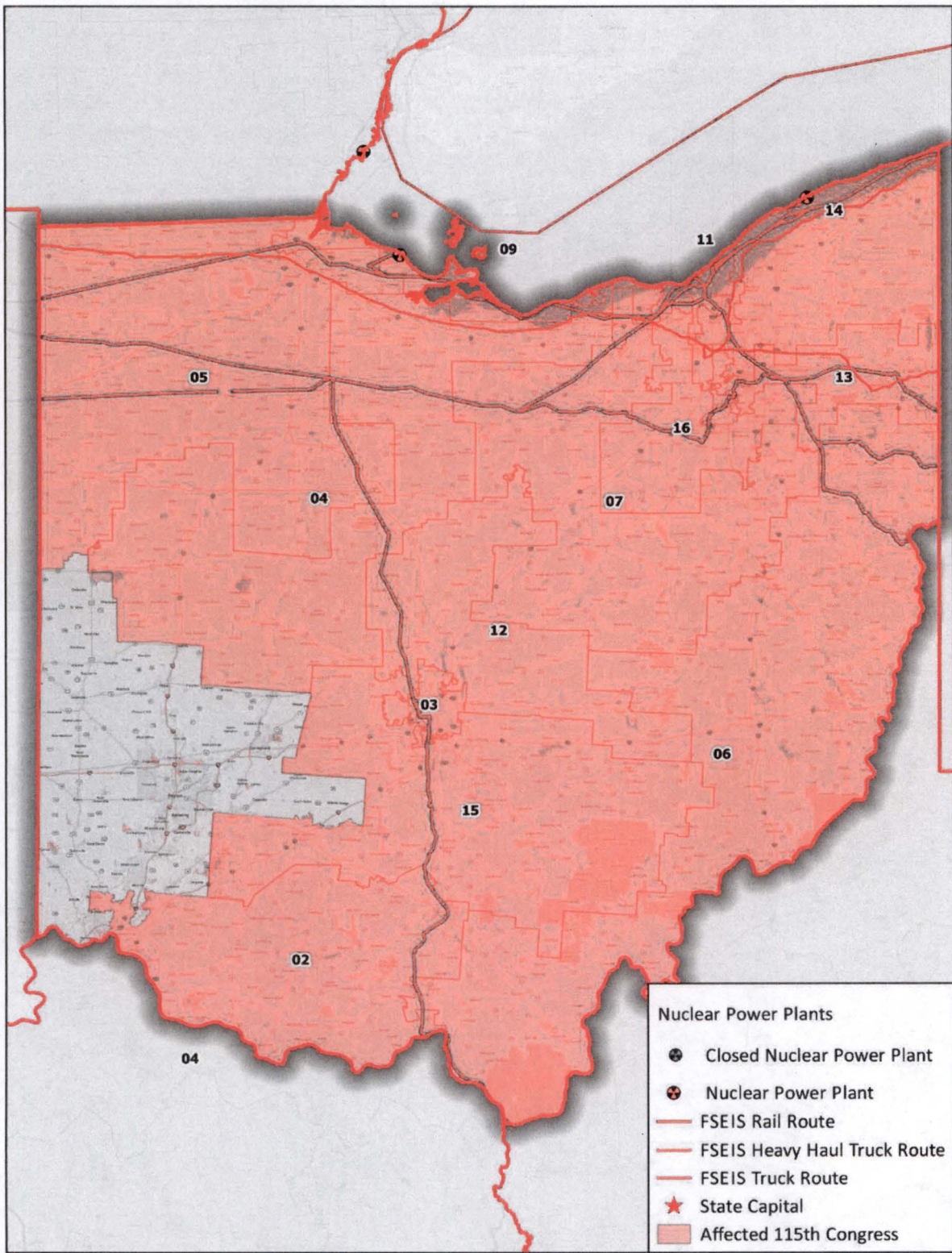


Figure 31 FSEIS Routes through Ohio



Figure 32 FSEIS Routes through Oklahoma

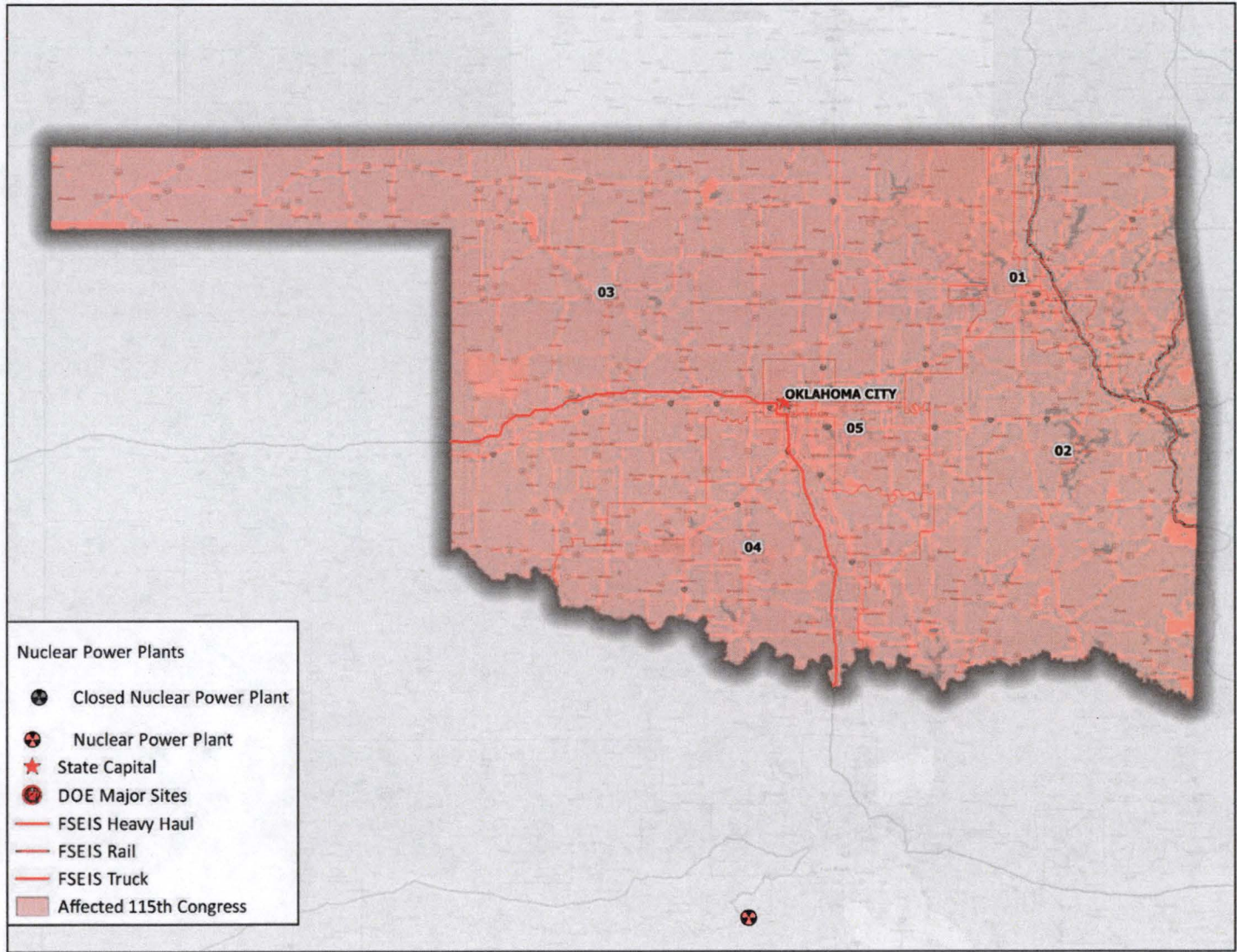




Figure 33 FSEIS Routes through Oregon

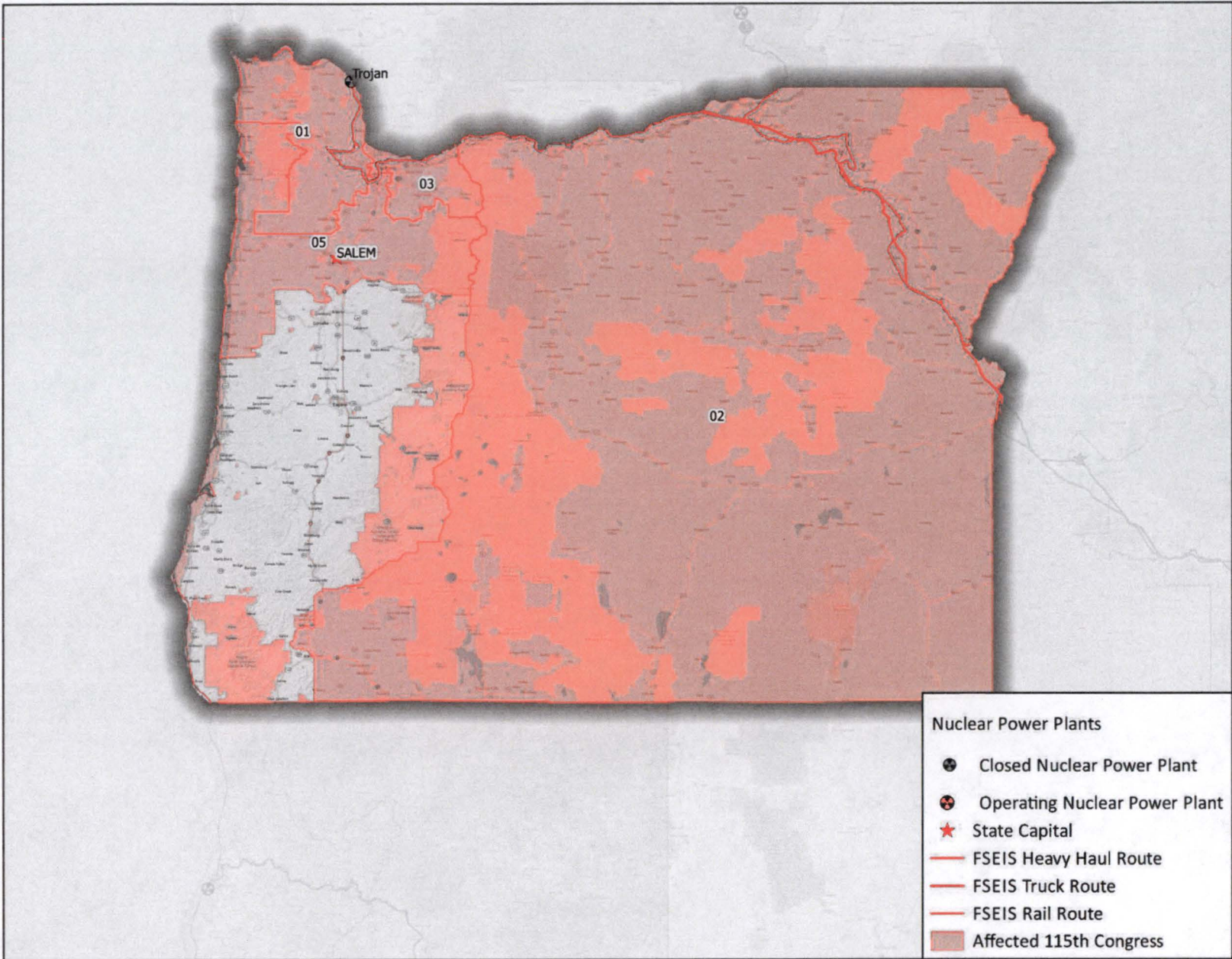
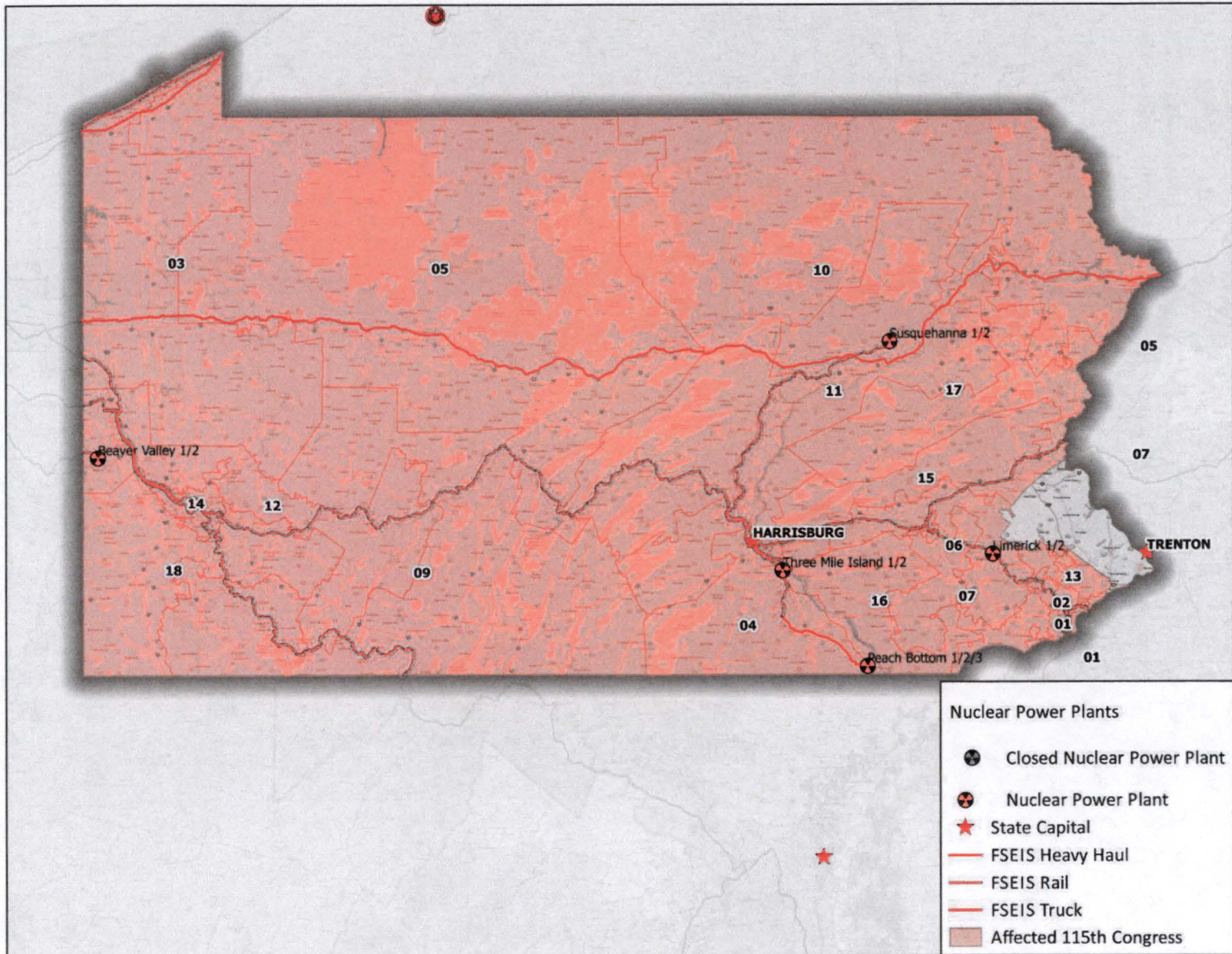




Figure 34 FSEIS Routes through Pennsylvania





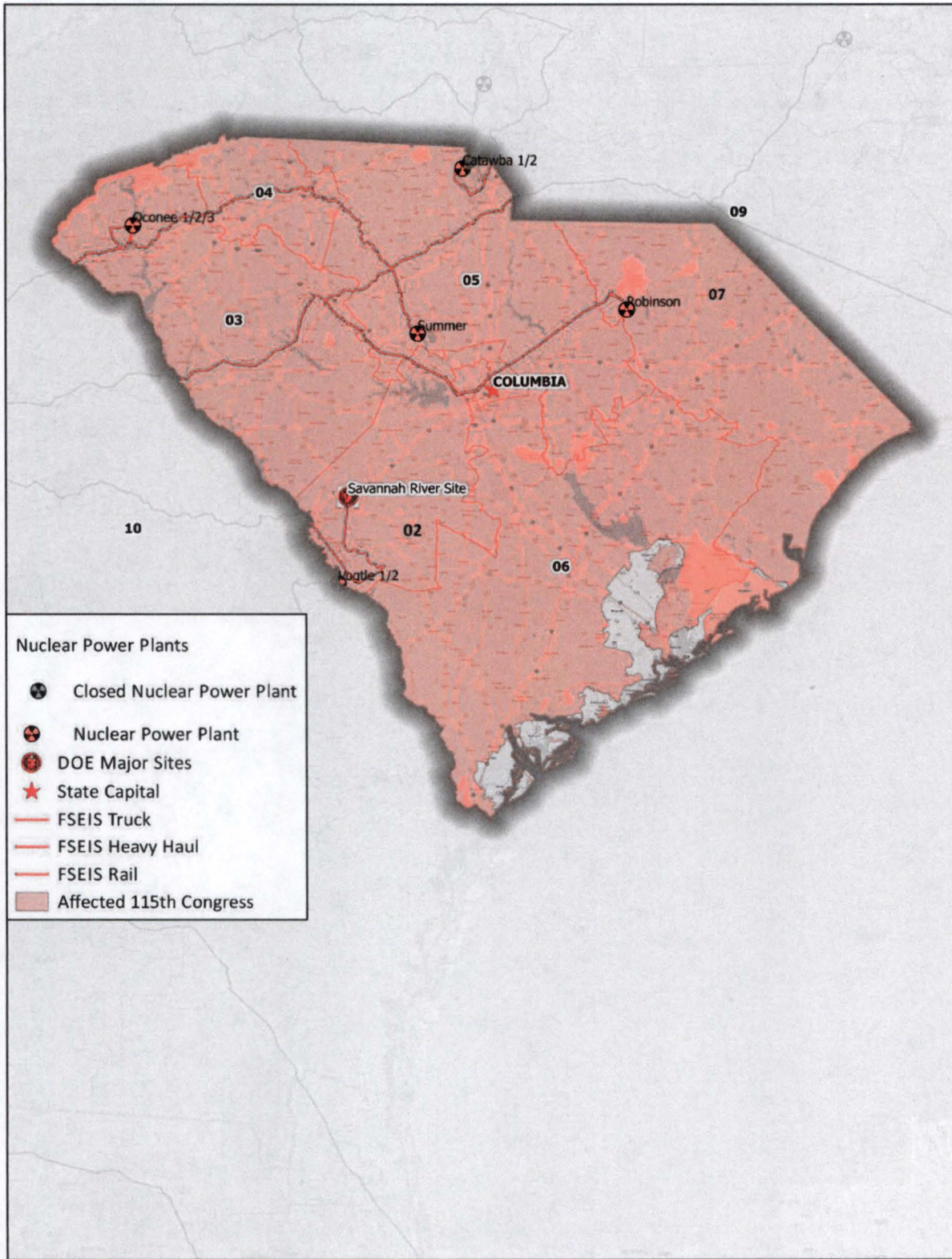


Figure 35 FSEIS Routes through South Carolina



Figure 36 FSEIS Routes through South Dakota

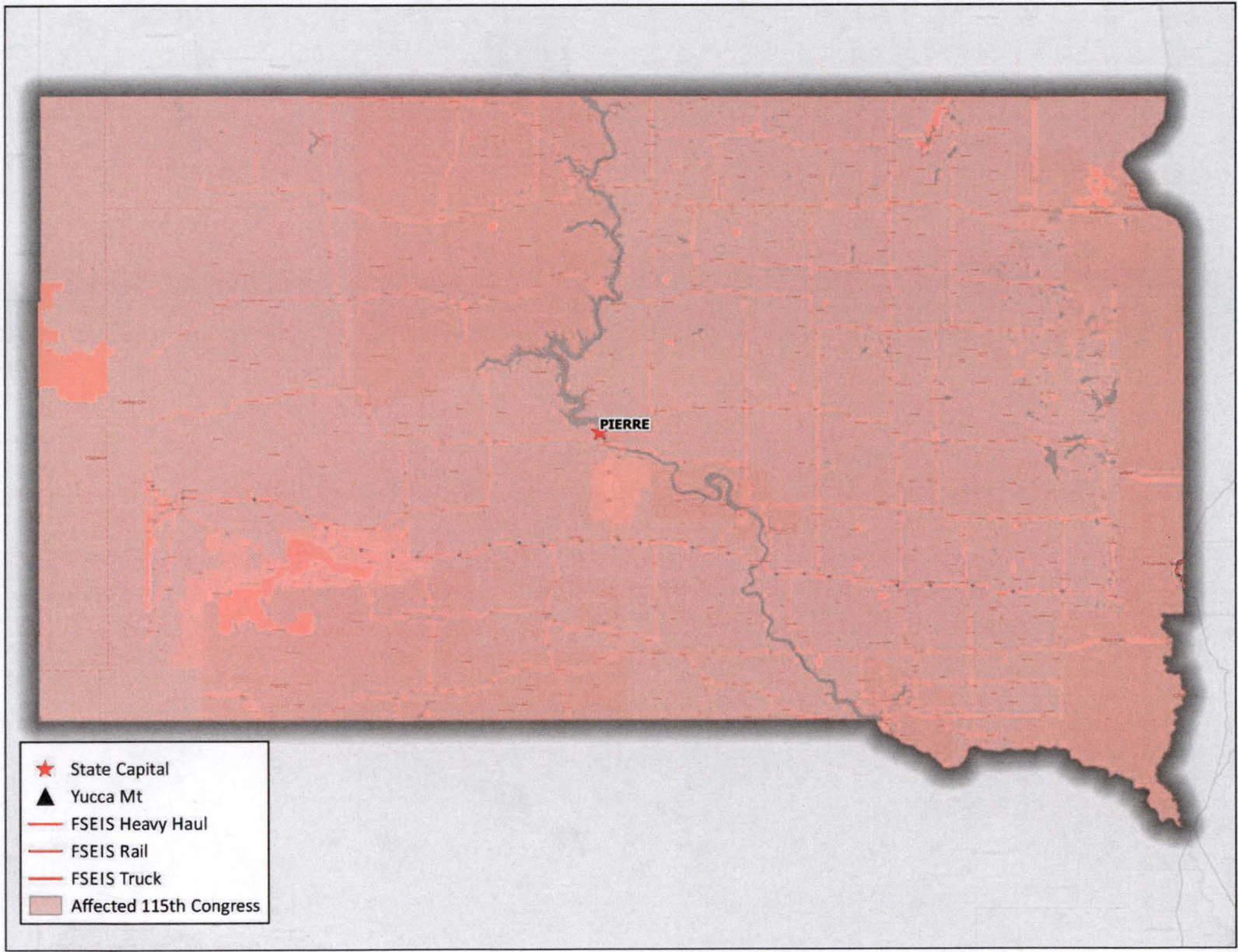
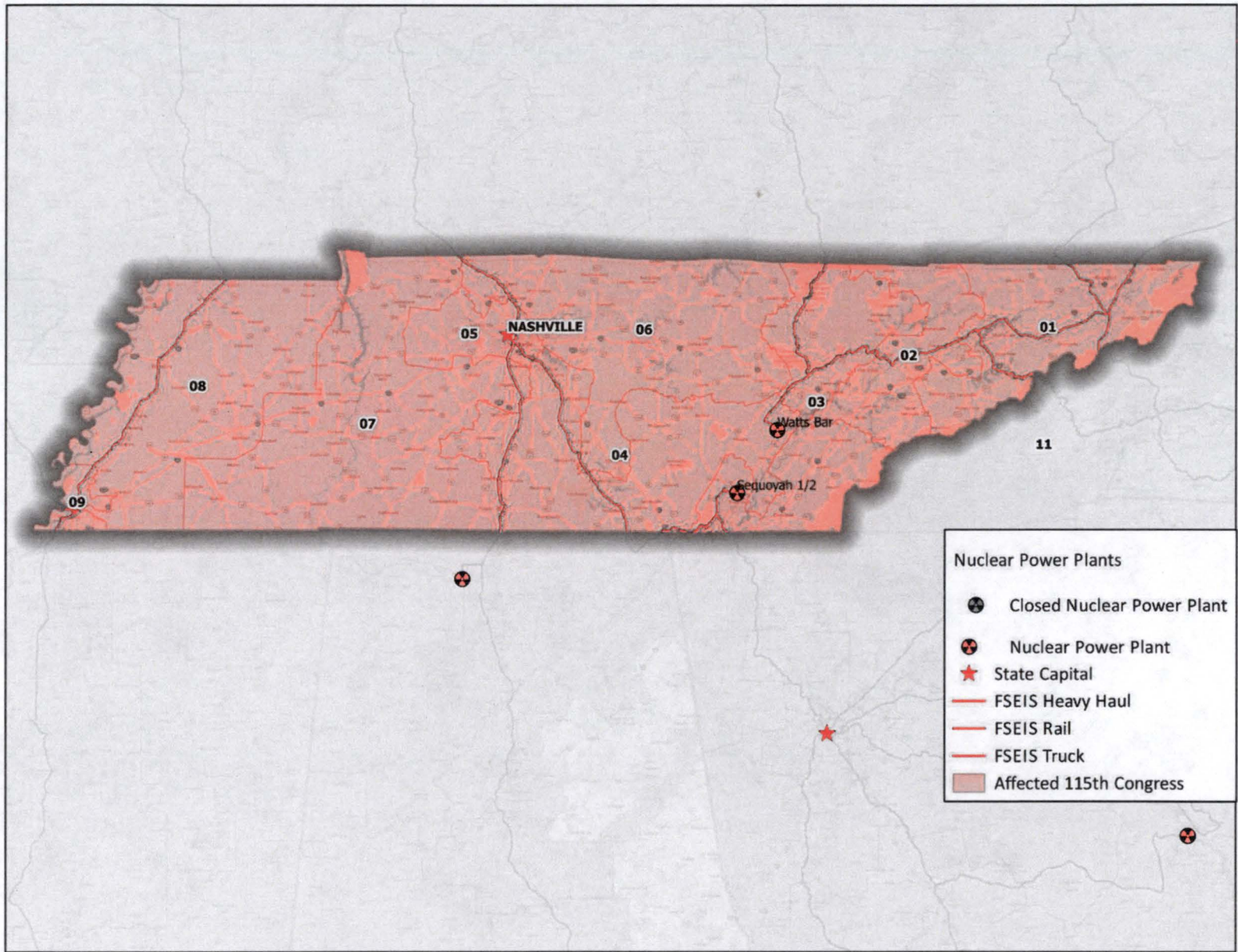




Figure 37 FSEIS Routes through Tennessee





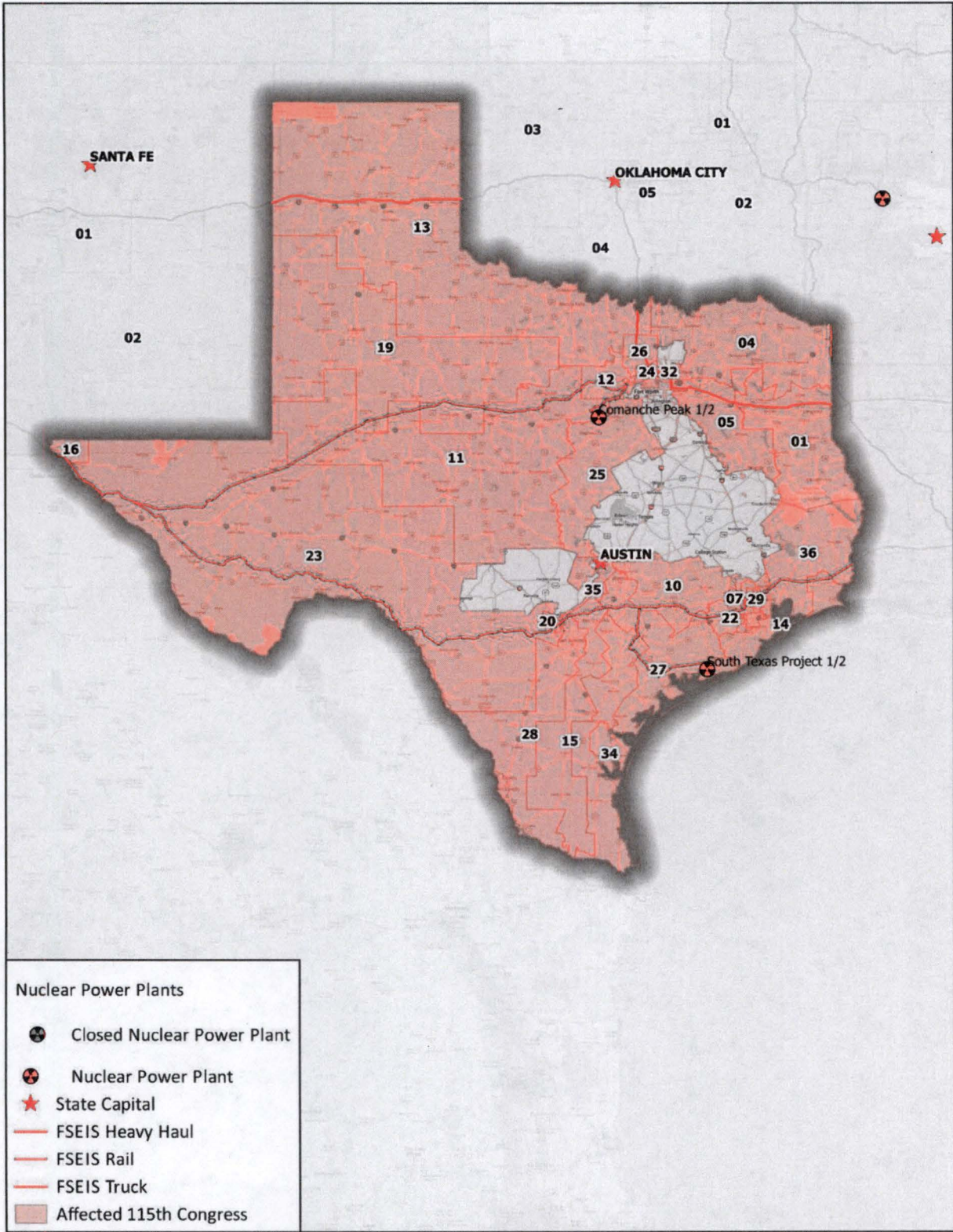


Figure 38 FSEIS Routes through Texas



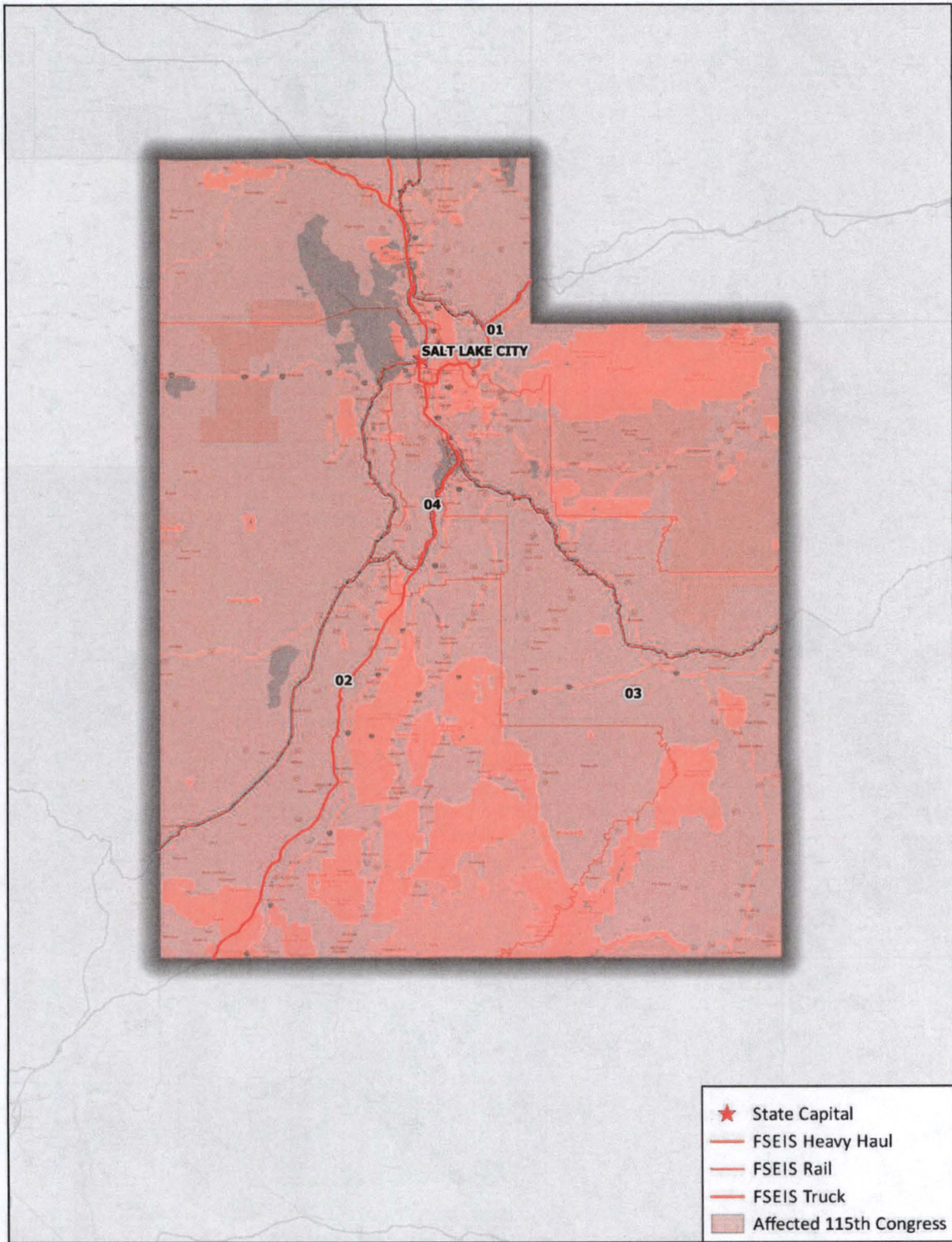


Figure 39 FSEIS Routes through Utah



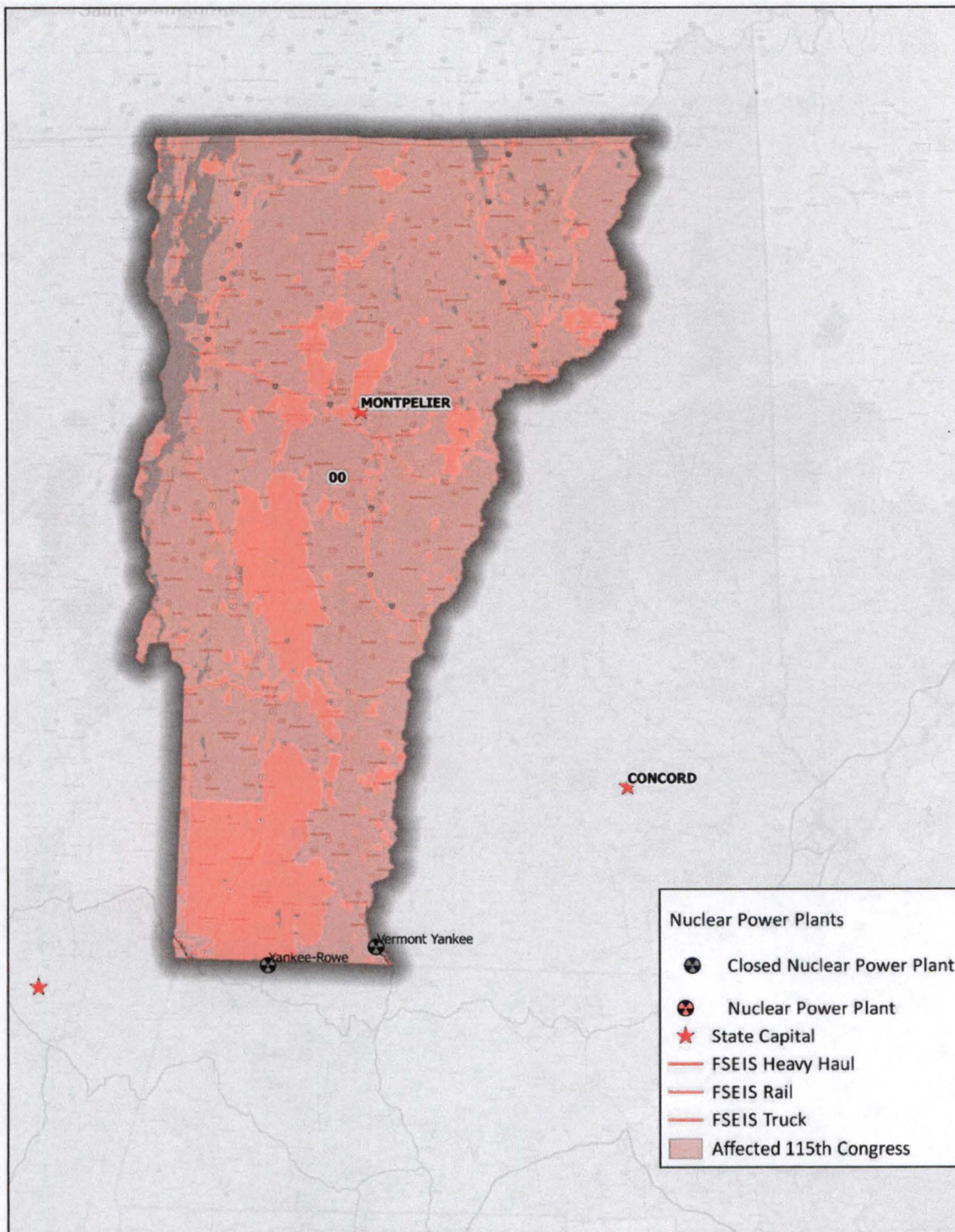


Figure 40 FSEIS Routes through Vermont



Figure 41 FSEIS Routes through Virginia

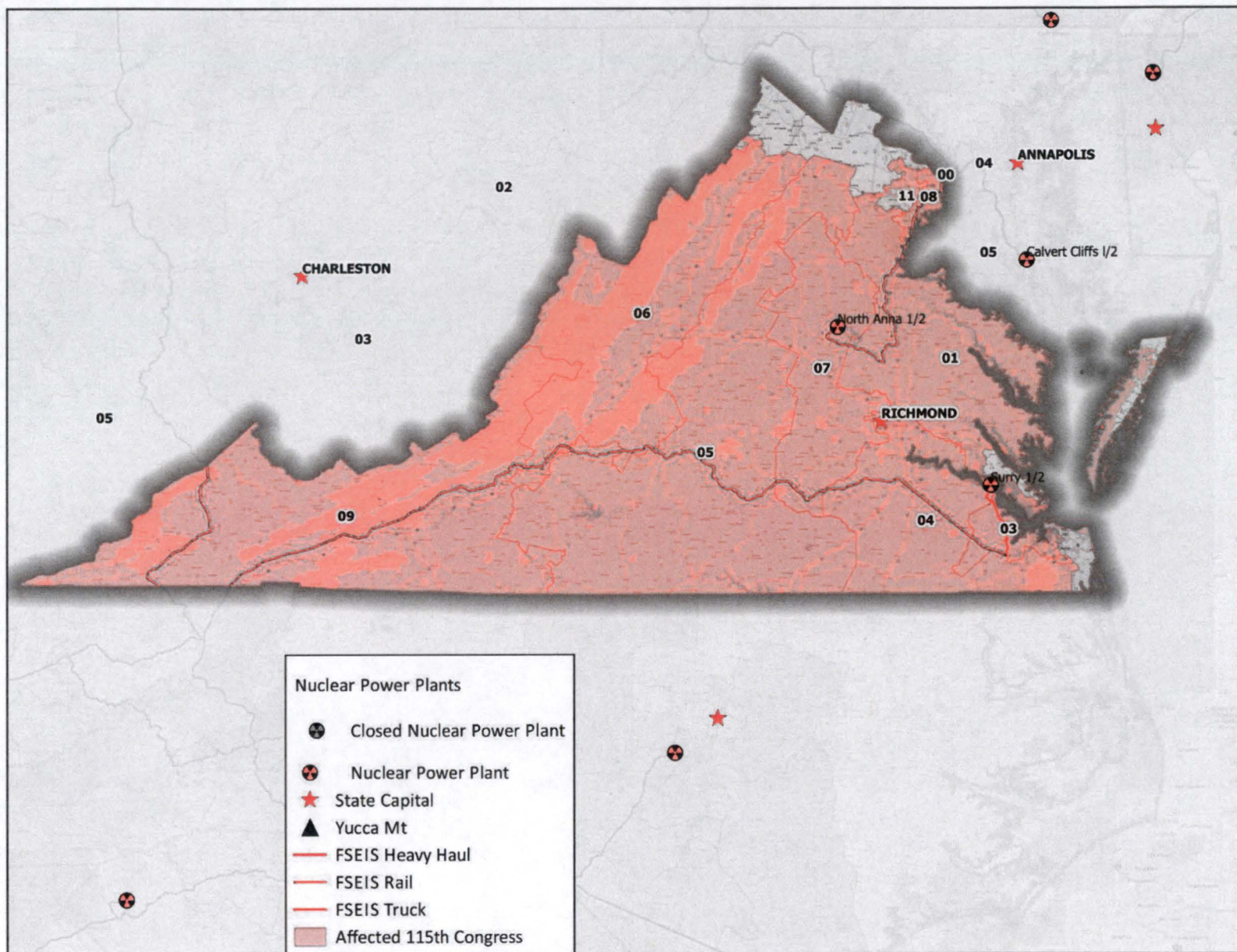




Figure 42 FSEIS Routes through Washington

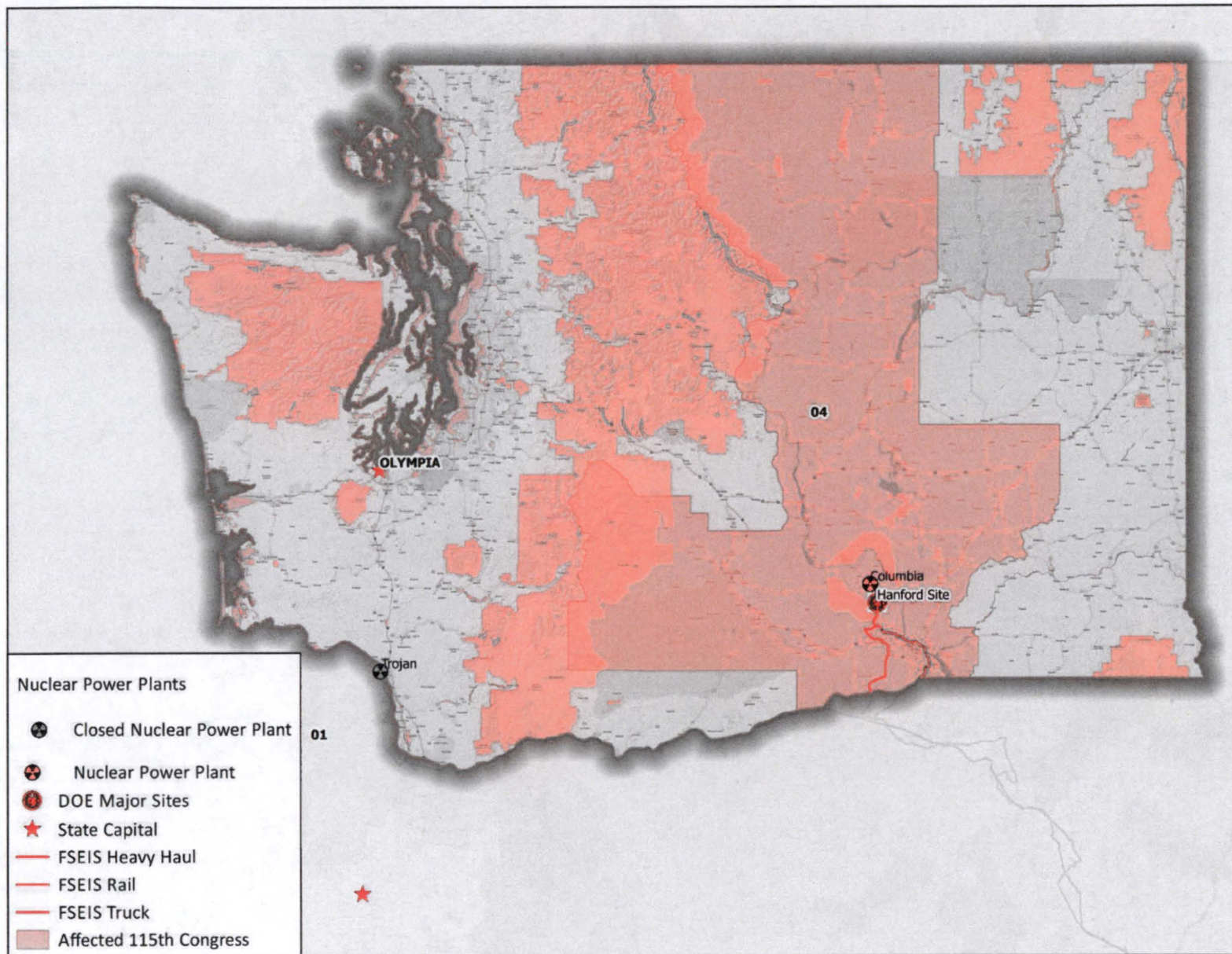
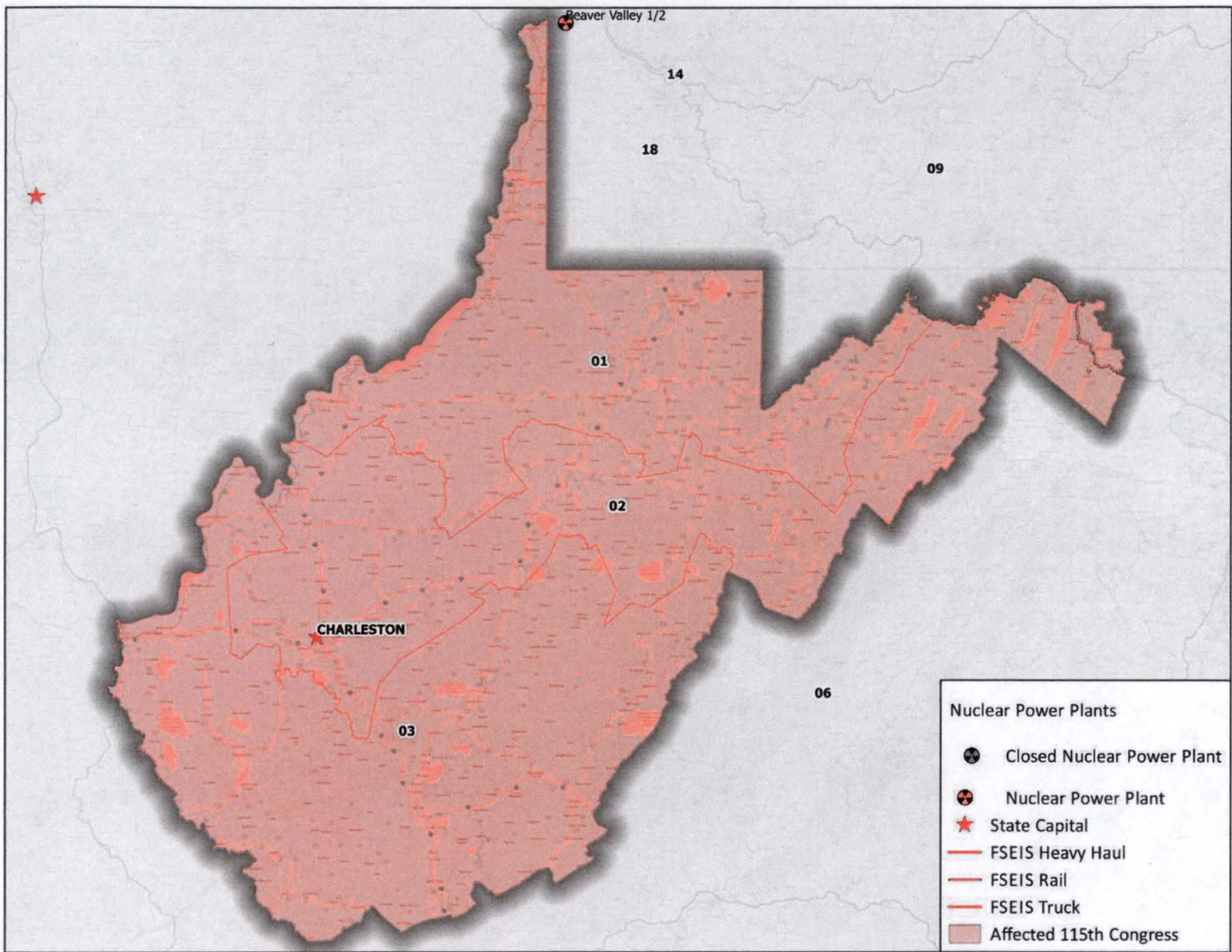




Figure 43 FSEIS Routes through West Virginia





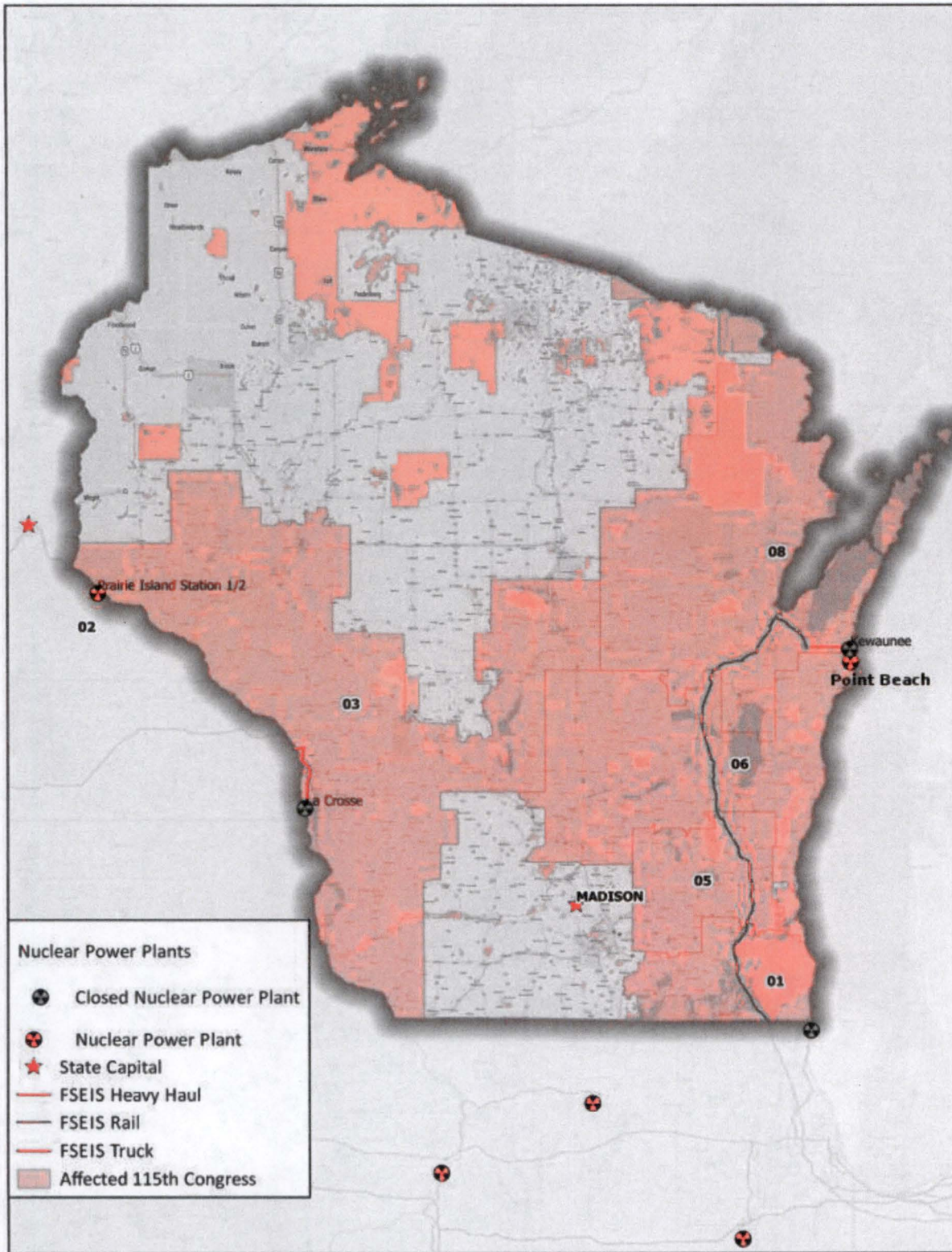


Figure 44 FSEIS Route through Wisconsin



Nuclear Power Plants

- ⦿ Closed Nuclear Power Plant
- ☢ Nuclear Power Plant
- ★ State Capital
- FSEIS Heavy Haul
- FSEIS Rail
- FSEIS Truck
- Affected 115th Congress

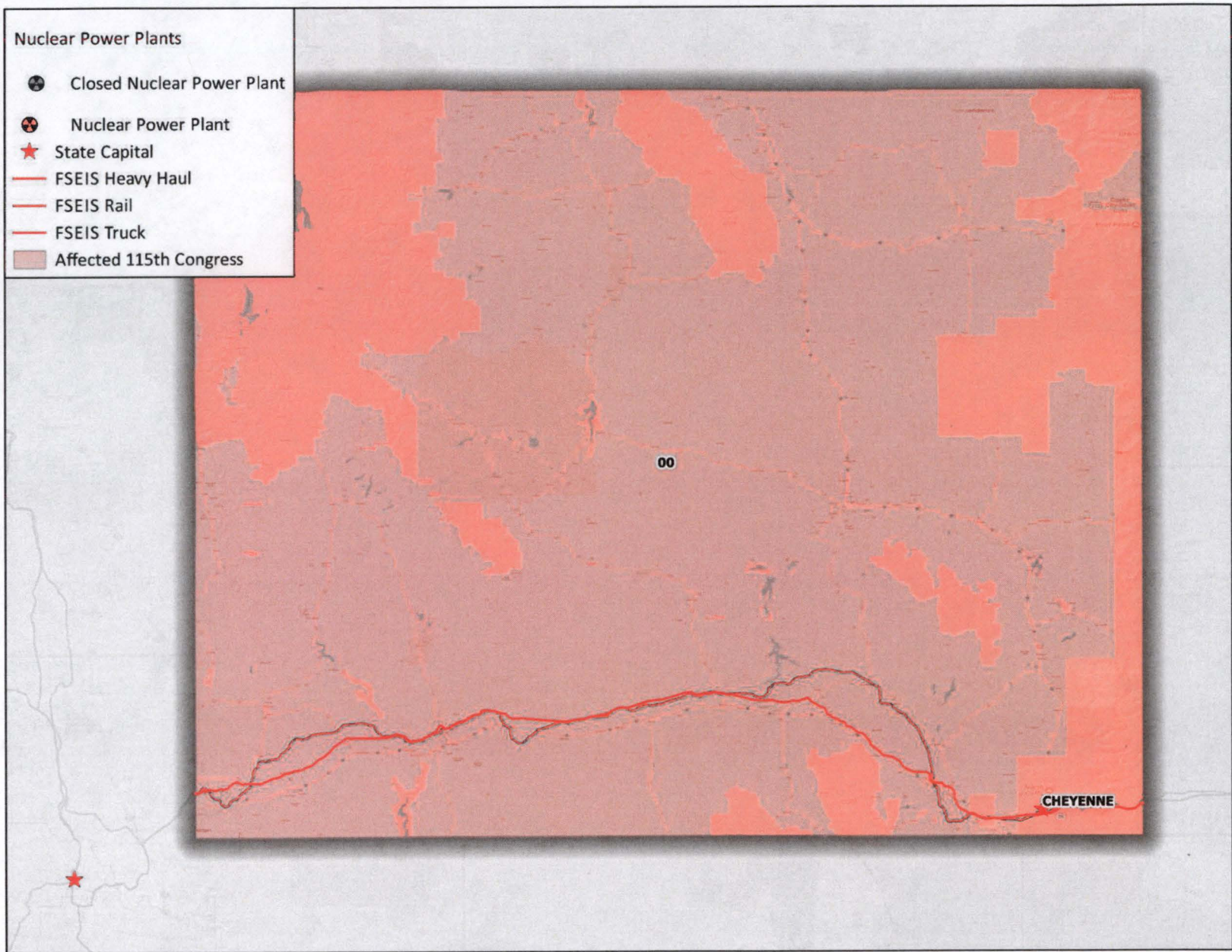
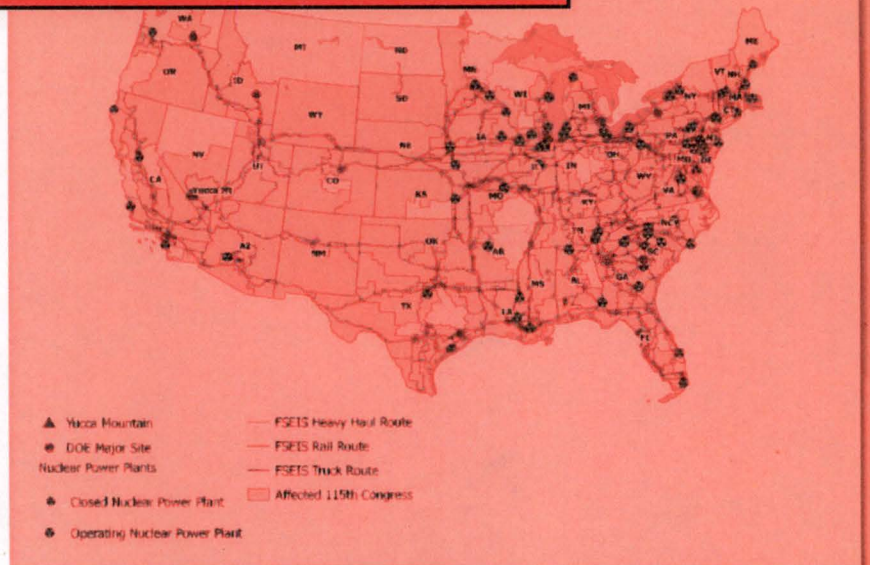


Figure 45 FSEIS Routes through Wyoming



2017

# Congressional Districts Potentially Affected by Shipments to Yucca Mountain, Nevada



Fred Dilger PhD.  
Black Mountain Research  
7/25/2017



## Background

On June 16, 2008, the U.S. Department of Energy (DOE) released the *Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (FSEIS). In the FSEIS, DOE identified “representative routes” from 72 commercial and 4 DOE sites in 34 states to Yucca Mountain, based on U.S. Department of Transportation highway regulations and current railroad practices. For the proposed action, i.e., the disposal of 70,000 metric tons, DOE calculated there would be about 2,800 rail shipments (9,500 casks) and about 2,700 highway shipments of spent nuclear fuel and high-level radioactive waste. DOE included 44 state maps (and the District of Columbia) showing these “representative routes,” and tables estimating the number of rail and highway shipments through each state in Appendix G of the FSEIS. The FSEIS transportation analysis “is based on routes that could be used and that DOE believes are representative of those that will be used.” [p. G-5] Because the FSEIS analysis “is based primarily upon the existing Interstate Highway System and the existing national rail network, the analysis presents a representative estimate of what the actual transportation impacts would probably be.” [p. G- 60]

In 2008, DOE submitted the FSEIS to the U.S. Nuclear Regulatory Commission (NRC) in support of its application for a license to construct the Yucca Mountain repository. DOE terminated the Yucca Mountain project in 2010, and NRC suspended the licensing proceeding in 2011. In August 2013, the U.S. Court of Appeals for the District of Columbia Circuit ordered NRC to resume the licensing proceeding. NRC issued an order directing its staff to restart the non-adjudicatory portion of the proceeding in November 2013. Resumption of the full legally-mandated proceeding could possibly occur in 2017 or 2018. In that event, DOE’s identification of “representative routes” to Yucca Mountain and the resulting evaluation of transportation impacts, required under the National Environmental Policy Act (NEPA), would be an important part of the proceeding.

The NRC Atomic and Safety Licensing Boards admitted 46 transportation or transportation-related contentions, some of which directly challenge DOE’s identification of “representative routes” and “regions of influence”<sup>1</sup> in the FSEIS. The NRC administrative law judges wrote: “... there can be no serious dispute that the NRC’s NEPA responsibilities do not end at the boundaries of the proposed repository, but rather extend to the transportation of nuclear waste to the repository. The two are closely interdependent. Without the repository, waste would not be transported to Yucca Mountain. Without transportation of waste to it, construction of the repository would be irrational. Under NEPA, both must be considered.”<sup>2</sup> The admitted contentions challenge DOE’s evaluation of transportation impacts resulting from routine operations, severe accidents, and radiological sabotage.

This report updates a 2014 publication on Congressional districts potentially affected by shipments to Yucca Mountain. In order to assess the potential impacts on Congressional districts, the author of this report converted the “representative routes” into a format used by the Maptitude Geographic Information System software developed by Caliper Corporation. The 115th Congressional district data was obtained from the Census Department. The routes were overlaid onto the Congressional districts and those districts that are traversed by FSEIS “representative routes” were selected. Those districts that are traversed by the FSEIS rail and/or highway routes are identified in this report. This report was prepared for the State of Nevada Agency for Nuclear Projects.

Fred C. Dilger Ph.D.

July 25, 2017

[blackmountainresearch@gmail.com](mailto:blackmountainresearch@gmail.com)

<sup>1</sup> The FSEIS identifies the region of influence for radiological impacts of incident-free transportation as 0.5 miles on either side of the route centerline, and for radiological impacts of transportation accidents and sabotage, 50 miles on either side of the route centerline.

<sup>2</sup> NRC, Atomic Safety and Licensing Boards, Memorandum and Order Identifying Participants and Admitted Contentions, Docket NO. 63-001-HLW (May 11, 2009).



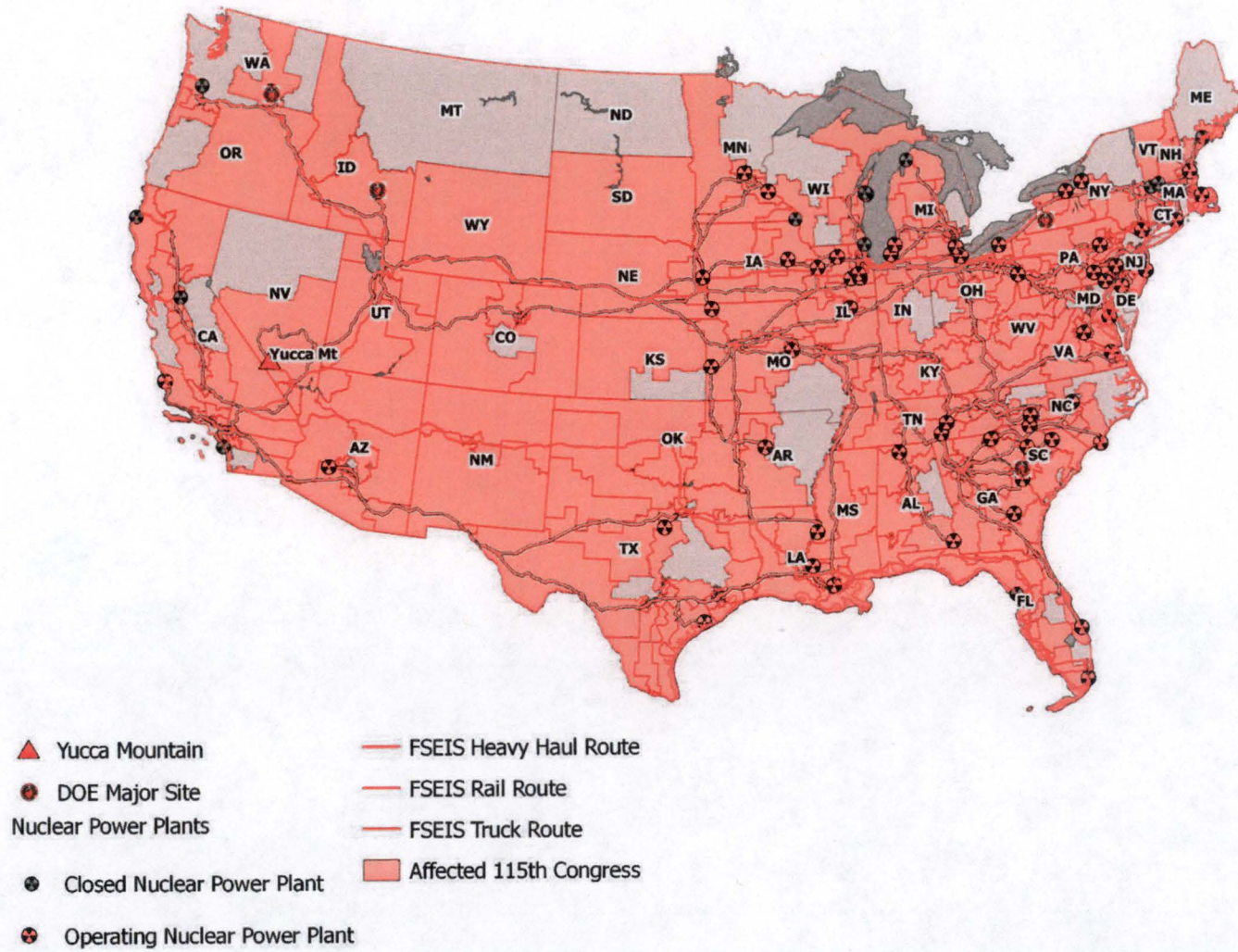


Figure 1 115th Congressional Districts Affected by Rail and Truck Shipments to Yucca Mt



**Yucca Mountain Estimated Transportation Impacts by State**  
Shipments of Spent Nuclear Fuel and High-Level Radioactive waste

State	Rail Casks	Truck Casks	Total Casks
Alabama	1,514	857	2,371
Arizona	456	2,650	3,106
Arkansas	227	0	227
California	755	857	1,612
Colorado	6739	0	6,739
Connecticut	216	344	560
District of Columbia	255	0	255
Florida	138	857	995
Georgia	1672	0	1,672
Idaho	2001	4	2,005
Illinois	6069	1752	7,821
Indiana	4887	1425	6,312
Iowa	3066	1789	4,855
Kansas	3574	0	3,574
Kentucky	2663	0	2,663
Louisiana	233	857	1,090
Maine	60	0	60
Maryland	255	0	255
Massachusetts	415	344	759
Michigan	132	768	900
Minnesota	153	37	190
Mississippi	170	857	1,027
Missouri	3574	0	3,574
Nebraska	6739	1789	8,528
Nevada <sup>3</sup>	9495	2650	12,145
New Hampshire	110	0	110
New Jersey	276	0	276
New Mexico	257	857	1,114
New York	827	657	1,484
North Carolina	502	0	502
Ohio	2314	657	2,971
Oklahoma	227	857	1,084

<sup>3</sup> The Nevada cask-shipment totals are the total numbers nationally for the proposed action, i.e., the shipment of 70,000 metric tons to Yucca Mountain. The column entries, derived from 45 separate FSEIS tables, cannot be summed.



Oregon	1307	3	1,310
Pennsylvania	2036	657	2,693
South Carolina	1365	0	1,365
South Dakota	44	0	44
Tennessee	2663	0	2,663
Texas	357	857	1,214
Utah	8740	1793	10,533
Vermont	199	0	199
Virginia	390	0	390
Washington	1274	3	1,277
West Virginia	255	0	255
Wisconsin	152	37	189
Wyoming	6354	1789	8,143

Source: FSEIS (2008), Appendix G, Pages G-60 to G-150



# Appendix A: List of Affected Congressional Districts



# Affected 115th Congressional Districts

State	District	Name
AL	1st	Byrne, Bradley
	2d	Roby, Martha
	4th	Aderholt, Robert B.
	5th	Brooks, Mo
	6th	Palmer, Gary J.
	7th	Sewell, Terri A.
	AR	3d
4th		Westerman, Bruce
AZ	1st	O'Halleran, Tom
	2d	McSally, Martha
	3d	Grijalva, Raúl M.
	4th	Gosar, Paul A.
	5th	Biggs, Andy
	7th	Gallego, Ruben
	8th	Franks, Trent
	9th	Sinema, Kyrsten
CA	1st	LaMalfa, Doug
	2d	Huffman, Jared
	3d	Garamendi, John
	6th	Matsui, Doris O.
	7th	Bera, Ami
	8th	Cook, Paul
	9th	McNerney, Jerry
	10th	Denham, Jeff



State	District	Name
	16th	Costa, Jim
	21st	Valadao, David G.
	22nd	Nunes, Devin
	23rd	McCarthy, Kevin
	24th	Carbajal, Salud O.
	25th	Knight, Stephen
	26th	Brownley, Julia
	27th	Chu, Judy
	28th	Schiff, Adam B.
	29th	Cárdenas, Tony
	30th	Sherman, Brad
	31st	Aguilar, Pete
	32d	Napolitano, Grace F.
	34th	[Becerra, Xavier]
	35th	Torres, Norma J.
	36th	Ruiz, Raul
	39th	Royce, Edward R.
	41st	Takano, Mark
	42d	Calvert, Ken
	45th	Walters, Mimi
	46th	Correa, J. Luis
	48th	Rohrabacher, Dana
	49th	Issa, Darrell E.
	51st	Vargas, Juan
CO	1st	DeGette, Diana
	2d	Polis, Jared
	3rd	Tipton, Scott R.



State	District	Name
	4th	Buck, Ken
	6th	Coffman, Mike
	7th	Perlmutter, Ed
CT		
	1st	Larson, John B.
	2d	Courtney, Joe
	3d	DeLauro, Rosa L.
	5th	Esty, Elizabeth H.
DC		
	Delegate	Norton, Eleanor Holmes
DE		
	At Large	Blunt Rochester, Lisa
FL		
	1st	Gaetz, Matt
	2d	Dunn, Neal P.
	3d	Yoho, Ted S.
	4th	Rutherford, John H.
	5th	Lawson, Al, Jr.
	6th	DeSantis, Ron
	8th	Posey, Bill
	11th	Webster, Daniel
	12th	Bilirakis, Gus M.
	14th	Castor, Kathy
	15th	Ross, Dennis A.
	16th	Buchanan, Vern
	17th	Rooney, Thomas J.
	18th	Mast, Brian J.
	19th	Rooney, Francis
	20th	Hastings, Alcee L.



State	District	Name
	23d	Wasserman Schultz, Debbie
	24th	Wilson, Frederica S.
	25th	Diaz-Balart, Mario
	26th	Curbelo, Carlos
	27th	Ros-Lehtinen, Ileana
GA		
	1st	Carter, Earl L. "Buddy"
	2d	Bishop, Sanford D., Jr.
	3d	Ferguson, A. Drew, IV
	4th	Johnson, Henry C. "Hank", Jr.
	5th	Lewis, John
	6th	[Price, Tom]
	7th	Woodall, Rob
	8th	Scott, Austin
	9th	Collins, Doug
	10th	Hice, Jody B.
	11th	Loudermilk, Barry
	12th	Allen, Rick W.
	13th	Scott, David
	14th	Graves, Tom
IA		
	1st	Blum, Rod
	2nd	Loeb sack, David
	3d	Young, David
	4th	King, Steve
ID		
	1st	Labrador, Raúl R.
	2d	Simpson, Mike
IL		



State	District	Name
	1st	Rush, Bobby L.
	2d	Kelly, Robin L.
	3d	Lipinski, Daniel
	4th	Gutiérrez, Luis V.
	5th	Quigley, Mike
	6th	Roskam, Peter J.
	7th	Davis, Danny K.
	8th	Krishnamoorthi, Raja
	9th	Schakowsky, Janice D.
	10th	Schneider, Bradley Scott
	11th	Foster, Bill
	12th	Bost, Mike
	13th	Davis, Rodney
	14th	Hultgren, Randy
	15th	Shimkus, John
	16th	Kinzinger, Adam
	17th	Bustos, Cheri
	18th	LaHood, Darin
IN	1st	Visclosky, Peter J.
	2d	Walorski, Jackie
	3d	Banks, Jim
	4th	Rokita, Todd
	8th	Bucshon, Larry
	9th	Hollingsworth, Trey
KS	1st	Marshall, Roger W.
	2d	Jenkins, Lynn
	3d	Yoder, Kevin



State	District	Name
KY	1st	Comer, James
	2d	Guthrie, Brett
	3d	Yarmuth, John A.
	4th	Massie, Thomas
	5th	Rogers, Harold
	6th	Barr, Andy
LA	1st	Scalise, Steve
	2d	Richmond, Cedric L.
	3d	Higgins, Clay
	4th	Johnson, Mike
	5th	Abraham, Ralph Lee
	6th	Graves, Garret
MA	1st	Neal, Richard E.
	2d	McGovern, James P.
	3d	Tsongas, Niki
	4th	Kennedy, Joseph P., III
	6th	Moulton, Seth
	8th	Lynch, Stephen F.
MD	9th	Keating, William R.
	4th	Brown, Anthony G.
	5th	Hoyer, Steny H.
ME	6th	Delaney, John K.
	8th	Raskin, Jamie
MI	1st	Pingree, Chellie



State	District	Name
	1st	Bergman, Jack
	2d	Huizenga, William
	3d	Amash, Justin
	4th	Moolenaar, John R.
	5th	Kildee, Daniel T.
	6th	Upton, Fred
	7th	Walberg, Tim
	8th	Bishop, Mike
	9th	Levin, Sander M.
	12th	Dingell, Debbie
	13th	Conyers, John, Jr.
	14th	Lawrence, Brenda L.
MN		
	1st	Walz, Timothy J.
	2d	Lewis, Jason
	3d	Paulsen, Erik
	4th	McCollum, Betty
	5th	Ellison, Keith
	6th	Emmer, Tom
	7th	Peterson, Collin C.
MO		
	1st	Clay, Wm. Lacy
	2d	Wagner, Ann
	3d	Luetkemeyer, Blaine
	4th	Hartzler, Vicky
	5th	Cleaver, Emanuel
	6th	Graves, Sam
	7th	Long, Billy
MS		



State	District	Name
	1st	Kelly, Trent
	2d	Thompson, Bennie G.
	3d	Harper, Gregg
	4th	Palazzo, Steven M.
NC	2d	Holding, George
	6th	Walker, Mark
	7th	Rouzer, David
	8th	Hudson, Richard
	9th	Pittenger, Robert
	10th	McHenry, Patrick T.
	11th	Meadows, Mark
	12th	Adams, Alma S.
	13th	Budd, Ted
NE	1st	Fortenberry, Jeff
	2d	Bacon, Don
	3d	Smith, Adrian
NH	1st	Shea-Porter, Carol
	2d	Kuster, Ann M.
NJ	1st	Norcross, Donald
	2d	LoBiondo, Frank A.
	3d	MacArthur, Thomas
	4th	Smith, Christopher H.
	5th	Gottheimer, Josh
	6th	Pallone, Frank, Jr.
	7th	Lance, Leonard



State	District	Name
	8th	Sires, Albio
	10th	Payne, Donald M., Jr.
	12th	Watson Coleman, Bonnie
NM		
	1st	Lujan Grisham, Michelle
	2d	Pearce, Stevan
	3d	Luján, Ben Ray
NV		
	1st	Titus, Dina
	3d	Rosen, Jacky
	4th	Kihuen, Ruben J.
NY		
	17th	Lowey, Nita M.
	18th	Maloney, Sean Patrick
	19th	Faso, John J.
	20th	Tonko, Paul
	22d	Tenney, Claudia
	23d	Reed, Tom
	24th	Katko, John
	25th	Slaughter, Louise McIntosh
	26th	Higgins, Brian
	27th	Collins, Chris
OH		
	2d	Wenstrup, Brad R.
	3d	Beatty, Joyce
	4th	Jordan, Jim
	5th	Latta, Robert E.
	6th	Johnson, Bill
	7th	Gibbs, Bob



State	District	Name
	9th	Kaptur, Marcy
	11th	Fudge, Marcia L.
	12th	Tiberi, Patrick J.
	13th	Ryan, Tim
	14th	Joyce, David P.
	15th	Stivers, Steve
	16th	Renacci, James B.
OK	1st	Bridenstine, Jim
	2d	Mullin, Markwayne
	3d	Lucas, Frank D.
	4th	Cole, Tom
	5th	Russell, Steve
OR	1st	Bonamici, Suzanne
	2d	Walden, Greg
	3d	Blumenauer, Earl
	5th	Schrader, Kurt
PA	1st	Brady, Robert A.
	2d	Evans, Dwight
	3d	Kelly, Mike
	4th	Perry, Scott
	5th	Thompson, Glenn
	6th	Costello, Ryan A.
	7th	Meehan, Patrick
	9th	Shuster, Bill
	10th	Marino, Tom
	11th	Barletta, Lou



State	District	Name
	12th	Rothfus, Keith J.
	13th	Boyle, Brendan F.
	14th	Doyle, Michael F.
	15th	Dent, Charles W.
	16th	Smucker, Lloyd
	17th	Cartwright, Matt
	18th	Murphy, Tim
SC		
	2d	Wilson, Joe
	3d	Duncan, Jeff
	4th	Gowdy, Trey
	5th	[Mulvaney, Mick]
	6th	Clyburn, James E.
	7th	Rice, Tom
SD		
	At Large	Noem, Kristi L.
TN		
	1st	Roe, David P.
	2nd	Duncan, Jimmy
	3d	Fleischmann, Charles J. "Chuck"
	4th	DesJarlais, Scott
	5th	Cooper, Jim
	6th	Black, Diane
	7th	Blackburn, Marsha
	8th	Kustoff, David
	9th	Cohen, Steve
TX		
	1st	Gohmert, Louie
	2d	Poe, Ted



State	District	Name
	4th	Ratcliffe, John
	5th	Hensarling, Jeb
	7th	Culberson, John Abney
	9th	Green, Al
	10th	McCaul, Michael T.
	11th	Conaway, K. Michael
	12th	Granger, Kay
	13th	Thornberry, Mac
	14th	Weber, Randy K., Sr.
	15th	Gonzalez, Vicente
	16th	O'Rourke, Beto
	18th	Jackson Lee, Sheila
	19th	Arrington, Jodey C.
	20th	Castro, Joaquin
	22d	Olson, Pete
	23d	Hurd, Will
	24th	Marchant, Kenny
	25th	Williams, Roger
	26th	Burgess, Michael C.
	27th	Farenthold, Blake
	28th	Cuellar, Henry
	29th	Green, Gene
	32d	Sessions, Pete
	33d	Veasey, Marc A.
	34th	Vela, Filemon
	35th	Doggett, Lloyd
	36th	Babin, Brian
UT		



State	District	Name
	1st	Bishop, Rob
	2d	Stewart, Chris
	3d	Chaffetz, Jason
	4th	Love, Mia B.
VA	1st	Wittman, Robert J.
	3d	Scott, Robert C. "Bobby"
	4th	McEachin, A. Donald
	5th	Garrett, Thomas A., Jr.
	6th	Goodlatte, Bob
	7th	Brat, Dave
	8th	Beyer, Donald S., Jr.
	9th	Griffith, H. Morgan
	11th	Connolly, Gerald E.
VT	At Large	Welch, Peter
WA	4th	Newhouse, Dan
WI	1st	Ryan, Paul D.
	3d	Kind, Ron
	5th	Sensenbrenner, F. James, Jr.
	6th	Grothman, Glenn
	8th	Gallagher, Mike
WV	1st	McKinley, David B.
	2d	Mooney, Alexander X.
	3d	Jenkins, Evan H.
WY	At Large	Cheney, Liz



State

District

Name

330



## Summary of Oscar Shirani's Allegations of Quality Assurance Violations Against Holtec Storage/Transport Casks

April 5, 2017  
admin

[Now that Holtec International and the Eddy-Lea \[Counties\] Energy Alliance \(ELEA\) want to open a parking lot dump in Southeastern New Mexico, it's time to look back at these whistleblower revelations from more than a decade ago:](#)

- [Summary of Oscar Shirani's Allegations of Quality Assurance Violations Against Holtec Storage/Transport Casks](#), July 22, 2004.
- Dr. Ross Landsman, NRC dry cask inspector for the Midwest regional office headquartered in Chicago, wrote [this memo to his superiors expressing his full support for whistleblower Oscar Shirani's quality assurance allegations against the Holtec storage/transport casks \(handwritten notes by Oscar Shirani\)](#), mentioning the devious manner in which Exelon Nuclear orchestrated his firing and defending itself against his wrongful termination lawsuit.

Shirani questioned the structural integrity of the Holtec containers sitting still, going zero miles per hour, let alone traveling 60 miles per hour -- or faster -- on railways.

Landsman has compared the QA violations involving Holtec containers, and the U.S. Nuclear Regulatory Commission's incompetence (or worse, collusion) -- having done nothing about it -- as similar to the reasons why Space Shuttles have hit the ground.

**Update** on April 11, 2017 by [admin](#)

Recently, [Donna Gilmore of San Onofre Safety has documented numerous concerns, and raised many serious questions, about the safety \(or lack thereof\) of Holtec containers.](#)

Holtec storage containers have been deployed at some three dozen U.S. atomic reactors, including, most recently, at the permanently shutdown San Onofre nuclear power plant in southern CA. Remarkably, the Holtec storage containers have been located immediately adjacent to the Pacific Ocean, in a seismically active zone that is also vulnerable to tsunamis!

Beyond Nuclear advocates Hardened On-Site Storage (HOSS), as safely as possible, as close to the point of generation as possible. In the case of San Onofre, Camp Pendleton Marine Corps Base is literally right across the highway, to the east. San Onofre's irradiated nuclear fuel could be moved a short distance inland, and to higher ground, away from Pacific coast earthquake faultlines, and out of the tsunami zone. The Marine Corps itself could provide security. This makes much more sense than shipping the wastes nearly a thousand miles, across multiple states, to admittedly "interim" storage in southeastern New Mexico (itself vulnerable to natural disasters, terrorist attacks, etc.)!

Article originally appeared on Beyond Nuclear (<http://www.beyondnuclear.org/>).  
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***The Yucca Mountain Dump Plan  
Would Launch Up to 326 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Waters of the Chesapeake Bay***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 326 barges carrying giant high-level radioactive waste containers onto the waters of the Chesapeake Bay from the Calvert Cliffs nuclear power plant to the Port of Baltimore. See the second page of this fact sheet for a map of the proposed route.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each barge sized container could hold 200 times the long-lasting radioactivity given by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents into the Chesapeake Bay could spell unprecedented catastrophe. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the Chesapeake Bay!***

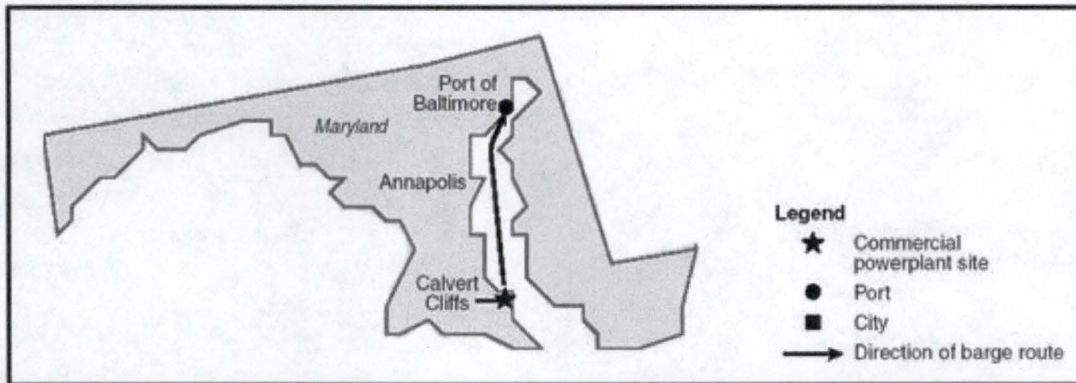
**Urge Your U.S. Senators and Representative to oppose  
the Yucca Mountain dump plan!**

**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

**For more information, contact Nuclear Information & Resource Service, 202.328.0002,  
[nirsnet@nirs.org](mailto:nirsnet@nirs.org), [www.nirs.org](http://www.nirs.org)**



## Barge Shipments of High-Level Radioactive Waste on the Chesapeake Bay Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-78.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Calvert Cliffs 1	Lusby, MD	323	Port of Baltimore
Calvert Cliffs 2	Lusby, MD	3	Port of Baltimore
<b>Total</b>		<b>Up to 326</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 334 Barges of  
Deadly High-Level Radioactive Waste  
Onto the James River***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 334 barge shipments carrying giant high-level radioactive waste containers on the James River from the Surry nuclear power plant in Gravel Neck, Virginia to the Port of Norfolk. (See the second page of this fact sheet for a map of the proposed route). The James River, of course, is the lifeblood of numerous communities, including Newport News and Virginia Beach.

Accidents happen. But what if high-level radioactive waste is involved? Each barge sized container would hold the long-lasting radiological equivalent of 200 Hiroshima-sized bombs. But U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. Given the James River's historic significance, as well as the U.S. Navy installations and tourist destinations around Norfolk, the potential for terrorist attack on these barge shipments is increased.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for points downstream along the James River. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the James River!***

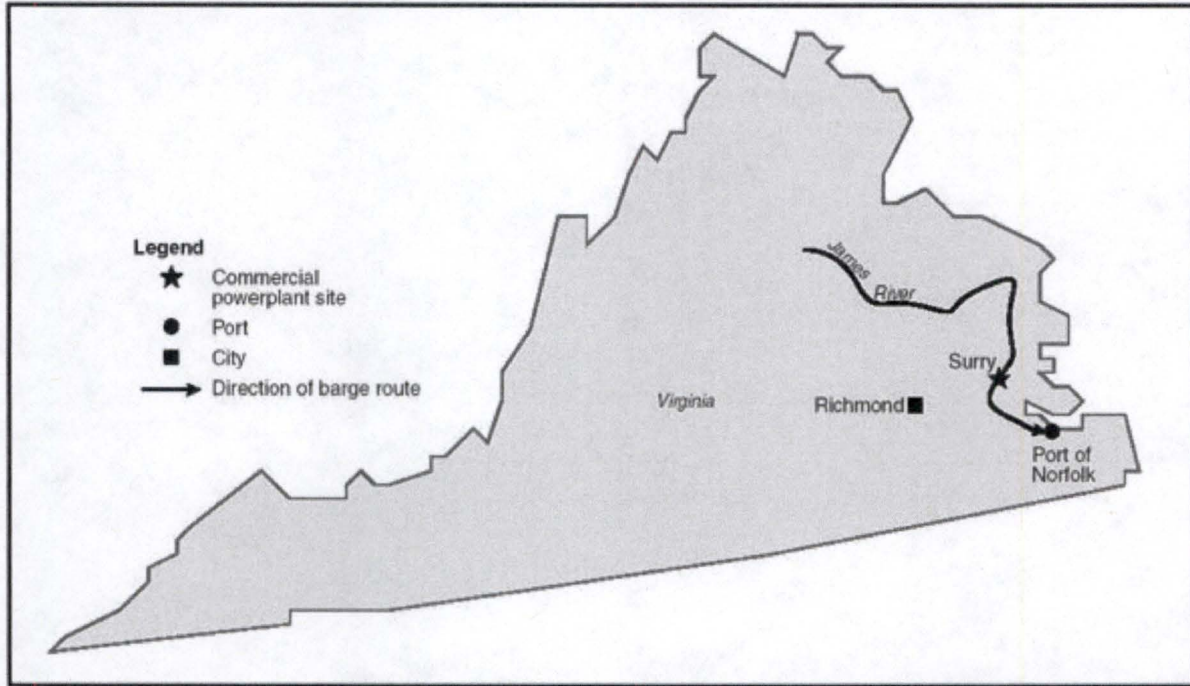
**Urge Your U.S. Senators and Representative to oppose  
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**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

**For more information, contact Nuclear Information & Resource Service, 202.328.0002,  
[nirsnet@nirs.org](mailto:nirsnet@nirs.org), [www.nirs.org](http://www.nirs.org)**



**Barge Shipments of High-Level Radioactive Waste on the James River  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan**



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-78.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Surry 1	Gravel Neck, VA	Up to 332	Port of Norfolk, VA
Surry 2	Gravel Neck, VA	Up to 2	Port of Norfolk, VA
<b><i>Totals</i></b>		<b><i>Up to 334</i></b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 319 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Waters of the Delaware Bay***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 319 barges carrying giant high-level radioactive waste containers onto the waters of the Delaware Bay from the Salem/Hope Creek nuclear power plant to the Port of Wilmington. See the second page of this fact sheet for a map of the proposed route.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each barge sized container could hold 200 times the long-lasting radioactivity given by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents into the Delaware Bay could spell unprecedented catastrophe. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the Delaware Bay!***

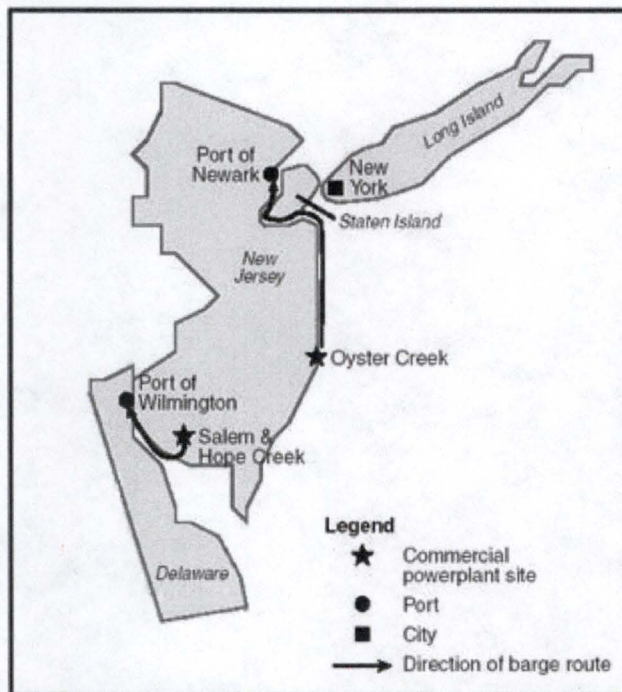
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**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

**For more information, contact Nuclear Information & Resource Service, 202.328.0002,  
[nirsnet@nirs.org](mailto:nirsnet@nirs.org), [www.nirs.org](http://www.nirs.org)**



## Barge Shipments of High-Level Radioactive Waste on the Delaware Bay Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-78.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Salem 1	Salem, NJ	103	Port of Wilmington, DE
Salem 2	Salem, NJ	110	Port of Wilmington, DE
Hope Creek	Salem, NJ	106	Port of Wilmington, DE
<b>Total</b>		<b>Up to 319</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 211 Barges of  
Deadly High-Level Radioactive Waste  
onto the Waters Surrounding New York City in NJ, NY, and CT***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 211 barges carrying giant high-level radioactive waste containers onto the waters of the Hudson River, the Jersey shore, and Long Island Sound. Whereas there is currently very little if any high-level radioactive waste in such densely populated places as Jersey City, Newark and New Haven, these plans would bring many hundreds of tons of these dangerous poisons through those cities. See the second page of this fact sheet for maps of the proposed routes, as well as a breakdown of how many waste shipments are coming from which reactors.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required. The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each barge sized container could hold 200 times the long-lasting radioactivity given by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents into such vital bodies of water could spell unprecedented catastrophe and disruption. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the waterways of CT, NJ, and NY!***

**Urge Your U.S. Senators and Representative to oppose  
the Yucca Mountain dump plan!**

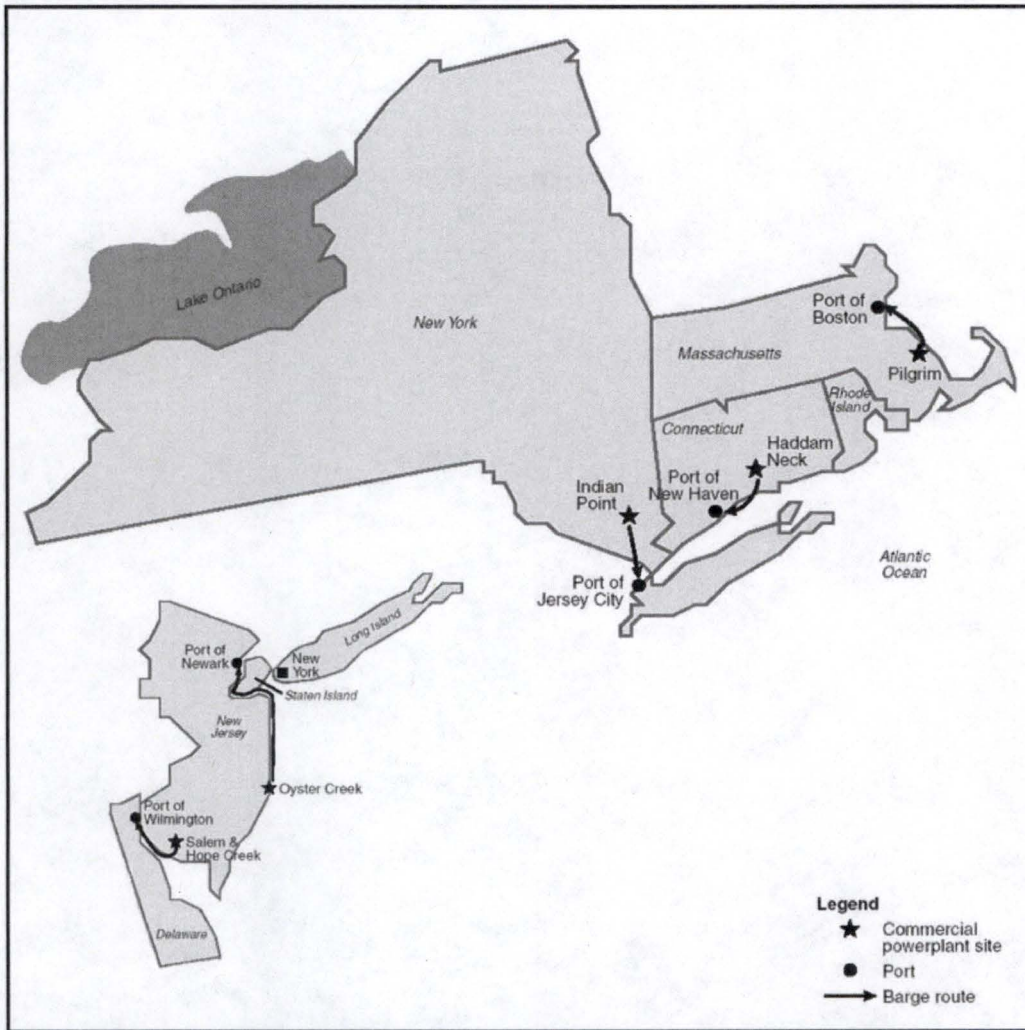
**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

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[nirsnet@nirs.org](mailto:nirsnet@nirs.org), [www.nirs.org](http://www.nirs.org)**



# Barge Shipments of High-Level Radioactive Waste on the Waters of NJ, NY, and CT Surrounding New York City

Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-78 and J-81.

<u>Nuclear Reactor</u>	<u>Location</u>	<u># of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Oyster Creek	Forked River, NJ	Up to 111, along NJ shore	Port of Newark, NJ
Indian Point	Buchanan, NY	Up to 58, down Hudson River	Port of Jersey City, NJ
CT Yankee	Haddam Neck, CT	Up to 42, on Long Is. Sound	Port of New Haven, CT
<b>Total</b>		<b>Up to 211</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 24 Barges of  
Deadly High-Level Radioactive Waste  
onto Cape Cod Bay, Massachusetts Bay, and Boston Harbor***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 24 barges carrying giant high-level radioactive waste containers onto Cape Cod Bay, Massachusetts Bay, and Boston Harbor. Whereas there is currently very little if any high-level radioactive waste in the metropolitan area, this plan would bring many tens to hundreds of tons of these dangerous poisons to densely populated Boston. See the second page of this fact sheet for a map of the proposed route.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required. The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each barge sized container could hold 200 times the long-lasting radioactivity given by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents into such vital bodies of water could spell unprecedented catastrophe and disruption. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the waterways off of Massachusetts!***

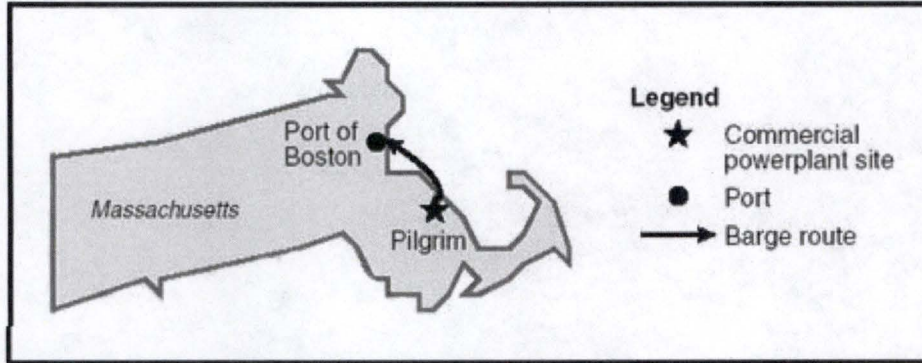
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**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

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**Barge Shipments of High-Level Radioactive Waste into the Port of Boston  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan**



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-81.

<u>Nuclear Reactor</u>	<u>Location</u>	<u># of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Pilgrim	Plymouth, MA	Up to 24	Port of Boston

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 453 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Waters of Lake Michigan***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 453 barges carrying giant high-level radioactive waste containers onto the waters of Lake Michigan. See the second page of this fact sheet for a map of the proposed routes and a breakdown of shipment numbers by port.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required. The underwater immersion design criteria are meant to “test” (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is “tested” (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. And what about the fact that Lake Michigan is deeper than 656 feet at locations not far from DOE’s proposed barge shipment routes?

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each container would hold 200 times the long lasting radioactivity released by the Hiroshima atomic bomb. Given high-level atomic waste’s deadliness, leakage of even a fraction of a cask’s contents could spell unprecedented catastrophe in the source of drinking water for tens of millions of people – Lake Michigan. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don’t let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on Lake Michigan!***

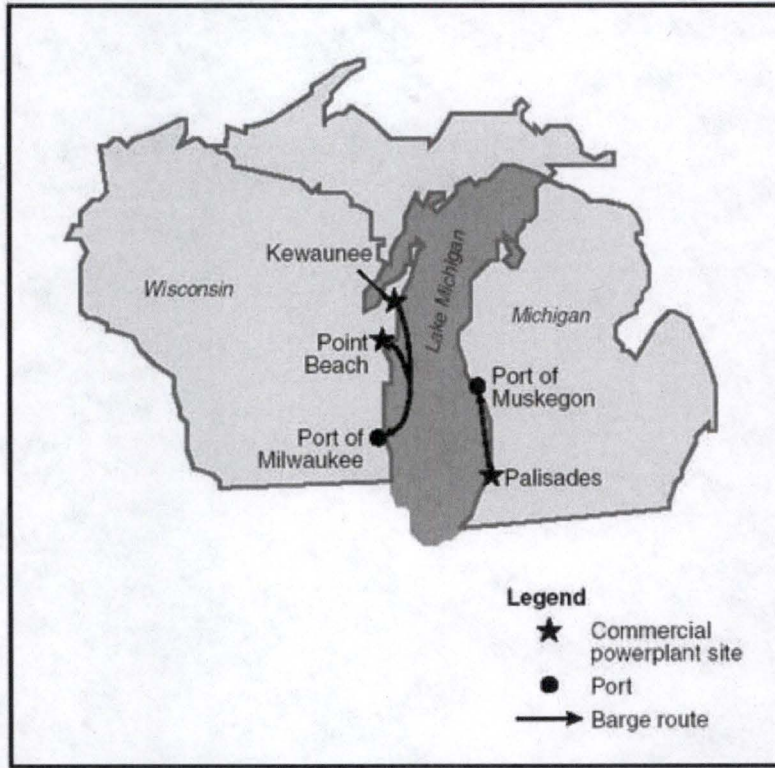
**Urge Your U.S. Senators and Representative to oppose  
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**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

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**Barge Shipments of High-Level Radioactive Waste on Lake Michigan  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan**



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-80.

<u>Nuclear Plant</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Palisades	Covert, MI	Up to 125	Port of Muskegon, MI
Kewaunee	Carlton, WI	Up to 111	Port of Milwaukee, WI
Point Beach 1/Two Rivers, WI		Up to 215	Port of Milwaukee, WI
Point Beach 2/Two Rivers, WI		Up to 2	Port of Milwaukee, WI
<b>Totals</b>		<b>Up to 453</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 216 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Mississippi River***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 216 barge shipments carrying giant high-level radioactive waste containers on the Mississippi River from the Grand Gulf nuclear power plant in Port Gibson, Mississippi to the Port of Vicksburg, Mississippi. (See the second page of this fact sheet for a map of the proposed route). An accident or terrorist attack involving just one of these barge shipments would endanger communities downstream, including Baton Rouge, New Orleans, and the Mississippi River Delta.

Accidents happen. But what if high-level radioactive waste is involved? Each barge sized container would hold the long-lasting radiological equivalent of 200 Hiroshima-sized bombs. But U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. Given the Mississippi River's historic as well as commercial significance, the potential for terrorist attack on these barge shipments is increased.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for points downstream along the Mississippi River. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the Mississippi River!***

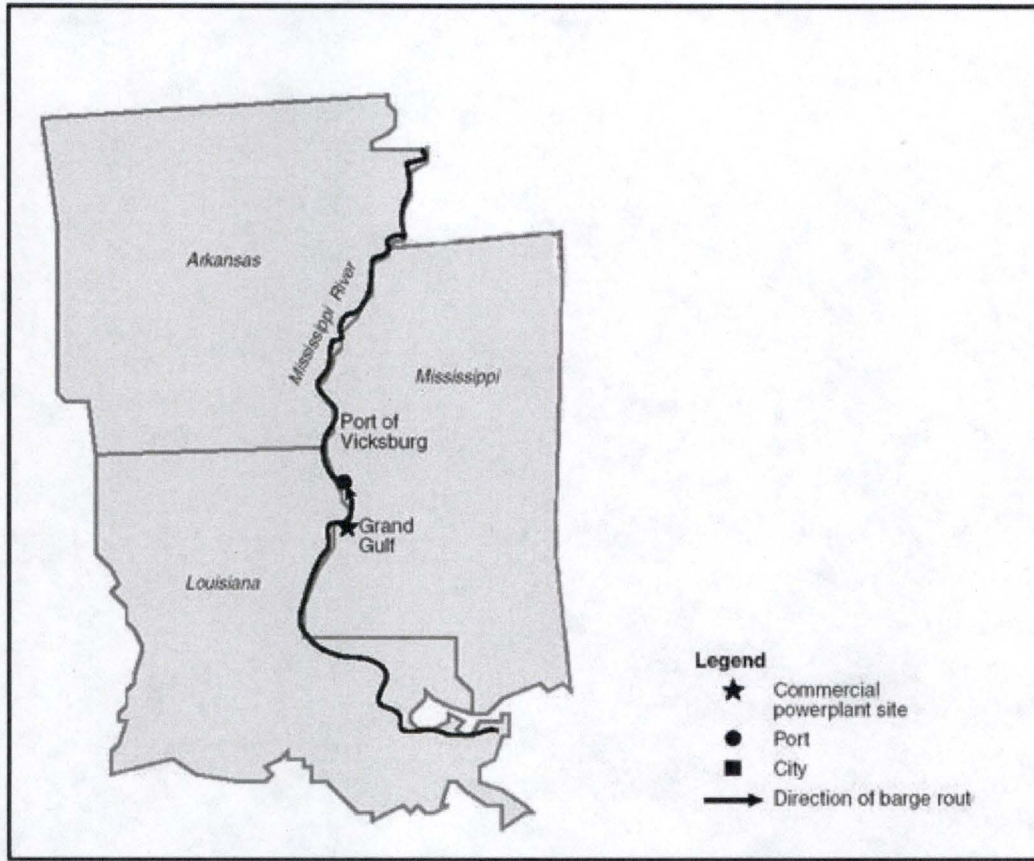
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**Barge Shipments of High-Level Radioactive Waste on the Mississippi River**  
 Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-79.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Grand Gulf	Port Gibson, MS	Up to 216	Port of Vicksburg, MS

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 370 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Tennessee River***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 370 barge shipments carrying giant high-level radioactive waste containers on the Tennessee River from the Browns Ferry nuclear power plant in Decatur, Alabama to the Wilson Loading Dock at Florence on the Wilson Lake Dam. This is not far from the borders with the States of Mississippi and Tennessee. (See the second page of this fact sheet for a map of the proposed route). The Tennessee River, of course, is the lifeblood of countless communities in several states.

Accidents happen. But what if high-level radioactive waste is involved? Each barge sized container would hold the long-lasting radiological equivalent of 200 Hiroshima-sized bombs. But U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up.

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for points downstream along the Tennessee River. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the James River!***

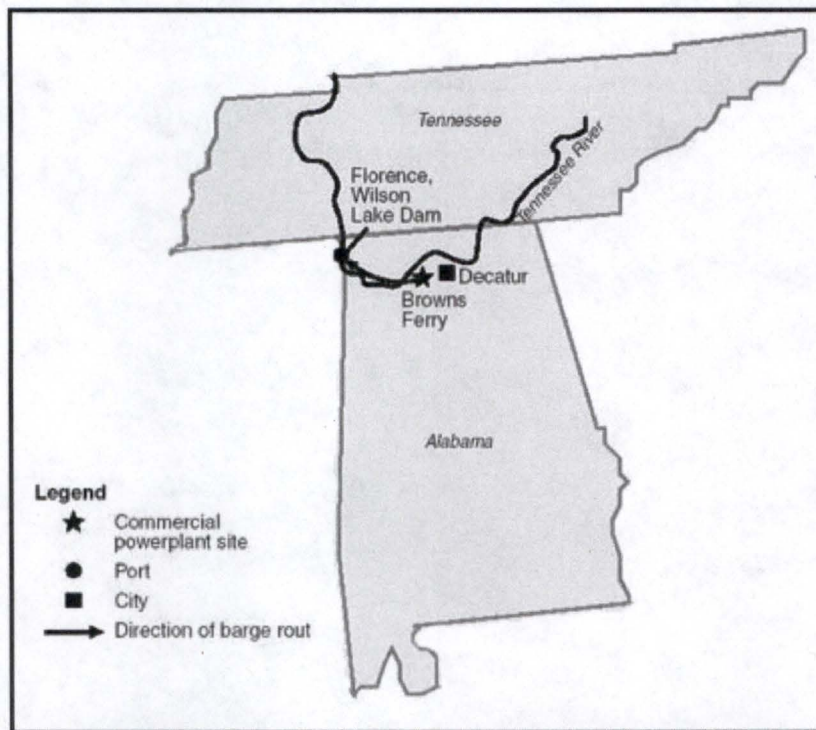
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**Barge Shipments of High-Level Radioactive Waste on the Tennessee River**  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-78.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Browns Ferry 1	Decatur, AL	Up to 248	Florence, AL
Browns Ferry 2	Decatur, AL	Up to 1	Florence, AL
Browns Ferry 3	Decatur, AL	Up to 121	Florence, AL
<b><i>Totals</i></b>		<b><i>Up to 370</i></b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 125 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Missouri River***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 125 barge shipments carrying giant high-level radioactive waste containers on the Missouri River from the Cooper Station nuclear reactor in Brownville, Nebraska to the Port of Omaha. (See the second page of this fact sheet for a map of the proposed route). The Missouri River, of course, is a vital source of fresh water for millions living downstream.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required. The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. Ironically, the Port of Omaha does not even possess cranes strong enough to lift these heavy high-level radioactive waste containers during routine operations, let alone during emergencies. That DOE has proposed such shipments to Omaha reveals it hasn't even done its homework!

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each container would hold 200 times the long-lasting radioactivity released by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for the Missouri River and communities downstream. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the Missouri River!***

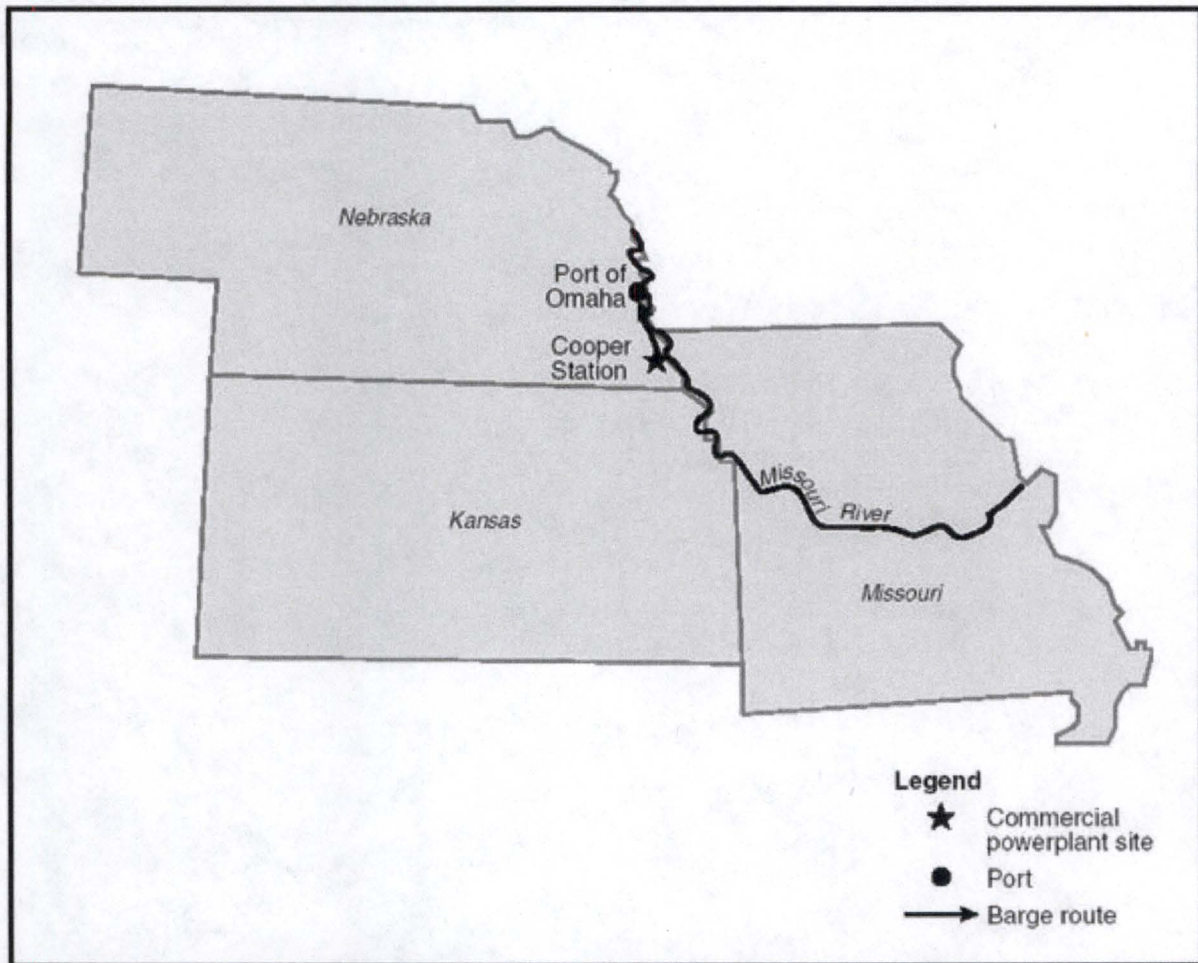
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**Barge Shipments of High-Level Radioactive Waste on the Missouri River  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan**



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-80.

<u>Nuclear Plant</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Cooper Station	Brownville, NE	Up to 125	Port of Omaha, NE

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 312 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Waters of the California Coast***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 312 barges carrying giant high-level radioactive waste containers onto the Pacific along the California coastline. See the second page of this fact sheet for a map of the proposed route and a breakdown of shipment numbers.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. And what about submersions that occur at depths deeper than 656 feet underwater?

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Given high-level atomic waste's deadliness, and the fact that each container would hold 200 times the long-lasting radioactivity that was released by the Hiroshima atomic bomb, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for a vast stretch of the California coastline. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the California coastline!***

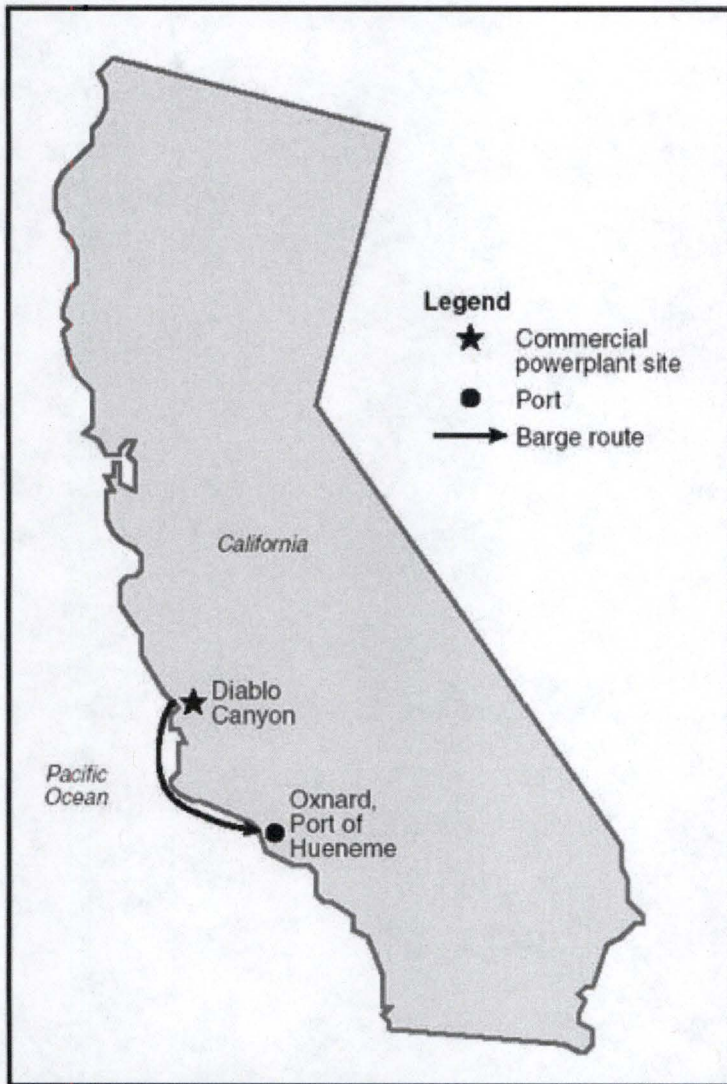
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**Barge Shipments of High-Level Radioactive Waste on the California Coast  
Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan**



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-80.

<u>Nuclear Plant</u>	<u>Location</u>	<u>Number of Shipments Proposed</u>	<u>Barges offloaded at:</u>
Diablo Canyon 1	Avila Beach	Up to 150	Oxnard, Port of Hueneme
Diablo Canyon 2	Avila Beach	Up to 162	Oxnard, Port of Hueneme
<b>Totals</b>		<b>Up to 312</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



***The Yucca Mountain Dump Plan  
Would Launch Up to 341 Barges of  
Deadly High-Level Radioactive Waste  
Onto the Waters of Florida's Atlantic Coastline***

As part of its plan to transport high-level radioactive waste to Western Shoshone Indian land at Yucca Mountain, Nevada, the U.S. Department of Energy (DOE) proposes up to 341 barges carrying giant high-level radioactive waste containers onto the Atlantic along Florida's coastline, into Fort Lauderdale and Miami. See the second page of this fact sheet for a map of the proposed route and a breakdown of shipment numbers.

Accidents happen. But what if high-level radioactive waste is involved? U.S. Nuclear Regulatory Commission (NRC) design criteria for atomic waste transport containers are woefully inadequate. Rather than full-scale physical safety testing, scale model tests and computer simulations are all that is required.

The underwater immersion design criteria are meant to "test" (on paper, at least) the integrity of a slightly damaged container submerged under 3 feet of water for 8 hours. An undamaged cask is "tested" (on computers, at least) for a 1 hour submersion under 656 feet of water.

But if a cask were accidentally immersed under water, or sunk by terrorists, is it reasonable for NRC to assume that the cask would only be slightly damaged, or not damaged at all? Given that barge casks could weigh well over 100 tons (even up to 140 tons), how can NRC assume that they could be recovered from underwater within 1 hour, or even within 8 hours? Special cranes capable of lifting such heavy loads would have to be located, brought in, and set up. And what about submersions that occur at depths deeper than 656 feet underwater?

The dangers of nuclear waste cask submersion underwater are two fold. First, radioactivity could leak from the cask into the water. Each container would hold 200 times the long-lasting radioactivity released by the Hiroshima atomic bomb. Given high-level atomic waste's deadliness, leakage of even a fraction of a cask's contents could spell unprecedented catastrophe for a vast stretch of the Florida coastline. Second, enough fissile uranium-235 and plutonium is present in high-level atomic waste that water, with its neutron moderating properties, could actually cause a nuclear chain reaction to take place within the cask. Such an inadvertent criticality event in Sept. 1999 at a nuclear fuel factory in Japan led to the deaths of two workers; many hundreds of nearby residents, including children, received radiation doses well above safety standards.

**STOP THE ACCIDENT BEFORE IT HAPPENS!**

***Don't let D.O.E. and N.R.C. get away with  
shipping high-level radioactive wastes on the California coastline!***

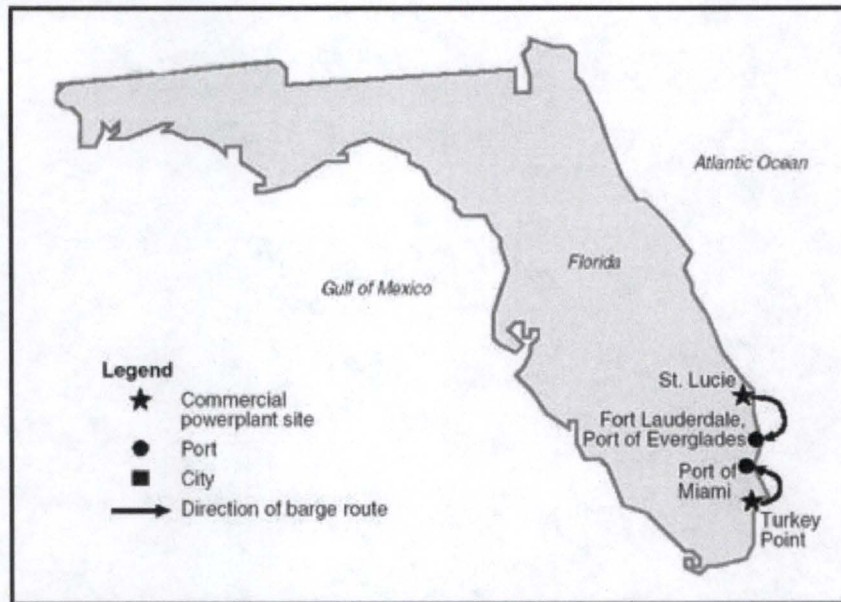
**Urge Your U.S. Senators and Representative to oppose  
the Yucca Mountain dump plan!**

**Call their offices via the U.S. Capitol Switchboard: 202.224.3121.**

**For more information, contact Nuclear Information & Resource Service, 202.328.0002,  
[nirsnet@nirs.org](mailto:nirsnet@nirs.org), [www.nirs.org](http://www.nirs.org)**



## Barge Shipments of High-Level Radioactive Waste on Florida's Atlantic Coast Proposed by U.S. Dept. of Energy under its Yucca Mountain Plan



Map taken from Figure J-9, Routes analyzed for barge transportation from sites to nearby railheads, page J-79.

<u>Nuclear Reactor</u>	<u>Location</u>	<u>Shipment #'s Proposed</u>	<u>Barges offloaded at:</u>
St. Lucie 1	Hutchinson Island	Up to 16	Port Everglades, Ft. Lauderdale
St. Lucie 2	Hutchinson Island	Up to 150	Port Everglades, Ft. Lauderdale
Turkey Point 3	Florida City	Up to 87	Port of Miami
Turkey Point 4	Florida City	Up to 88	Port of Miami
<b>Totals</b>		<b>Up to 341</b>	

Table taken from Table J-27, Barge shipments and ports, page J-83.

Map and table taken from U.S. Department of Energy, "Final Environmental Impact Statement for Yucca Mountain," Appendix J ("Transportation"), Feb. 2002.



The Nuclear Regulatory Commission (NRC) Notice: [Holtec International HI-STORE Consolidated Interim Storage Facility Project](#)

SE NM, by the TX border, has the distinction that every train car load of high-level radioactive waste will pass through on its way into Holtec International/Eddy-Lea [Counties] Energy Alliance (ELEA). But transport impacts, to eventually import more irradiated nuclear fuel than currently exists in the US into seNM, will be felt nationwide. Moving 100,000+ metric tons of irradiated nuclear fuel to NM makes this proposal bigger than the controversial & unacceptable Yucca Mtn, NV permanent burial dump idea in transport impacts (limited to 70,000 metric tons under current law). When it comes to radioactive waste transportation risks, we all live in NM.

For this reason, only 4 NRC public comment meetings (3 in NM, & 1 at the agency's HQ near Wash., DC), are inadequate. Countless millions, in most states, would be put at risk by these highly radioactive, irradiated nuclear fuel shipments by train, truck, &/or barge (See national transport impacts associated with the proposed Yucca Mtn, NV permanent burial dump for highly radioactive waste in 1st 3 attached files). The further from the targeted destinations (Yucca Mtn, NV & NM), the more identical the routes would be for shipments. The closer to the targeted dump-sites the shipments came, the more the NV & NM routes would diverge. Shipments to NM, just like shipments to NV, would impact most states.

Thus NRC environmental scoping public comment meetings are needed across the country, not just in NM (& one at MD cy's HQ). The U.S. Department of Energy (DOE), during its Yucca Draft EIS public comment period many years ago, initially planned a dozen meetings nationwide. Under public pressure, DOE was forced to double the number of meetings, in communities impacted elsewhere across the U.S.

But a de facto permanent surface storage at Holtec/ELEA in NM only increases safety risks. It wouldn't decrease them. It multiplies transport risks, due to being temporary. All the highly radioactive waste would have to move again, to a permanent burial site (yet to be identified: Yucca is NOT suitable) & that could be back in the same direction from which it came in the 1st place, meaning communities having the high risks twice!

Holtec/ELEA's assumption that the dump at Yucca Mtn, NV will open is unwarranted. The vast majority of Nevadans have expressed their very adamant non-consent for 30+ years now, & still strongly oppose it. There's bipartisan resistance by NV elected officials at the state level along with their congressional delegation.

Holtec/ELEA's assumption that a permanent burial dump will open appears a fantasy & thus inappropriate. The search for a national repository has gone on since the 1950s & failed. The failed Private Fuel Storage, LLC (PFS) at the Skull Valley Goshutes Indian Reservation in UT, also assumed the Yucca dump would open. They were wrong. PFS was based on Holtec casks, like the current NM scheme. So PFS's "Plan B" was to "return to sender." Holtec has a similar plan: if casks show up damaged or contaminated, to protect its "start clean, stay clean" Centralized Interim Storage Facility (CISF), or Monitored Retrievable Storage (MRS) NM site. If 100,000 metric tons of irradiated



nuclear fuel—the amount targeted to go to Holtec/ELEA in NM—were “returned to sender” some decade or century due to the lack of a permanent dumpsite to send it to, that would be horrid in terms of multiplied transport risks! ME Yankee was a PFS nuclear power industry consortium member. More than 50 rail sized containers of highly radioactive irradiated nuclear fuel would travel 5,000 miles round trip, from ME to UT, for naught other than exposing millions in many states to high-risk shipments. Permanent burial sites could be located in the same direction from which the waste came from. In fact, at one time, DOE was targeting 2 ME sites, 7 VT sites, & 2 NH sites, for permanent burial dumps (See 4th attachment). This plan of high-risk, highly radioactive waste on our roads (initial leg heavy haul truck shipments), rails, & waterways (initial leg barge shipments) is unacceptable. Multiplying transport risks makes no sense.

The Holtec's QA failures & violations are significant to shipping risks. Shipping casks are less capable of withstanding severe accidents (such as crashes, high-temperature, long-duration fires; etc.), as well as intentional attacks or other powerful explosions (such as explosive cargoes on passing trains). See summary of their QA violations in 5th attachment.

Other shipping risks, is the potential for barge shipments on surface waters. Shipments to Holtec/ELEA in NM are supposed to be "mostly rail"- which can mean many barges (over 24 US reactors lack direct rail access, meaning barges on surface waters—the Great Lakes, rivers, seacoasts—could be used to haul 100+ ton, rail-sized casks to nearest rail head). Backgrounders (with more details on the high risks) on various barge routes (w/maps) were written for the Yucca dump scheme; Holtec/ELEA could use such barges. DOE's 02/2002 Yucca Mtn Final EIS previews barge shipments that could ship high-level radioactive waste to NM. The barge shipment routes, & analyses, proposed under the Yucca Mtn plan are attached in 11 factsheets posted 09/28/04).

Unacceptable problems accrue with trucking in smaller-sized, "Legal Weight Truck" (LWT) casks to the NM CISF/MRS. Holtec said in its CISF license application docs submitted to NRC it would accommodate any & all cask models at the NM MRS site. Any & all includes LWT-sized outer casks & inner canisters containing irradiated nuclear fuel. This mix of trains/barges/heavy haul trucks & LWT casks/canisters means even more American communities would be exposed to risks (along interstate highways) (see attached on dry cask vulnerability).