

Turkey Point Nuclear Power Plant
Development of Evacuation Time Estimates

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
511	829211	413370	Actuated	16
512	833941	418761	Actuated	16
513	831471	416060	Actuated	16
514	836286	421432	Actuated	12
515	838734	424103	Actuated	12
516	839334	424863	Actuated	12
517	841044	426753	Actuated	12
518	843313	429399	Actuated	12
519	828288	405351	Actuated	18
521	860915	405553	Stop	20
527	850238	405462	Stop	20
529	849052	405513	TCP - Actuated	20
602	807483	413178	Stop	15
605	823233	426528	Stop	11
606	823176	434582	Stop	11
607	825877	426562	Stop	12
611	837813	406623	Actuated	19
612	831524	410688	Actuated	16
613	831532	413431	Stop	16
614	825802	434630	Stop	12
615	822993	450496	Stop	4
623	828365	450460	Stop	5
624	828494	434630	Stop	12
625	828544	426574	TCP - Actuated	12
629	873760	449866	Stop	10
631	863144	445892	Actuated	9
632	857690	445748	Actuated	8
633	857204	445748	Actuated	8
635	858371	447081	Actuated	8
636	851099	443006	Stop	13
637	869637	452694	Actuated	9
639	861632	453836	Actuated	9
645	860992	458069	Actuated	7
646	860849	459904	Actuated	7
650	862925	460021	Actuated	7
652	868089	460234	Actuated	7
653	867754	459379	Actuated	7
655	849344	436283	Actuated	13
656	851491	438701	Actuated	13

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Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
657	851277	438853	Actuated	13
660	866610	456019	Actuated	9
661	870455	462449	Actuated	7
662	869905	462662	Actuated	7
663	872312	469162	Actuated	7
665	872304	471266	Actuated	2
667	868199	471108	Actuated	2
669	864988	470950	Actuated	2
673	829518	408006	Actuated	18
674	828824	408015	Actuated	18
675	827532	411330	Actuated	16
676	828753	412508	Actuated	16
677	828719	413695	Actuated	16
678	828728	414029	Actuated	16
681	857698	448418	Stop	8
683	863175	443207	Actuated	13
686	852703	430990	TCP - Actuated	13
687	852363	431013	TCP - Actuated	13
690	850043	425312	Actuated	13
692	850069	421619	Actuated	13
694	834955	405619	Stop	18
696	834928	405358	Stop	18
698	818949	455762	Stop	4
699	828253	455858	Stop	5
700	815091	442468	Stop	11
701	812442	442422	Stop	11
704	807291	426378	Stop	11
705	815234	426470	Stop	11
706	815555	405242	Stop	15
707	815444	413237	Stop	15
708	818125	413238	Stop	15
709	818090	415917	Stop	15
710	827418	413343	Actuated	16
711	829563	413850	Actuated	16
712	849789	437010	Stop	13
713	841816	437506	Stop	12
715	875668	471363	Actuated	3
717	857118	470494	Actuated	2
720	854117	470357	Actuated	2

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Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
722	856038	470432	Actuated	2
725	852104	470264	Actuated	2
728	846420	470105	Actuated	1
730	844131	464638	Stop	5
731	838726	464502	Stop	5
735	869611	405708	Actuated	20
736	841243	467223	Stop	5
737	874587	457870	Actuated	10
740	831447	418581	Yield	16
741	831433	418814	Yield	16
742	831327	418687	Yield	16
743	832631	417361	Actuated	16
744	832412	417352	Actuated	16
745	875468	474010	Stop	3
746	878183	474124	Actuated	3
747	874319	473969	Actuated	3
748	841747	442905	Stop	12
753	875981	465856	Yield	10
754	875863	466082	Yield	10
756	831427	420036	Stop	16
759	861972	478804	Stop	2
760	864604	478929	Stop	2
762	870006	479203	Actuated	2
763	864713	476296	Stop	2
765	867433	476429	Actuated	2
767	870269	473887	Stop	2
769	870102	476552	Actuated	2
770	872598	477587	Actuated	2
772	874182	477724	Actuated	3
773	874752	477131	Actuated	3
774	875263	476720	Actuated	3
775	875491	476680	Actuated	3
776	875747	477847	Actuated	3
777	875916	477765	Actuated	3
778	875404	478044	Actuated	3
780	876417	479440	Actuated	3
781	876637	479454	Actuated	3
782	880875	474247	Actuated	3
783	878124	476793	Actuated	3

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Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
784	880802	476926	Actuated	3
786	886087	477112	Actuated	3
787	883906	474343	Actuated	3
789	874108	473969	Actuated	3
790	859396	478176	Actuated	2
792	880988	471536	Actuated	3
793	872881	473946	Actuated	3
799	885575	477071	Stop	3
802	839401	417282	Actuated	17
806	841929	427342	Actuated	12
807	839253	416137	Actuated	17
810	867807	468378	Actuated	7
811	867917	465654	Actuated	7

¹Coordinates are in the North American Datum of 1983 Florida East State Plane Zone

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

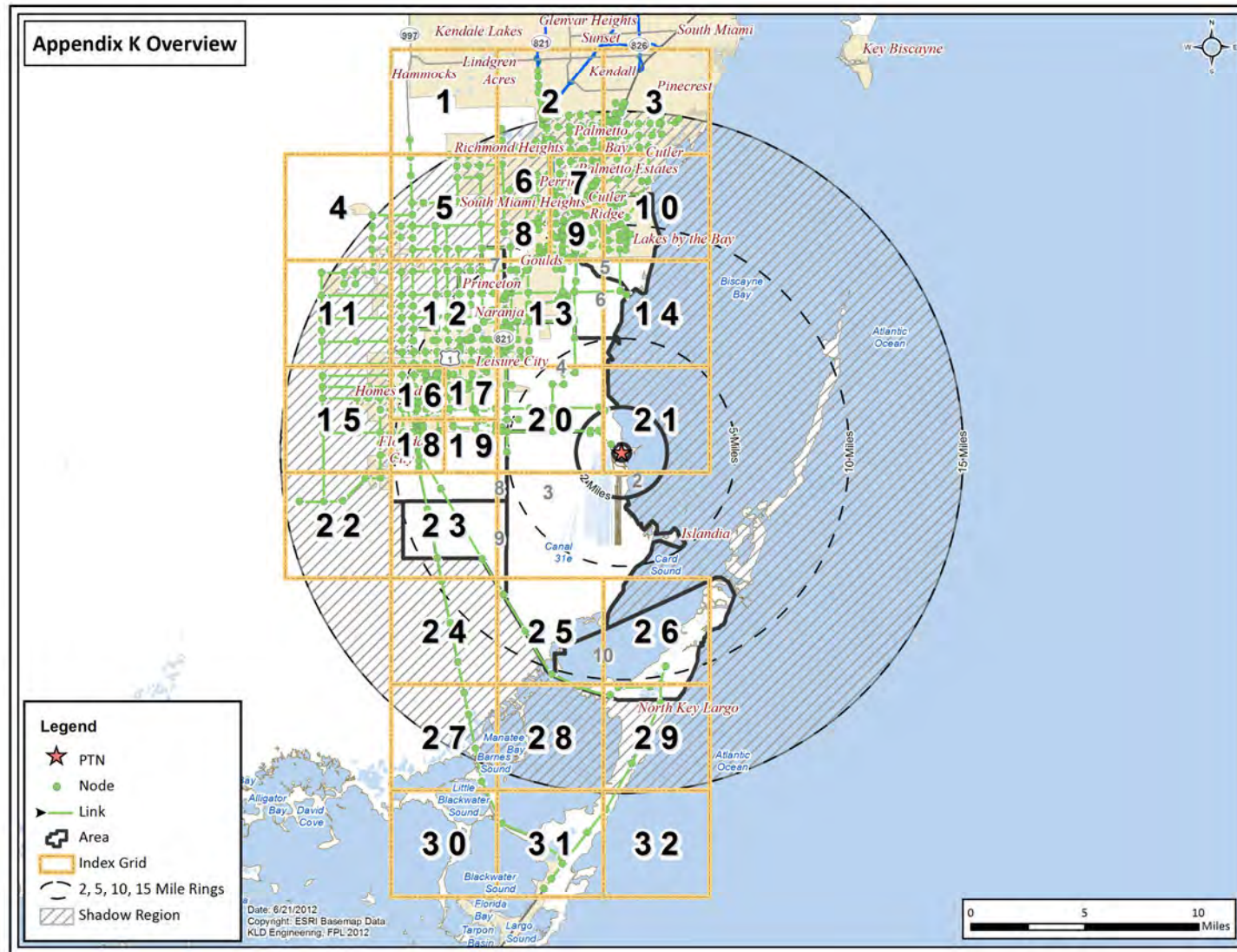


Figure K-1. Turkey Point Link-Node Analysis Network

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

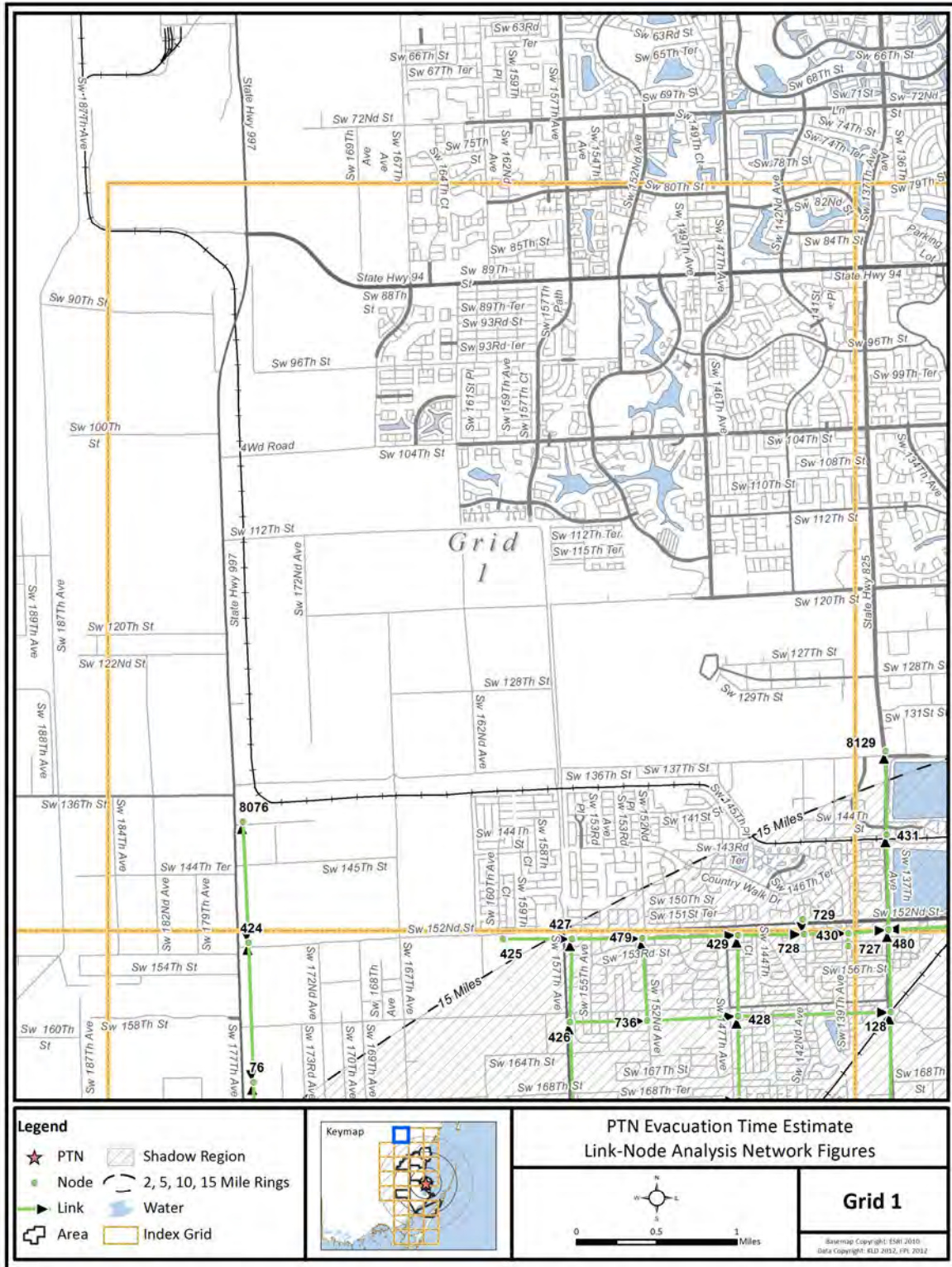


Figure K-2. Link-Node Analysis Network – Grid 1

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

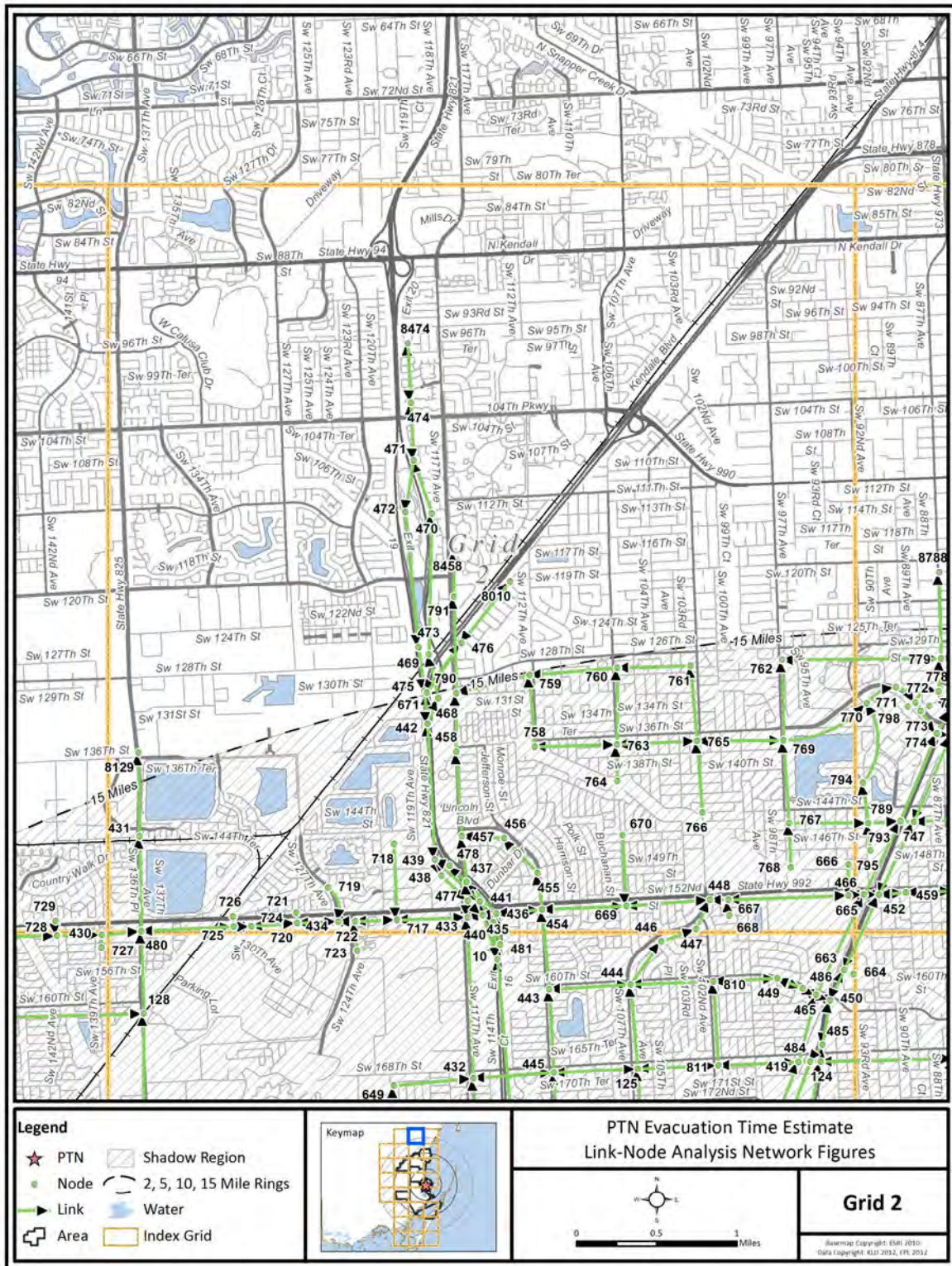


Figure K-3. Link-Node Analysis Network - Grid 2



Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

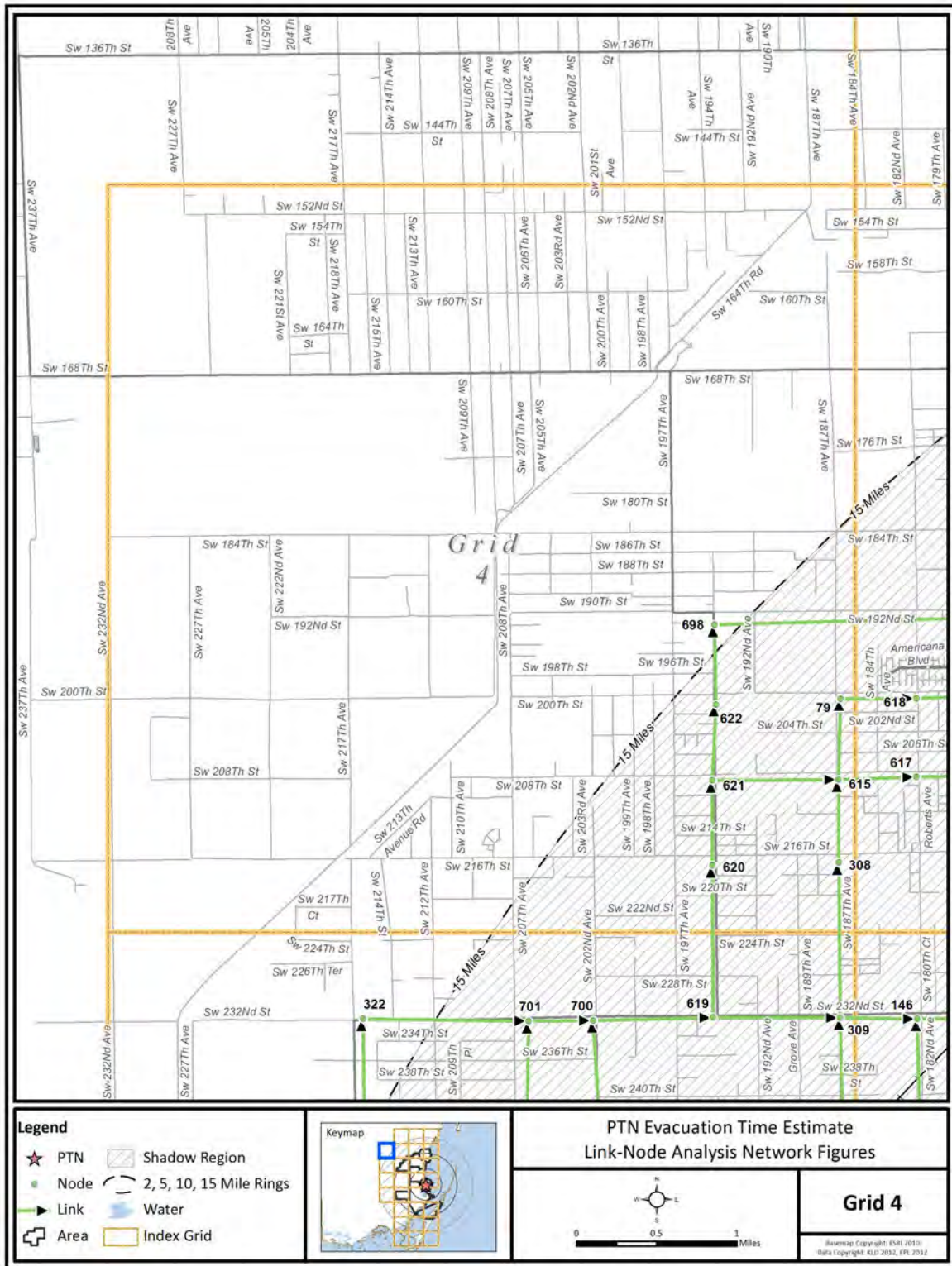


Figure K-5. Link-Node Analysis Network - Grid 4

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

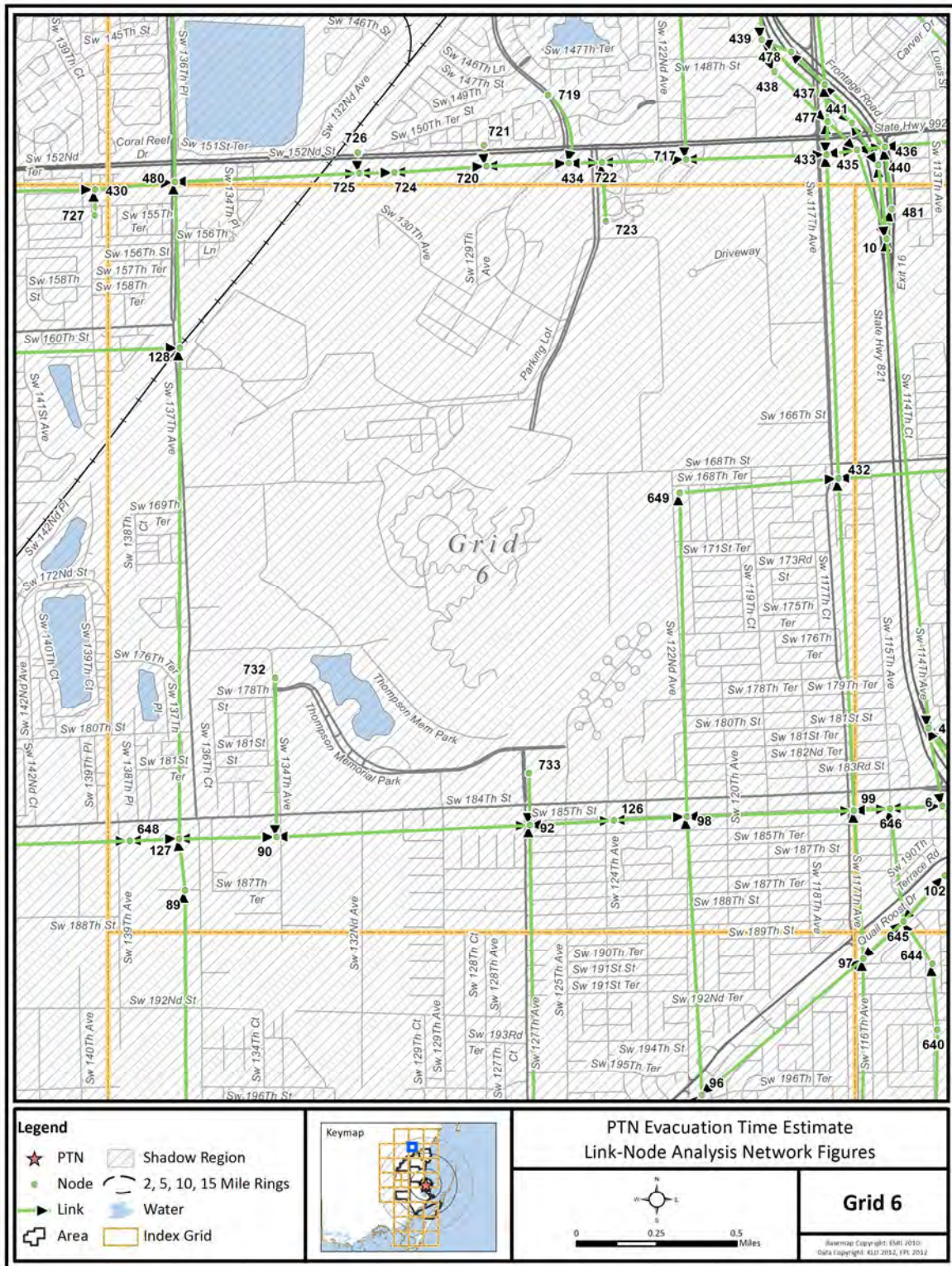


Figure K-7. Link-Node Analysis Network - Grid 6

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

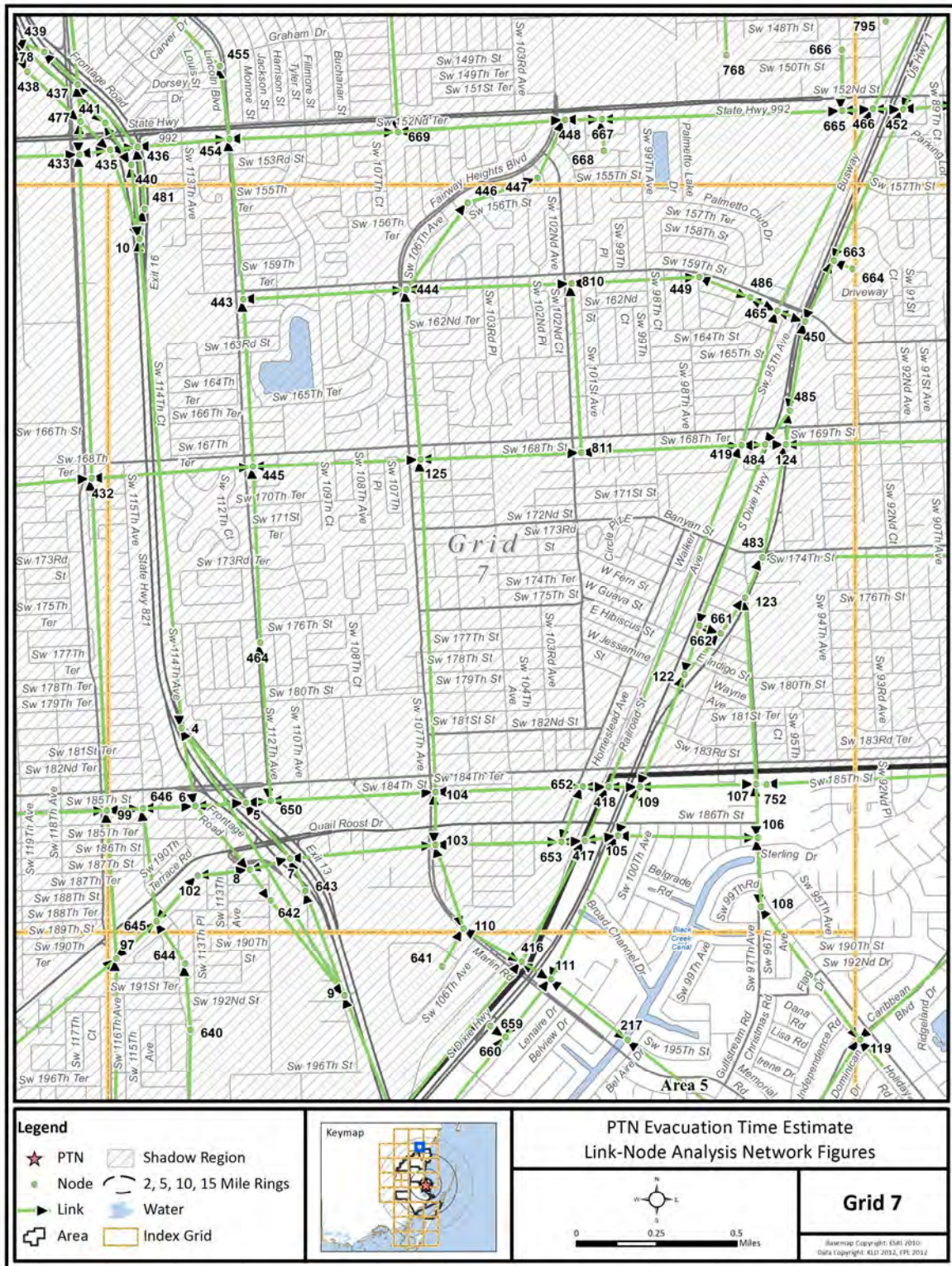


Figure K-8. Link-Node Analysis Network - Grid 7

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

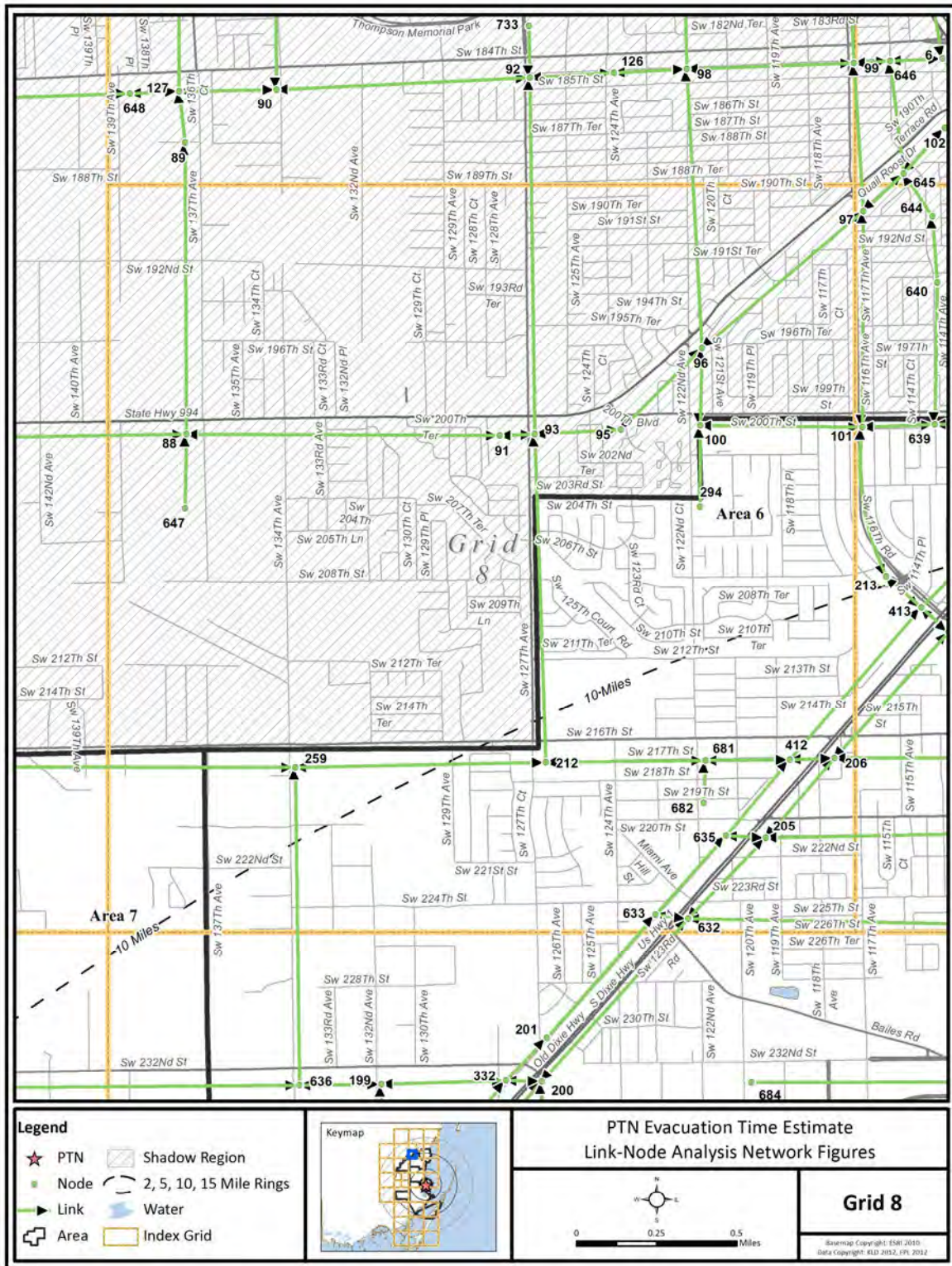


Figure K-9. Link-Node Analysis Network - Grid 8

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

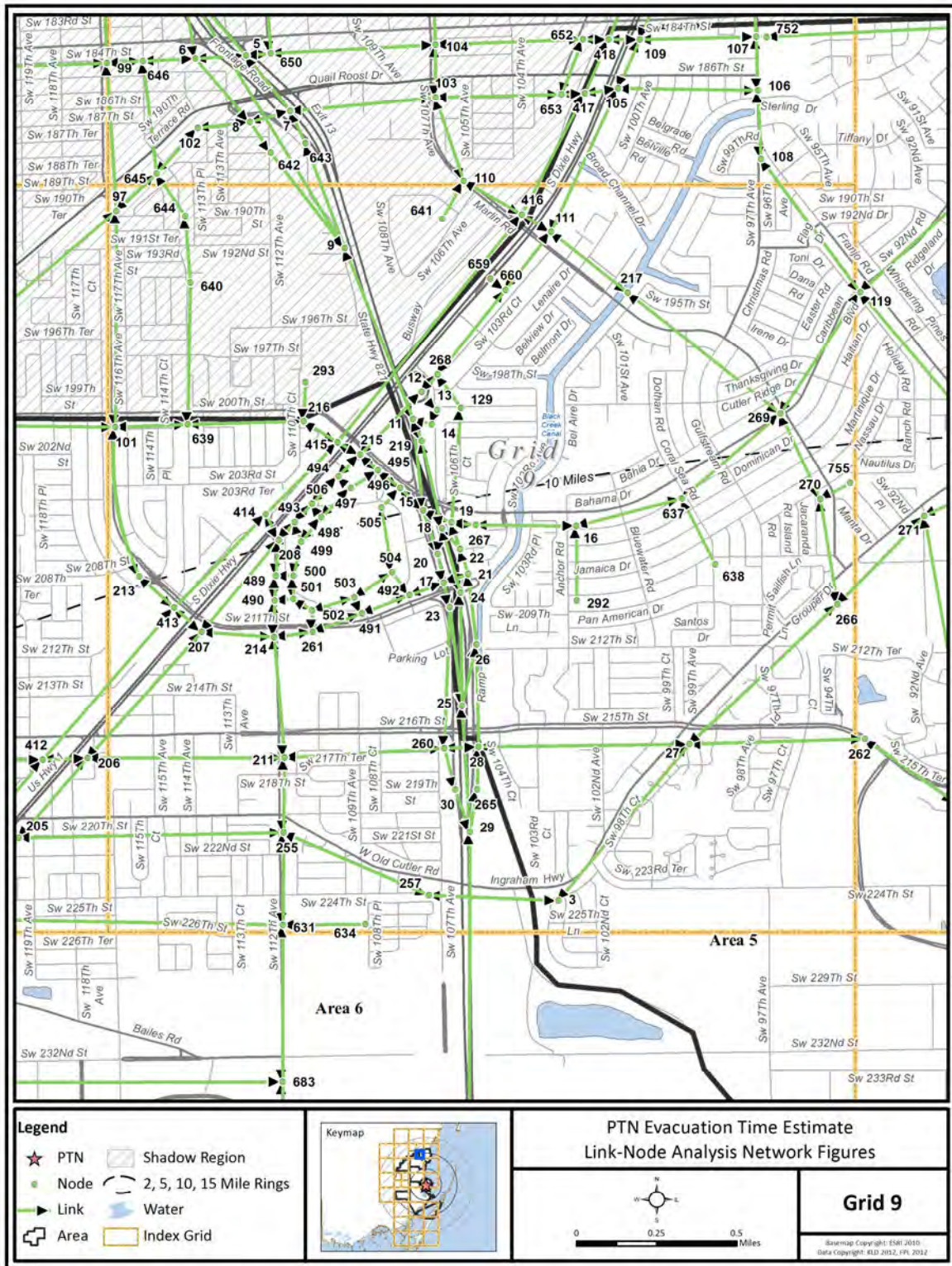


Figure K-10. Link-Node Analysis Network - Grid 9

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

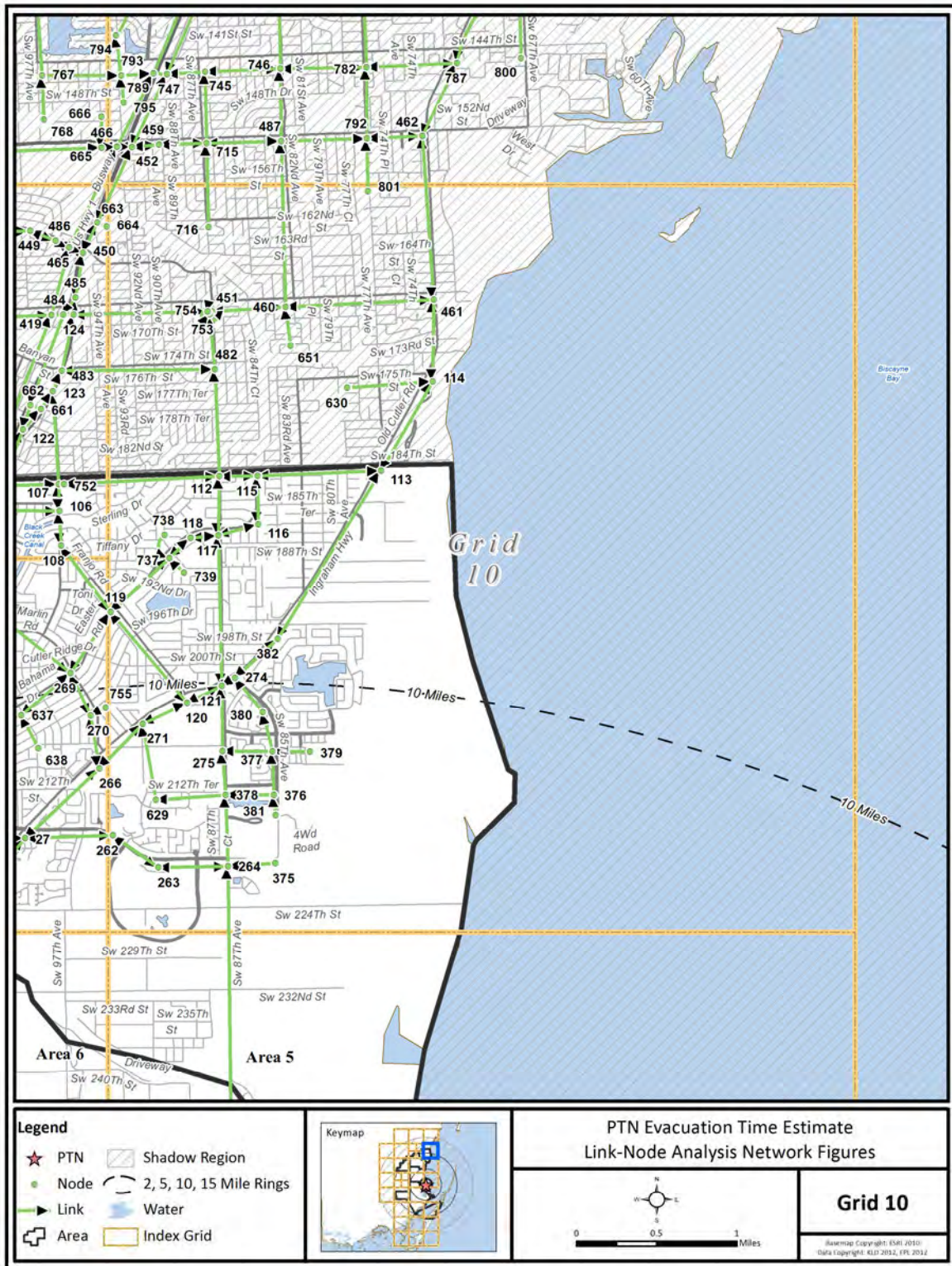


Figure K-11. Link-Node Analysis Network - Grid 10

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

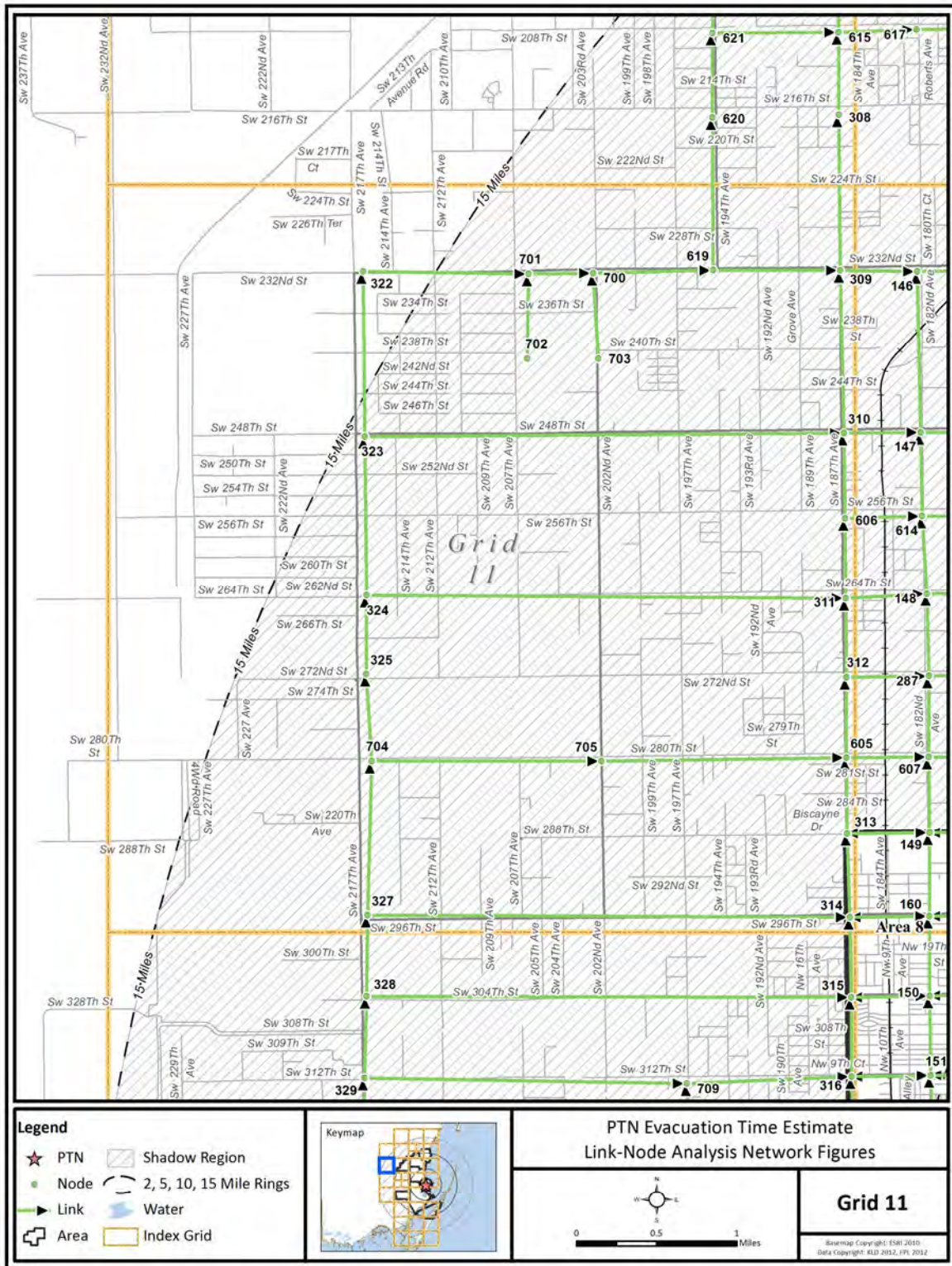


Figure K-12. Link-Node Analysis Network - Grid 11

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

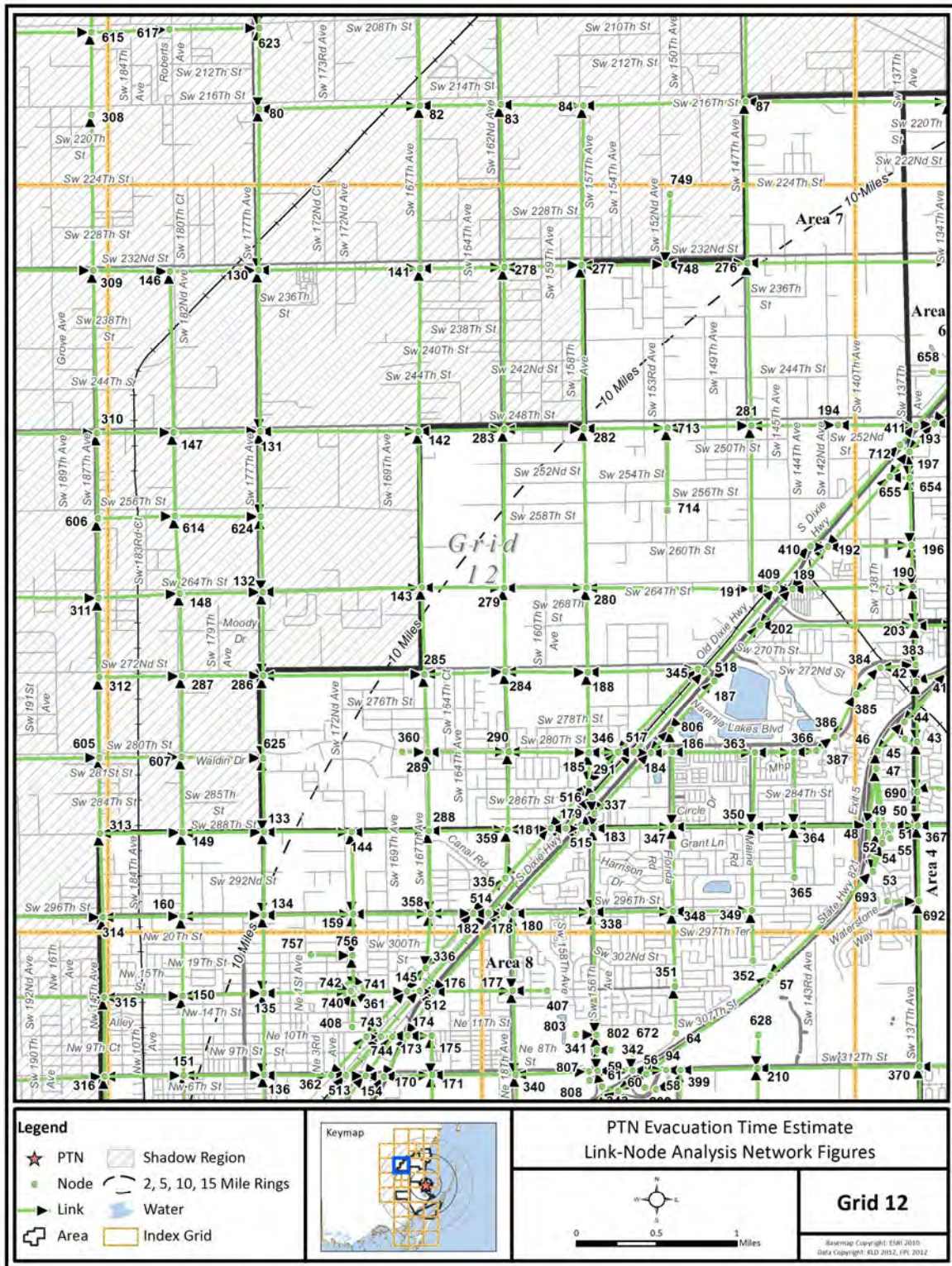


Figure K-13. Link-Node Analysis Network - Grid 12

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

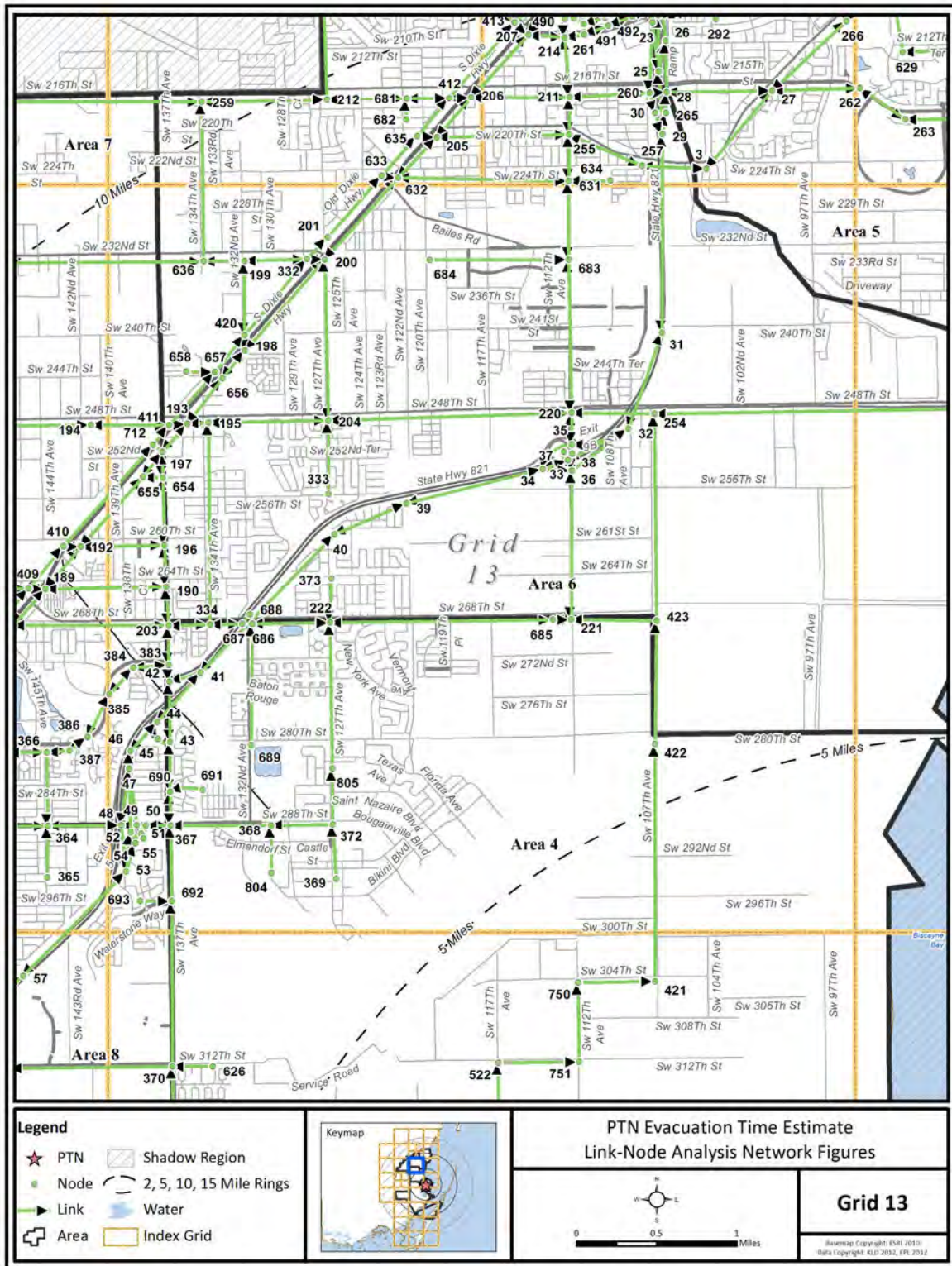


Figure K-14. Link-Node Analysis Network - Grid 13

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

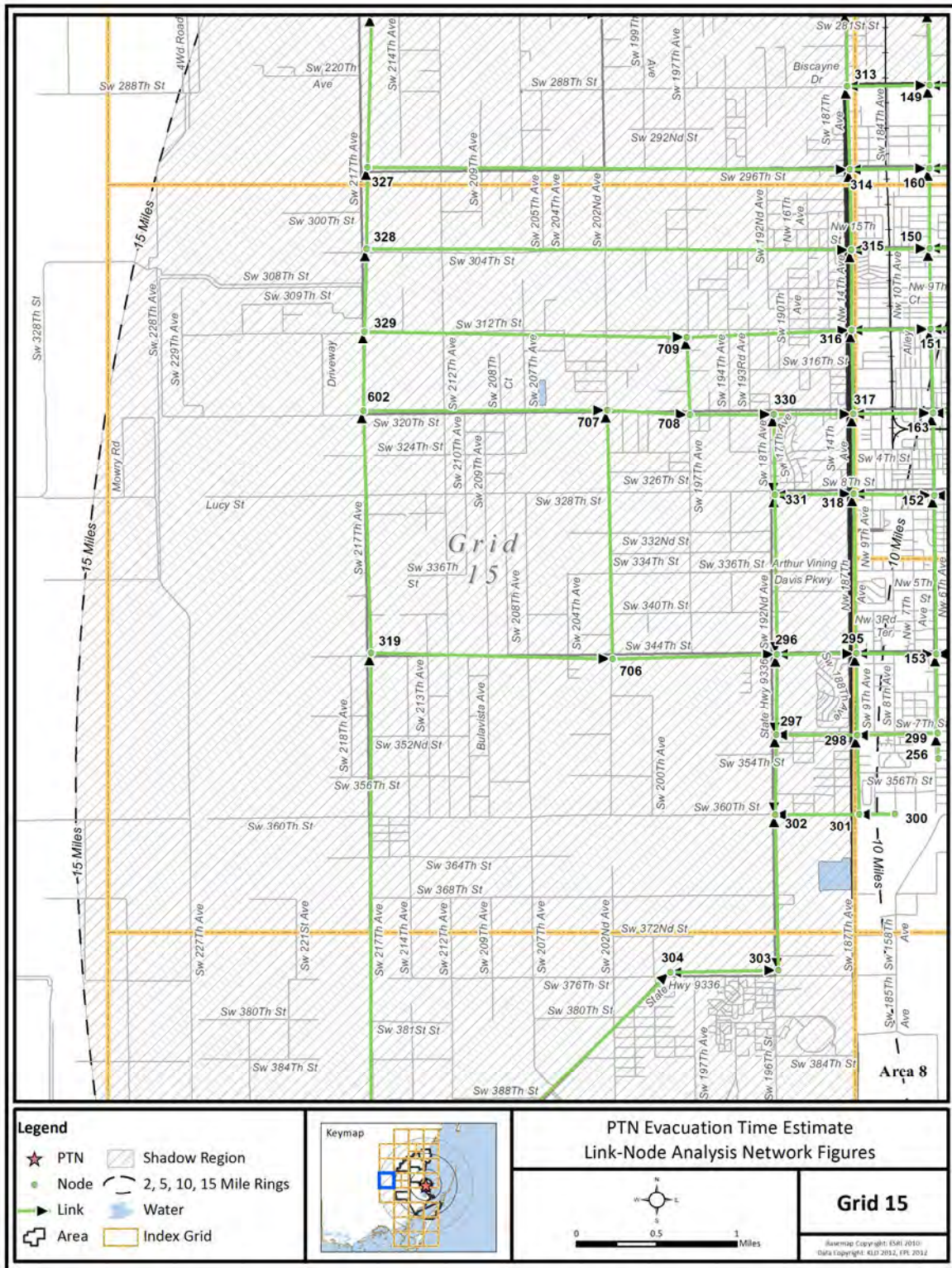


Figure K-16. Link-Node Analysis Network - Grid 15

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates



Figure K-17. Link-Node Analysis Network - Grid 16

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

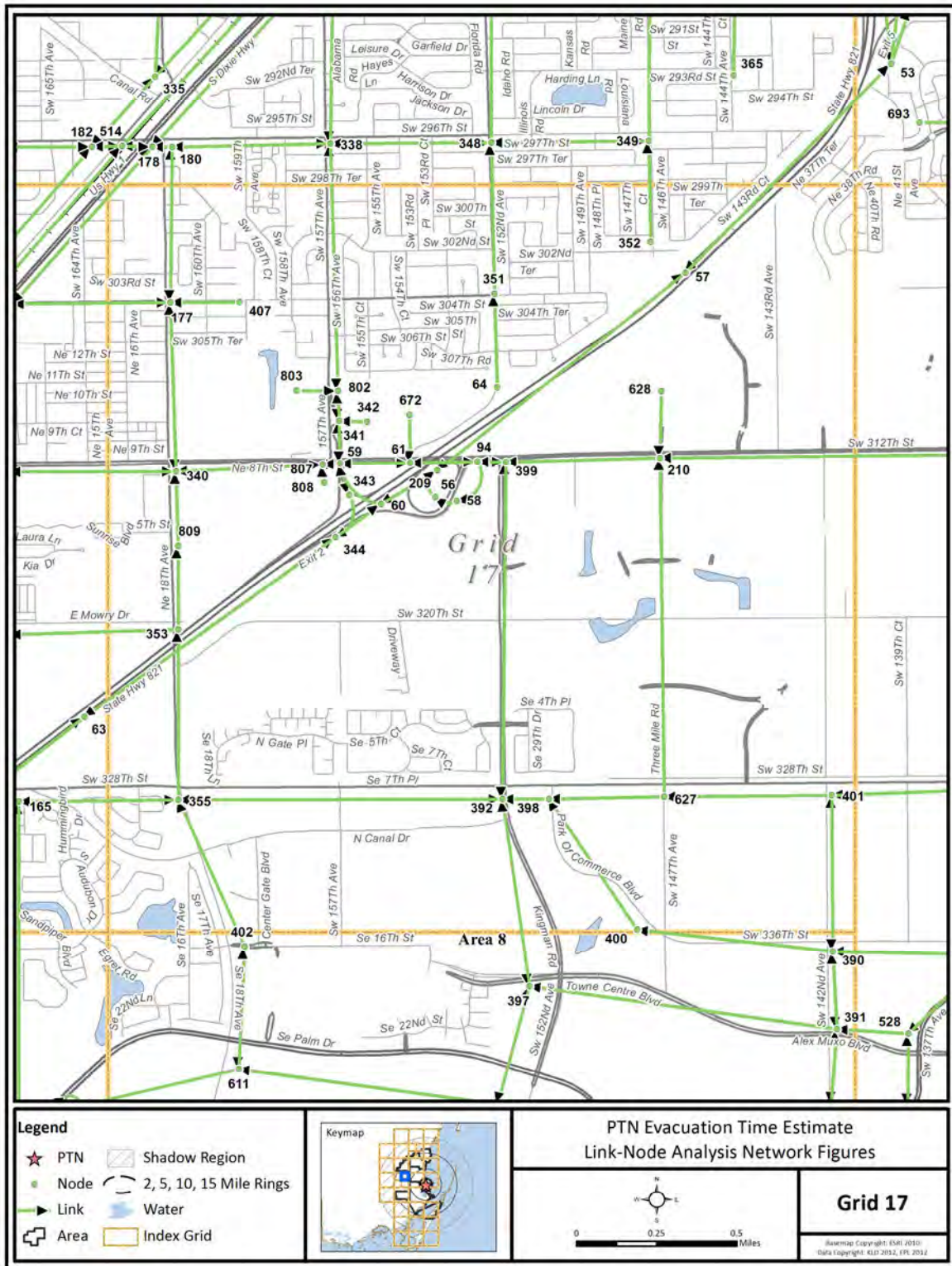


Figure K-18. Link-Node Analysis Network - Grid 17

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

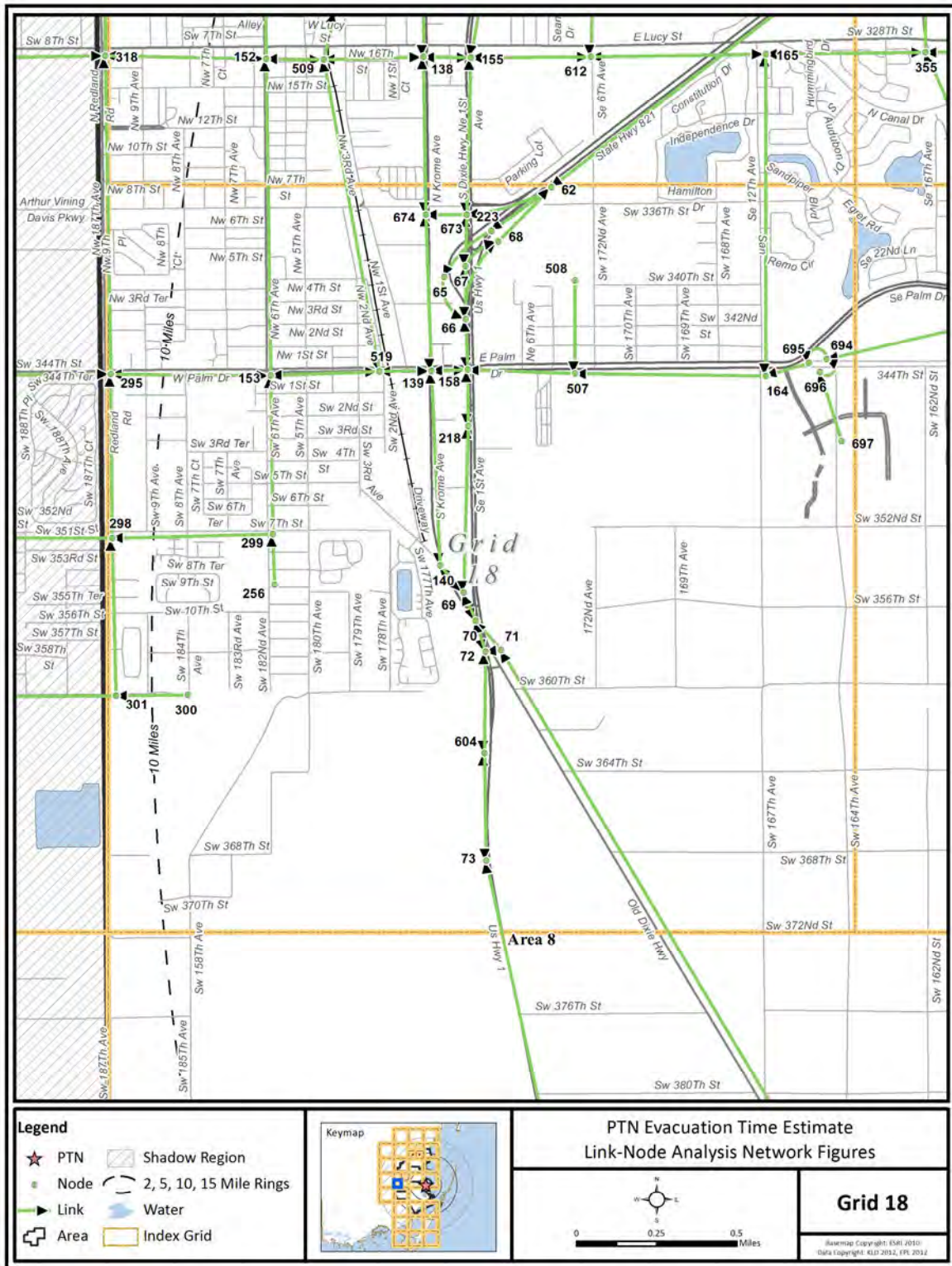
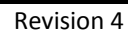


Figure K-19. Link-Node Analysis Network - Grid 18



Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

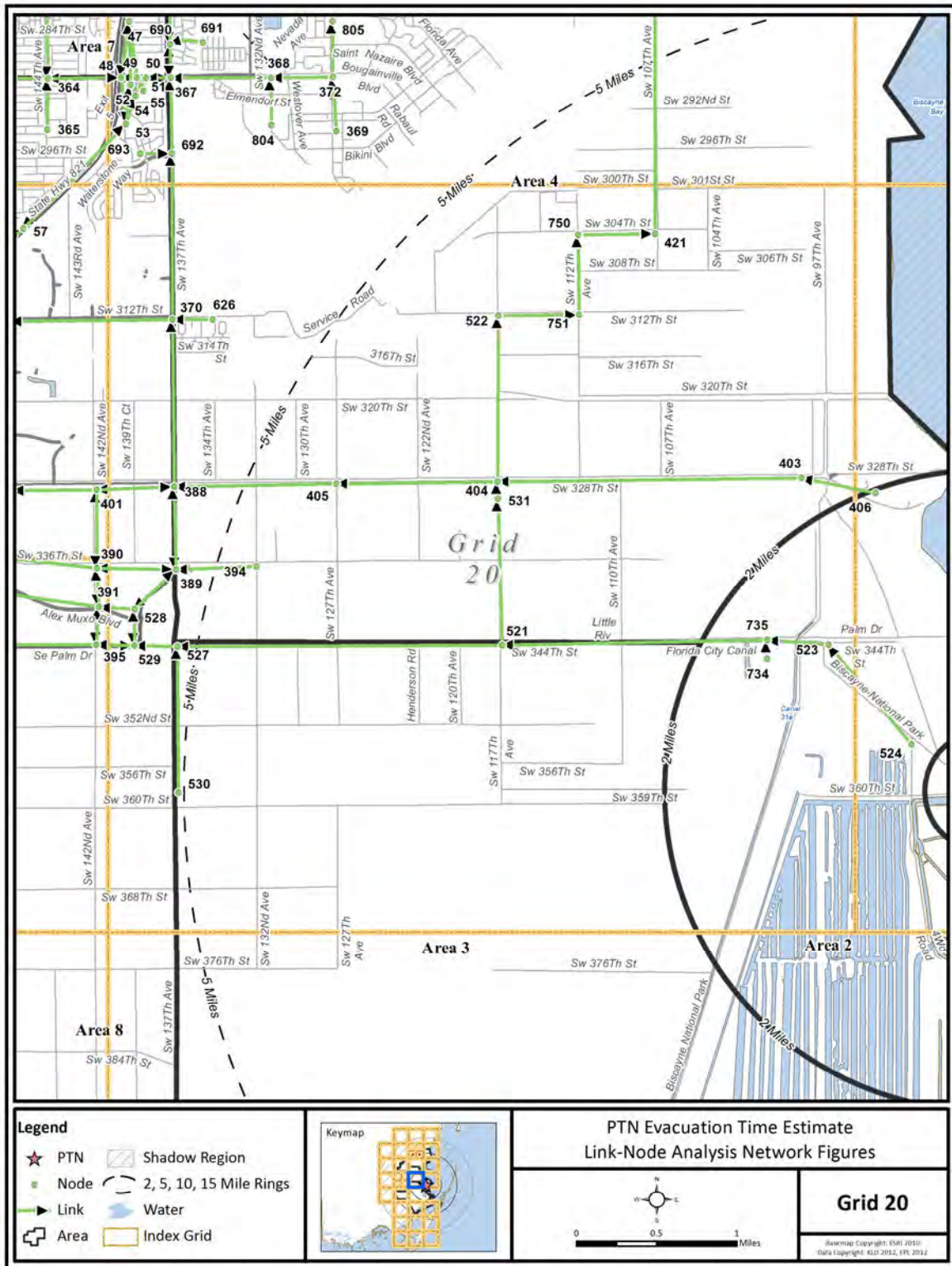


Figure K-21. Link-Node Analysis Network - Grid 20

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

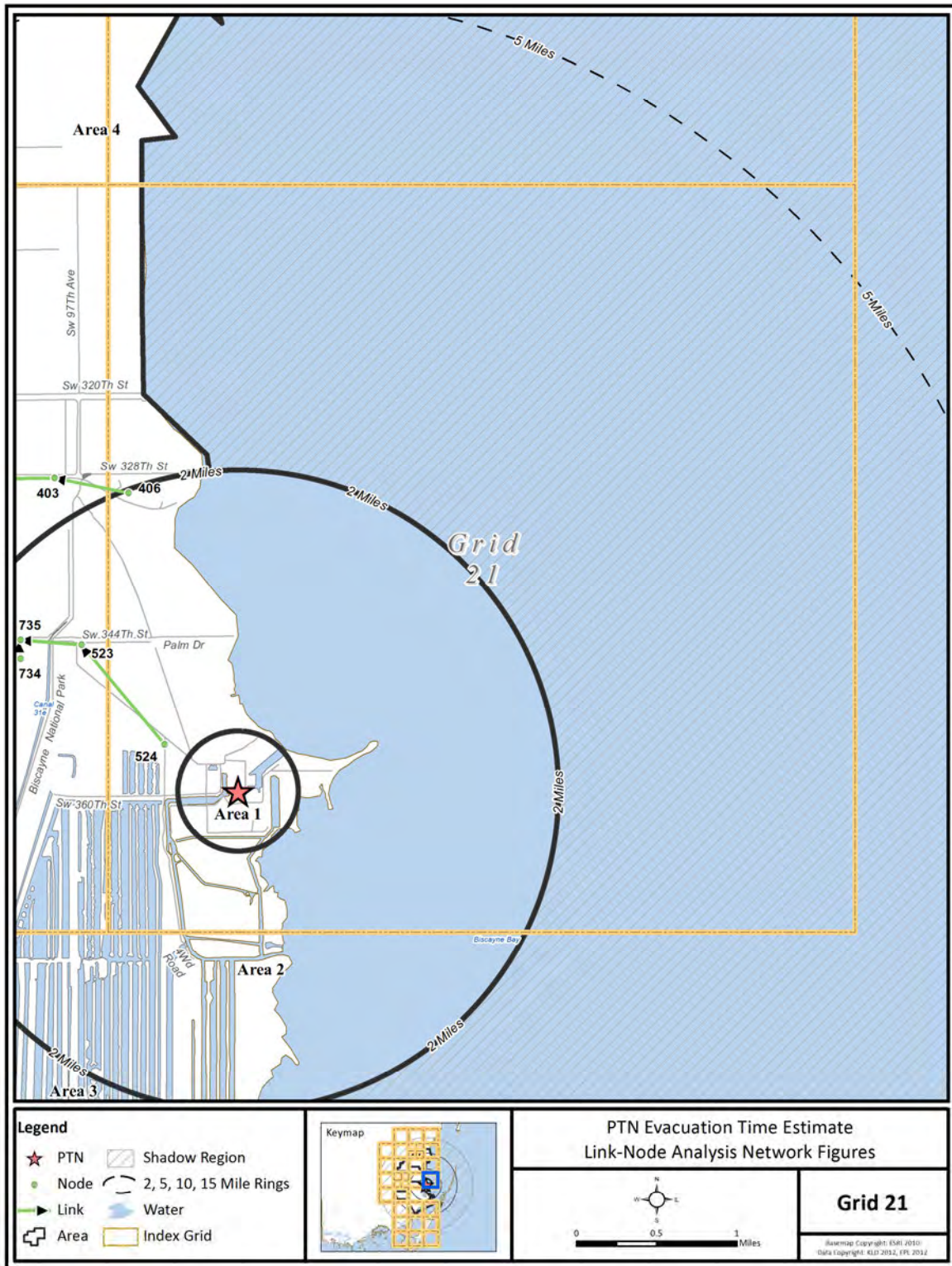


Figure K-22. Link-Node Analysis Network - Grid 21



Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

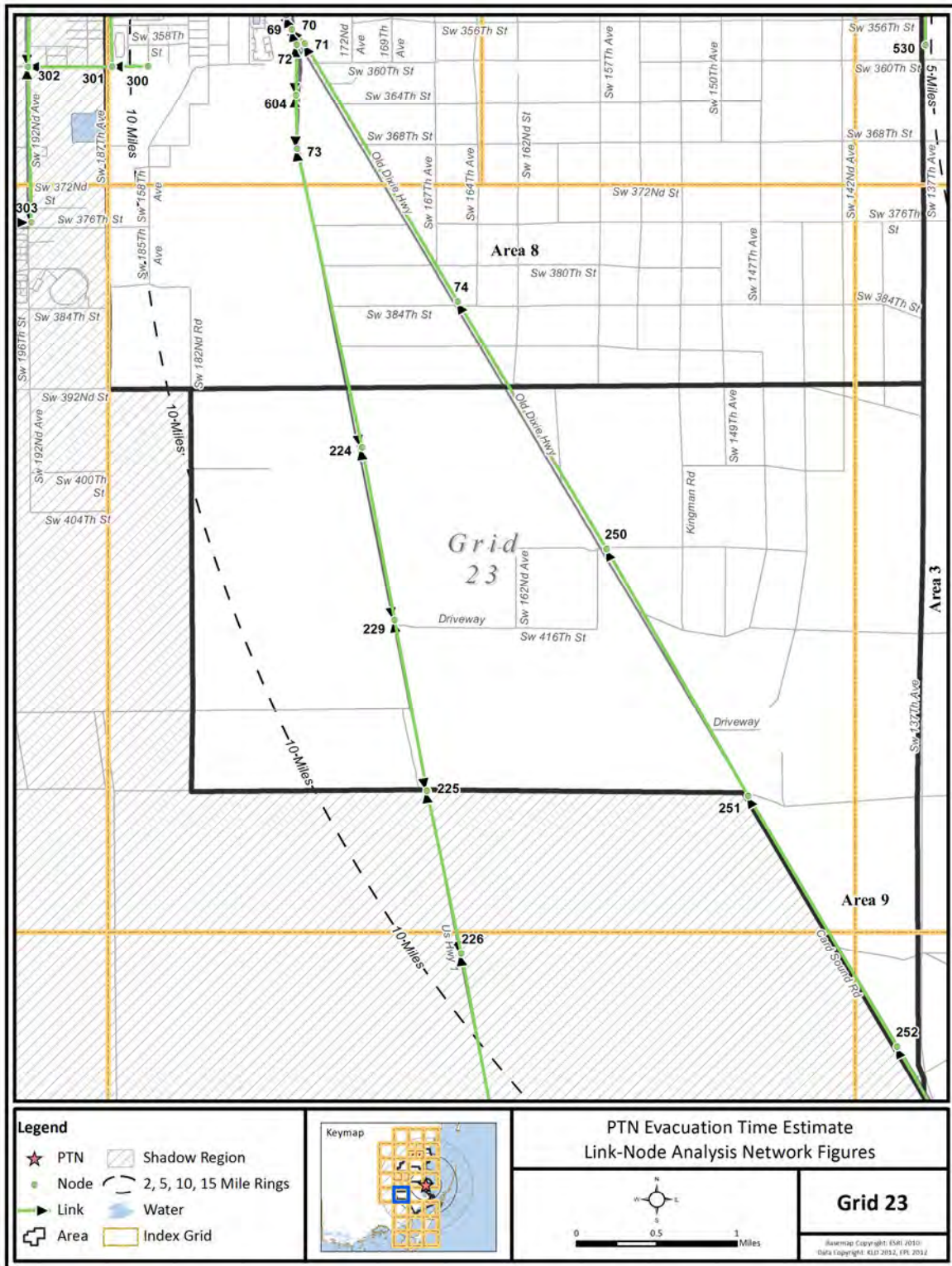


Figure K-24. Link-Node Analysis Network - Grid 23

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

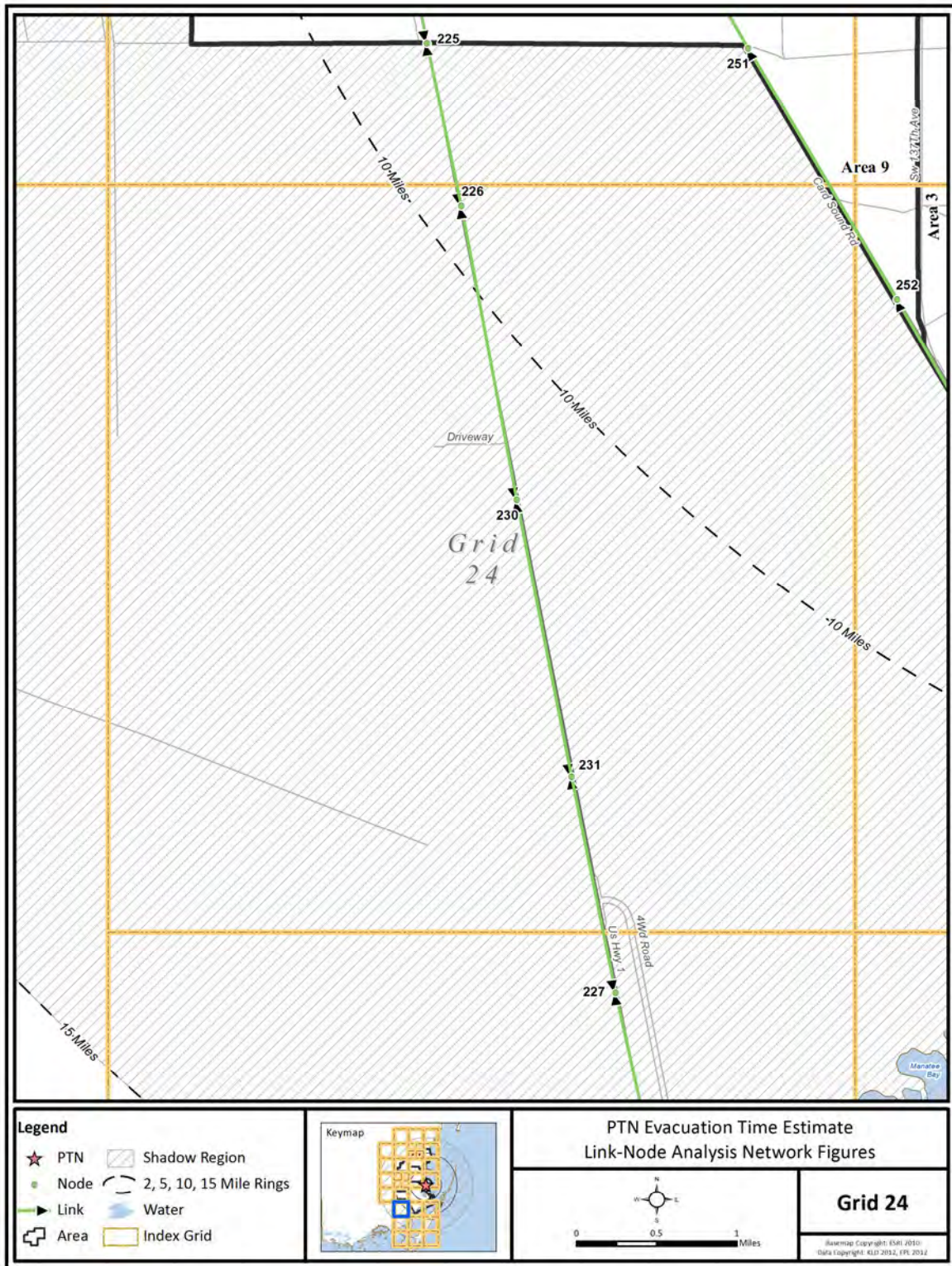


Figure K-25. Link-Node Analysis Network - Grid 24

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

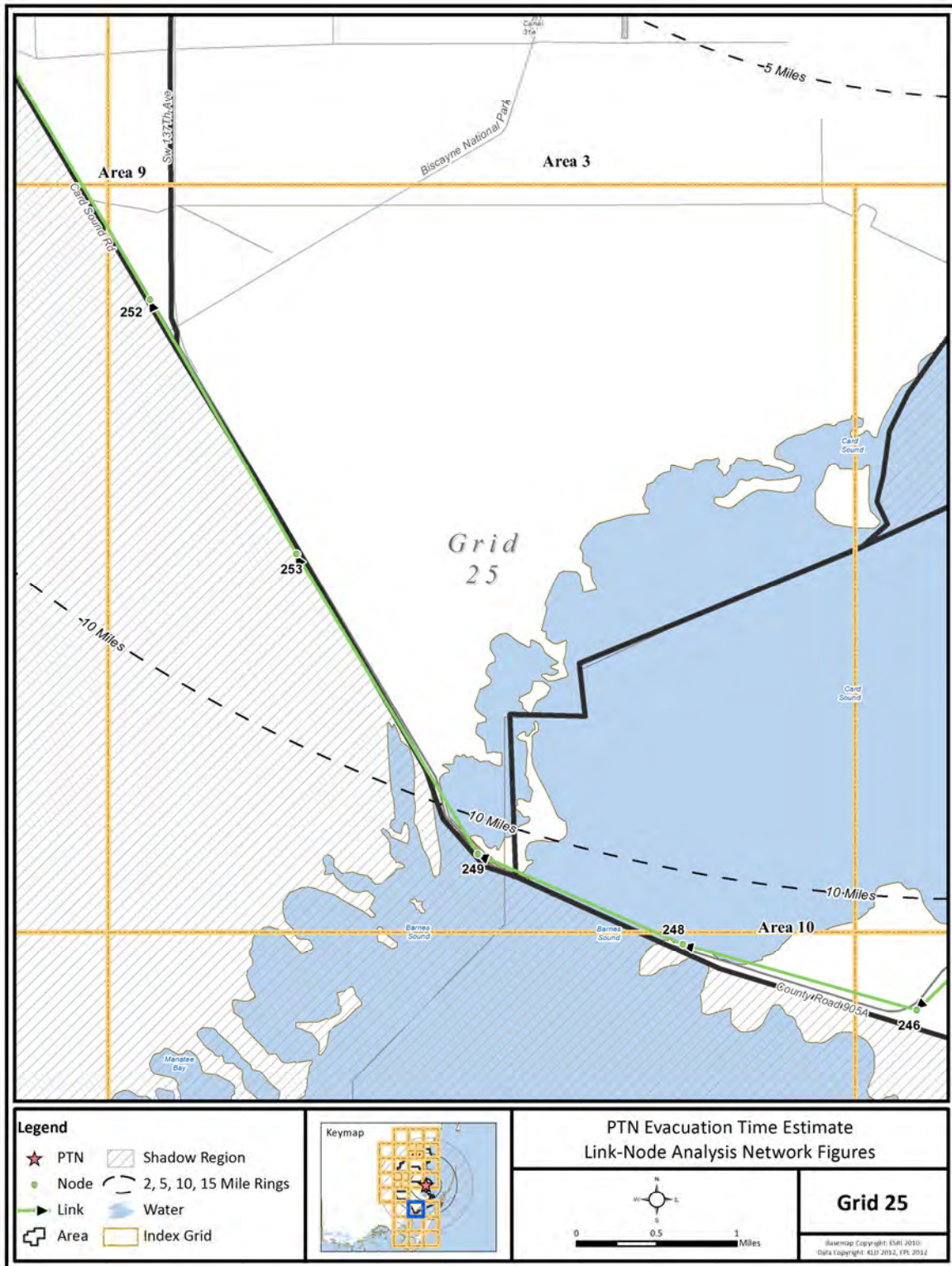


Figure K-26. Link-Node Analysis Network - Grid 25

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

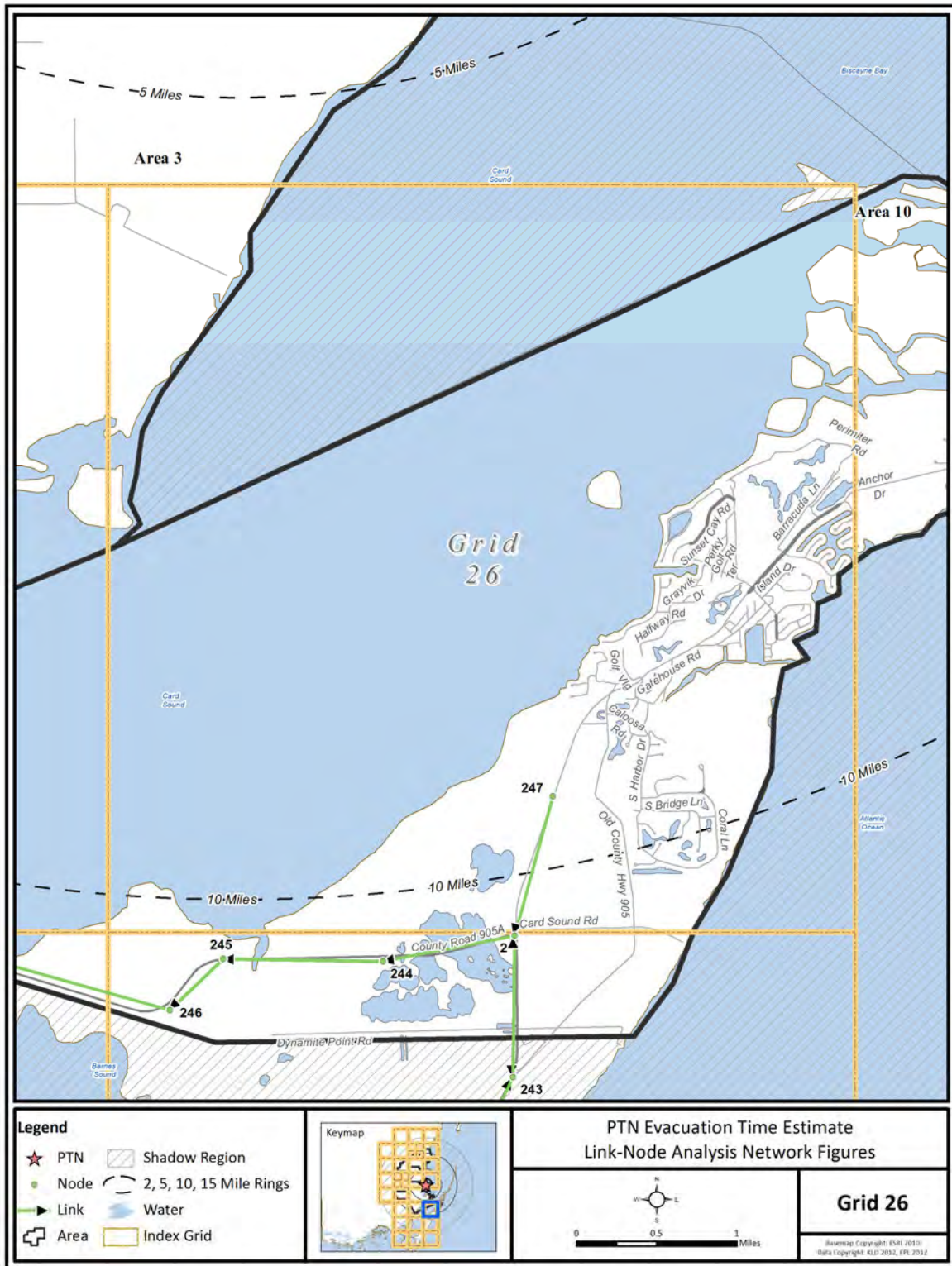


Figure K-27. Link-Node Analysis Network - Grid 26

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

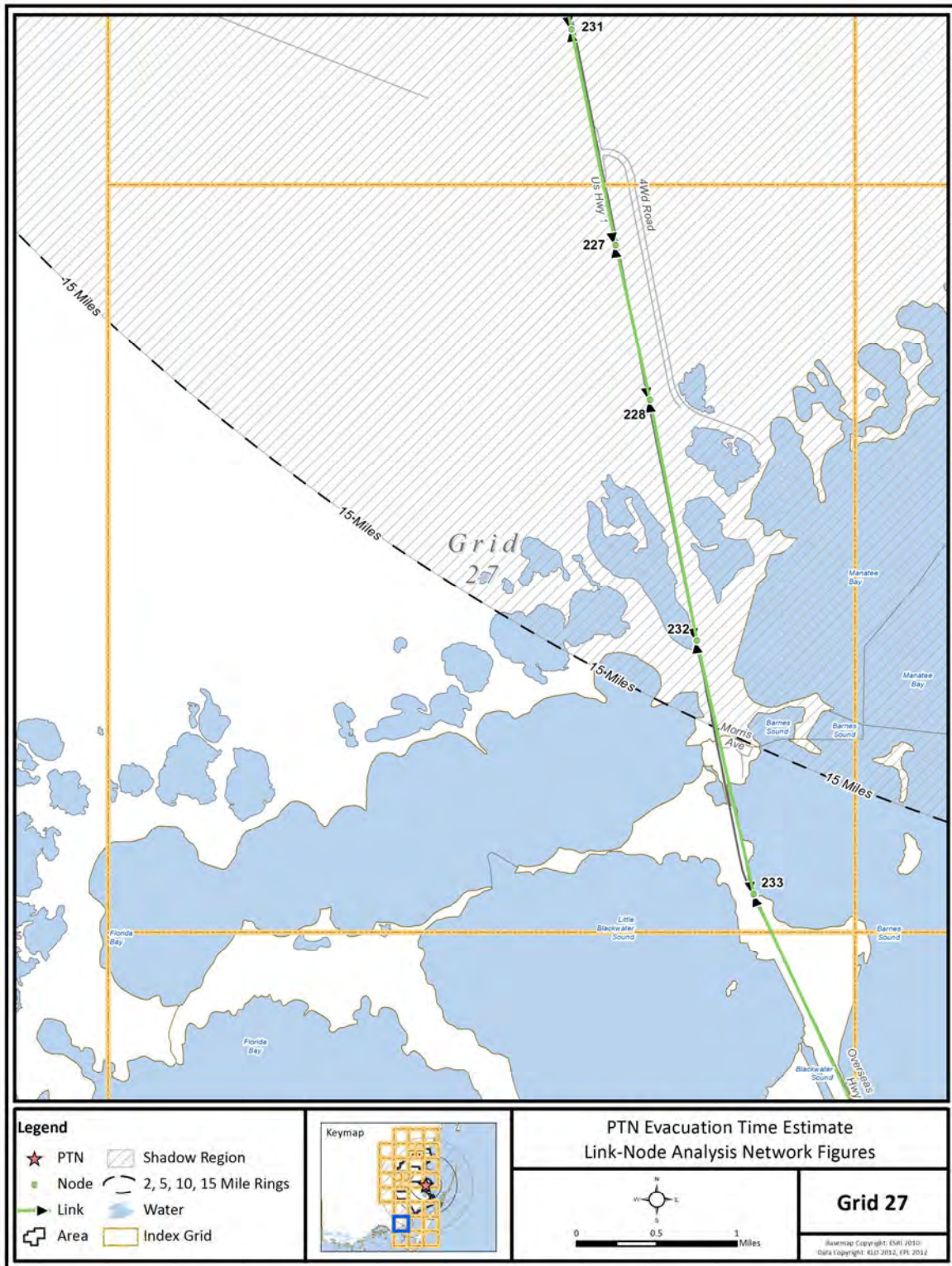


Figure K-28. Link-Node Analysis Network - Grid 27

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

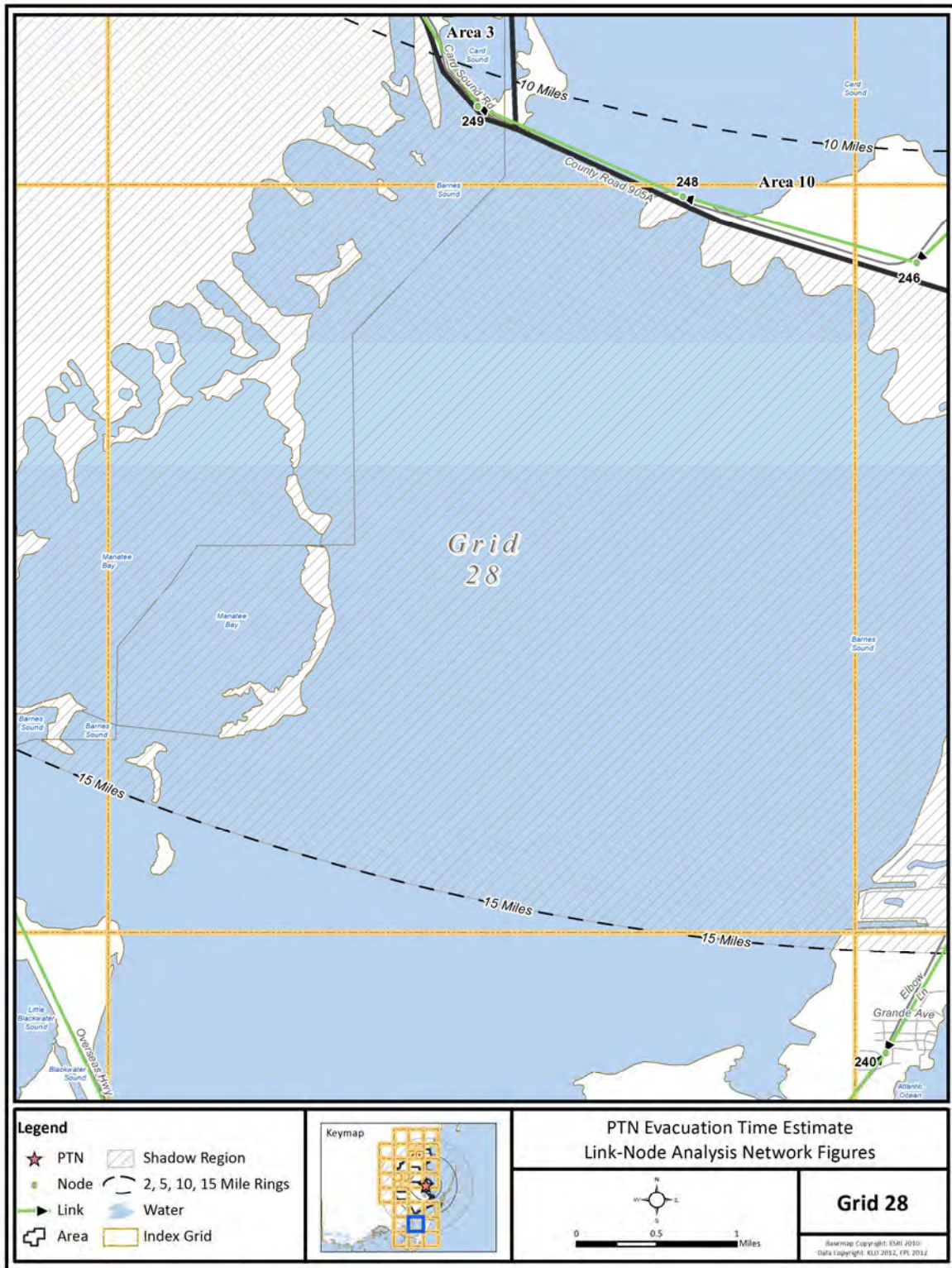


Figure K-29. Link-Node Analysis Network - Grid 28

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates



Figure K-30. Link-Node Analysis Network - Grid 29

Turkey Point Nuclear Power Plant
Development of Evacuation Time Estimates



Figure K-31. Link-Node Analysis Network - Grid 30

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates



Figure K-32. Link-Node Analysis Network - Grid 31

Turkey Point Nuclear Power Plant Development of Evacuation Time Estimates

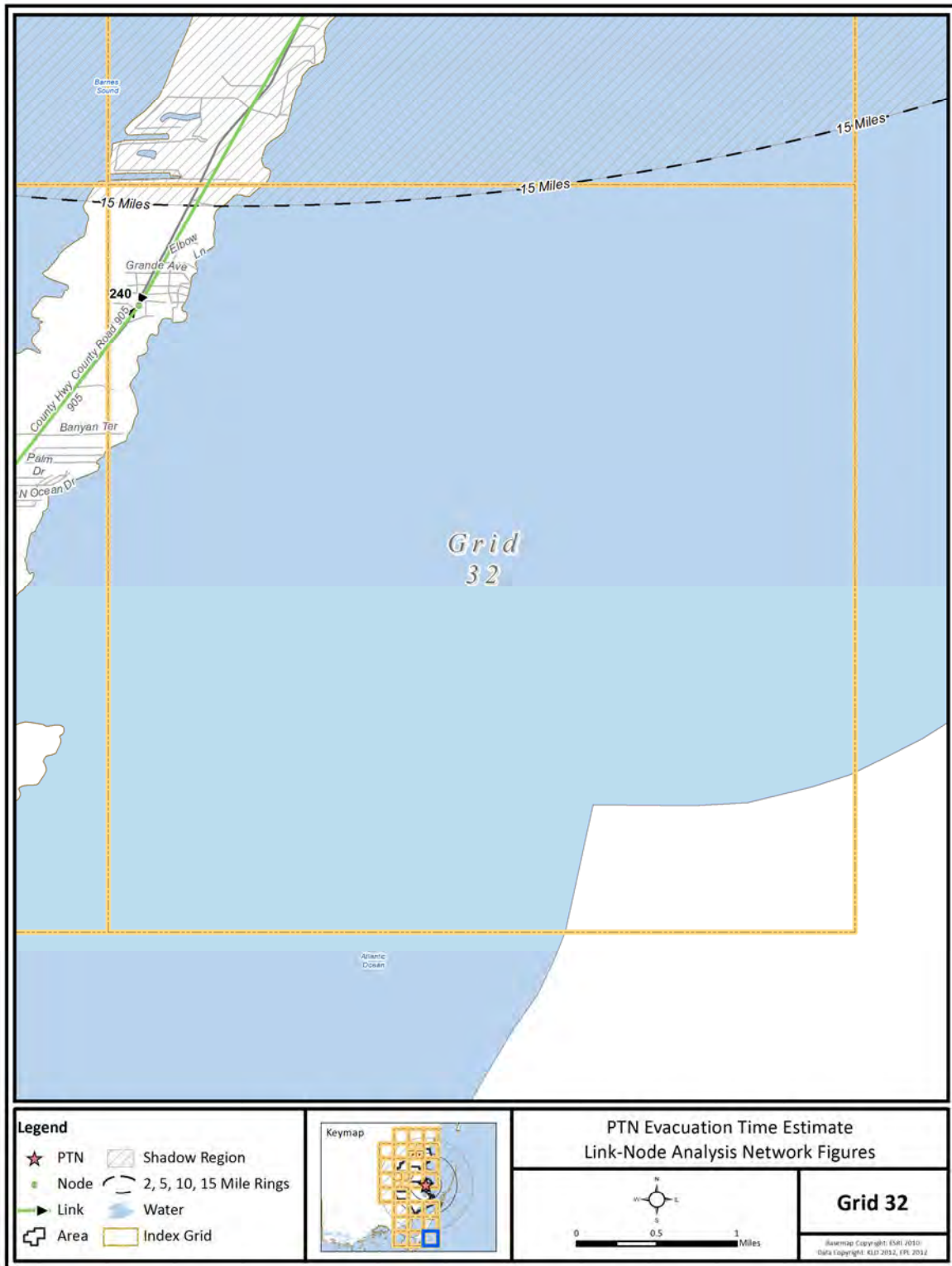


Figure K-33. Link-Node Analysis Network - Grid 32

APPENDIX L
Area Boundaries

L. AREA BOUNDARIES

- Area 1 County: Miami-Dade
Turkey Point Units 3 & 4.
- Area 2 County: Miami-Dade
Defined as the area within the following boundary: An annular ring with a radius of 2 miles centered at the Turkey Point Units 3 & 4.
- Area 3 County: Miami-Dade
Defined as the area within the following boundary: Palm Drive (SW 344th Street) west from the border of area 2 to SW 137th Avenue. 137th Avenue south to Card Sound Road. Card Sound Road south to Card Sound. North on the coast to the border of area 2.
- Area 4 County: Miami-Dade
Defined as the area within the following boundary: SW 280th Street west from the coast to SW 107th Avenue. SW 107th Avenue north to SW 268th Street (Hainlin Mill Drive). SW 268th Street west to SW 137th Avenue. SW 137th Avenue south to Palm Drive (SW 344th Street). SW 344th Street east to the area 2 boundary. Follows area 2 boundary to the shore and follows the shore north to SW 280th Street.
- Area 5 County: Miami-Dade
Defined as the area within the following boundary: Eureka Drive (SW 184th Street) west from the coast to S Dixie Highway (U.S. Highway 1). U.S. Highway 1 south to the Florida Turnpike. Florida Turnpike south to Black Creek Canal. Follows Black Creek Canal south to the shore. Follows the shoreline north to Eureka Drive.
- Area 6 County: Miami-Dade
Defined as the area within the following boundary: West on Caribbean Boulevard (SW 200th Street) from the intersection with U.S. Highway 1 and the Florida Turnpike to SW 122nd Avenue. South on SW 122nd Avenue to SW 204th Street. West on SW 204th Street to SW 127th Avenue. South on SW 127th Avenue to Hainlin Mill Drive (SW 216th Street.). West on SW 216th Street to SW 137th Avenue. South on SW 137th Avenue to Moody Drive (SW 268th Street). East on Moody Drive to SW 107th Avenue. South on SW 107th Avenue to SW 280th Street. East on SW 280th Street to the shore. Follows the shoreline north to Black Creek Canal. Follows Black Creek Canal north to the Florida Turnpike. Florida Turnpike north to the intersection with U.S. Highway 1 just north of Caribbean Boulevard.

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Area 7 County: Miami-Dade

Defined as the area within the following boundary: Hainlin Mill Drive (SW 216th Street) west from the intersection with SW 137th Avenue to Naranja Road (SW 147th Avenue). Naranja Road south to Silver Palm Drive (SW 232nd Street). Silver Palm Drive west to Newton Road (SW 157th Avenue). Newton Road south to Coconut Palm Drive (SW 248th Street). Coconut Palm Drive west to Tennessee Road (SW 167th Avenue). Tennessee Road south to Epmore Drive (SW 272nd Street). Epmore Drive west to Krome Avenue (SW 177th Street). Krome Avenue south to Biscayne Drive (SW 288th Street). Biscayne Drive east to SW 137th Avenue. 137th Avenue north to intersection with Hainlin Mill Drive.

Area 8 County: Miami-Dade

Defined as the area within the following boundary: Biscayne Drive (SW 288th Street) west from the intersection with SW 137th Avenue to Redland Road (SW 187th Avenue). Redland Road south to SW 392nd Street. SW 392nd Street east to SW 137th Avenue. SW 137th Avenue north to intersection with Biscayne Drive.

Area 9 County: Miami-Dade

Defined as the area within the following boundary: SW 392nd Street west from the intersection with SW 137th Avenue to SW 182nd Avenue. SW 182nd Avenue south to Dade County Work Camp Road. Work Camp Road east to Card Sound Road (road physically ends at U.S. Highway 1). Card Sound Road south to SW 137th Avenue. SW 137th Avenue north to intersection with SW 392nd Street.

Area 10 County: Monroe

Ocean Reef Community.

APPENDIX M

Evacuation Sensitivity Studies

M. EVACUATION SENSITIVITY STUDIES

This appendix presents the results of a series of sensitivity analyses. These analyses are designed to identify the sensitivity of the ETE to changes in some base evacuation conditions.

M.1 Effect of Changes in Trip Generation Times

A sensitivity study was performed to determine whether changes in the estimated trip generation time have an effect on the ETE for the entire EPZ. Specifically, if the tail of the mobilization distribution were truncated (i.e., if those who responded most slowly to the ATE, could be persuaded to respond much more rapidly), how would the ETE be affected? The case considered was scenario 1, region 3; a summer, midweek, midday, good weather evacuation of the entire EPZ. Table M-1 presents the results of this study.

As discussed in Section 7.3, traffic congestion persists within the EPZ for about 10 hours. As such, the ETE for the 100th percentile is not significantly affected by the trip generation time, but by the time needed to clear the congestion within the EPZ. The 90th percentile ETE are also not sensitive to truncating the tail of the mobilization time distribution.

M.2 Effect of Changes in the Number of People in the Shadow Region Who Relocate

A sensitivity study was conducted to determine the effect on ETE of changes in the percentage of people who decide to relocate from the shadow region. The case considered was scenario 1, region 3; a summer, midweek, midday, good weather evacuation for the entire EPZ. The movement of people in the shadow region has the potential to impede vehicles evacuating from an evacuation region within the EPZ. Refer to Sections 3.2 and 7.1 for additional information on population within the Shadow Region.

Table M-2 presents the evacuation time estimates for each of the cases considered. The results show that the 90th and 100th percentile ETE are not materially impacted by a reduction in the shadow evacuation from 20% to 0%, as ETE only decreases by 10 minutes at the 90th percentile and 20 minutes at the 100th percentile. Tripling the shadow percentage increases the ETE by 55 minutes and 1 hour and 40 minutes for the 90th and 100th percentiles, respectively – a significant change.

M.3 Effect of Changes in EPZ Resident Population

A sensitivity study was conducted to determine the effect on ETE of changes in the resident population within the EPZ. As population in the EPZ changes over time, the time required to evacuate the public may increase, decrease, or remain the same. Since the ETE is related to the demand to capacity ratio present within the EPZ, changes in population will cause the demand side of the equation to change.

As per the NRC's response to the Emergency Planning Frequently Asked Question (EPFAQ) 2013-001, the ETE population sensitivity study must be conducted to determine what percentage increase in permanent resident population causes an increase in the 90th percentile ETE of 25 percent or 30 minutes, whichever is less. The sensitivity study must use the scenario with the longest 90th percentile ETE (excluding the roadway impact scenario and the special event scenario if it is a 1 day per year special event).

Thus, the sensitivity study was conducted using the following planning assumptions:

1. The population within the EPZ was increased by up to 7%. Changes in population were applied to permanent residents only (as per federal guidance), in both the EPZ area and the shadow region.
2. The transportation infrastructure remained fixed; the presence of new roads or highway capacity improvements was not considered.
3. The study was performed for the 2-mile region (R01), the 5-mile region (R02) and the entire EPZ (R03).
4. The scenario (excluding roadway impact and special event) with the highest 90th percentile ETE Values was selected as the case to be considered in this sensitivity study (Scenario 7 – winter, midweek, midday, rain)

Table M-3 presents the results of the sensitivity study. Section IV of Appendix E to 10 CFR Part 50, and NUREG/CR-7002, Section 5.4, require licensees to provide an updated ETE analysis to the NRC when a population increase within the EPZ causes ETE values (for the 2-Mile region, 5-Mile region or entire EPZ) to increase by 25 percent or 30 minutes, whichever is less. Note that all of the base ETE values except the 2-mile region, which has no permanent resident population, are greater than 2 hours; 25 percent of the base ETE is always greater than 30 minutes. Therefore, 30 minutes is the lesser and is the criterion for updating. Twenty five percent of the 90th percentile ETE for the 2-mile region (1:35) is 24 minutes, which is less than 30 minutes.

Those percent population changes which result in 90th percentile ETE changes greater than 30 minutes, or 24 minutes for the 2-mile region, are highlighted in - population increases of 6% or more would require a full ETE update. FPL will have to estimate the EPZ population on an annual basis to see if it has increased by at least 6%.

M.4 Effect of Construction of Units 6 & 7

A sensitivity analysis representing a typical winter, midweek, and midday (Scenario 6) with workers at the Turkey Point site constructing the new units (Units 6 & 7) when an emergency occurs at the operational units (Units 3 & 4) was conducted. Based on discussions with Bechtel, the peak construction will be in 2019 with target dates of operation of 2022 and 2023 for Units 6 & 7, respectively. During the peak, 3950 construction workers will be present and 33 operations personnel for a total workforce of 3983 people. As stated in the *Turkey Point Power Plant Peak Construction Analysis*¹, the workforce will be split amongst two shifts: Shift 1 from 6:00 AM to 4:30 PM will account for 70% of the workforce and Shift 2 from 5:00 PM to 3:00 AM will account for the remaining 30% of the workforce. A conservative vehicle occupancy of 1.0 worker per vehicle is assumed to estimate the additional vehicle demand servicing construction workers. In addition, there will be a maximum of 36 trucks per hour entering and exiting the construction site. The ETE analysis models trucks as two passenger car equivalents to account for their larger size and more sluggish operating characteristics. Thus, there are $3,983 \text{ workers} \times 70\% \div 1.0 \text{ workers per vehicle} + 36 \text{ trucks} \times 2.0 \text{ vehicles per truck} = 2,860$ additional vehicles evacuating for the peak construction scenario.

There are plans to build a parking lot for construction workers on 359th Street and transport the workers to the site via shuttle bus. It is assumed that the time to transport the workers to their vehicles is included in the trip generation (Table 5-8) as the majority of employees in the EPZ require 30 minutes or more to mobilize. It is also assumed that 359th Street will be paved between the construction site and 137th Avenue and that 117th Avenue will be paved between 359th Street and 344th Street; these changes have been modeled in the link-node analysis network used for the ETE analysis (see Figure 1-2). The roadway and intersection improvements identified in Figure 2 and in Figures 5 through 10 of the *Turkey Point Power Plant Peak Construction Analysis* have also been modeled in the link-node analysis network. Permanent resident population and shadow population are extrapolated to 2019 for this scenario assuming the same population growth rates used to extrapolate from 2000 to 2010. Table M-4 summarizes the results.

The ETE for the 2-mile region is shorter for the 90th and 100th percentile ETE and the 5-mile region is shorter for the 90th percentile ETE because of the increased capacities due to the aforementioned traffic treatments in the immediate vicinity of the plant. The 90th and 100th percentile ETE for the full EPZ increase by 3:10 and 3:40, respectively, because of the significant increase in permanent resident and shadow populations due to the extrapolation to year 2019.

¹ *Turkey Point Power Plant Peak Construction Analysis*, TrafTech Engineering, Inc., June 2009

M.5 Effects of Contraflowing the Most Congested Roadways in the Study Area

Sensitivity studies were conducted to determine the effect on ETE of implementing contraflow along the most congested and heavily utilized roadways in the study area.

The sensitivity studies were conducted using the following planning assumptions and methodology:

1. The study area was expanded northbound to US Route 41 (SW 8th St).
2. The link-node analysis network (computerized representation of the physical roadway system – see Figure 1-2 and Appendix K) was updated to include additional links and nodes to model roadways in the expanded study area. Figure M-1 shows the nodes and links added in the expanded study area.
3. The DYNEV II model input streams were updated with the new links and nodes.
4. The good weather scenario with the highest ETE – Scenario 6 (winter, midweek, midday, good weather) – was used for the sensitivity studies.
5. ETE were computed for the 2-mile region (R01), 5-mile region (R02) and full EPZ (R03).
6. The manpower and equipment needed for contraflow were assumed to be in place at the time the advisory to evacuate is given.
7. External traffic (see Section 3.6) was not considered in the analysis as the contraflow of major evacuation routes would not allow for the flow of traffic into the study area.
8. It is assumed that 20% of the permanent resident population within the expanded study area will voluntarily evacuate (shadow evacuation). Figure M-1 shows the expanded shadow region.
9. The use of contraflow in these sensitivity studies is purely for analytical purposes to provide the Miami-Dade County Office of Emergency Management with data for planning purposes. These sensitivity studies do not imply nor require that the county will implement contraflow during evacuation due to an incident at PTN.

M.5.1 Contraflow Miami-Dade Busway

The Miami-Dade Busway is a 2-lane transit route (only Miami-Dade buses are permitted to use the roadway) which parallels US Route 1 from Florida City to Miami. The first sensitivity study conducted was to determine the effect on ETE if the Miami-Dade Busway were utilized as an additional evacuation road and to contraflow the southbound lane so that both the northbound and southbound lanes would be used for evacuating traffic. The contraflow of the Miami-Dade Busway considered in this analysis begins at the intersection with Palm Avenue in Florida City and terminates at the intersection with SW 104th Street, where US-1 and State Route (SR) 826 can be accessed.

Table M-5 presents the results of the sensitivity study for the 90th and 100th percentiles. The 90th and 100th percentile ETE remained the same for the 2-mile and 5-mile regions. The 90th and 100th percentile ETE for the full EPZ was reduced by 55 minutes and 1 hour and 5 minutes, respectfully.

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M.5.2 Contraflow Krome Avenue

A sensitivity study was conducted to determine the effect on ETE if the southbound lane on Krome Avenue is contraflowed so that both the northbound and southbound lanes will be used by evacuating traffic. The contraflow of Krome Avenue considered in this analysis begins at the intersection with US-1 in Florida City and terminates at the intersection with SW 8th Street/US-41 in Miami.

Table M-5 presents the results of the sensitivity study for the 90th and 100th percentiles. The 90th and 100th percentile ETE remained the same for the 2-mile and 5-mile regions. The 90th and 100th percentile ETE for the full EPZ was reduced by 20 minutes and 1 hour and 30 minutes, respectfully.

M.5.3 Contraflow Florida Turnpike

A sensitivity study was conducted to determine the effect on ETE if the southbound lanes on the Florida Turnpike are contraflowed so that both the northbound and southbound lanes will be used for evacuating traffic. The contraflow of the Florida Turnpike considered in this analysis begins at the southbound off-ramp to US-1 northbound and NE 7th Street (Exit 1). At one point, there are 4 lanes being used in the contraflow; forcing all 4 of these lanes to exit at the end of the contraflow would cause a major bottleneck. As such, the left-most lane will be forced off at the interchange with SR-94 (Exit 20). The next left-most lane will be forced off farther north at the interchange with SR-976 (Exit 23). The 2 remaining lanes will be forced off at the interchange with SW 8th Street/US-41 (Exit 25). The southbound off-ramps between Exit 1 and SR-94 (Exit 20) will serve as on-ramps for the contraflowed section. To prevent vehicles from accessing the turnpike southbound, the traffic on the Don Shula Expressway southbound will need to be diverted at the interchange with the Palmetto Expressway (SR-826).

Table M-5 presents the results of the sensitivity study for the 90th and 100th percentiles. The 90th and 100th percentile ETE remained the same for the 2-mile and 5-mile regions. The 90th and 100th percentile ETE for the full EPZ was reduced by 1 hour and 10 minutes and 1 hour and 5 minutes, respectfully.

M.5.4 Contraflow Miami-Dade Busway, Krome Avenue and Florida Turnpike

A sensitivity study was conducted to determine the effect on ETE if the southbound lanes on the Miami-Dade Busway, Krome Avenue and Florida Turnpike were contraflowed (as per M.5.1, M.5.2, and M.5.3) while also utilizing the northbound lane on the Miami-Dade Busway.

Table M-5 presents the results of the sensitivity study for the 90th and 100th percentiles. The 90th and 100th percentile ETE remained the same for the 2-mile and 5-mile regions. The 90th and 100th percentile ETE for the full EPZ was reduced by 1 hour and 55 minutes and 1 hour and 30 minutes, respectfully.

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M.5.5 Results and Conclusions

As shown in Figures 7-3 through 7-7, the traffic congestion within the EPZ is concentrated within Areas 5 through 8, all of which are beyond the 5-mile radius of the plant. Furthermore, Krome Ave, the Miami-Dade Busway and the Florida Turnpike are all located further than 5 miles from the plant. This explains why the ETE is not impacted for the 2-mile or 5-mile regions when implementing contraflow. As discussed in NUREG-0654, Supplement 3, initial Protective Action Recommendations (PAR) are suggested by the NRC for the 2-mile radius and downwind to 5-miles. Thus, implementing contraflow along these major evacuation routes would not impact initial PAR.

As expected, the 90th and 100th percentile ETE decrease the most when implementing contraflow on all 3 major evacuation routes – Krome Ave, the Miami-Dade Busway and the Florida Turnpike. Note that contraflow on Krome Ave alone results in the same reduction (1 hour and 30 minutes) in the 100th percentile ETE as contraflow on all 3 routes. As discussed in Section 7.3 and shown in Figure 7-7, Krome Avenue is the last roadway in the study area to exhibit traffic congestion. Krome Ave, US-1, the Busway and the Florida Turnpike are all very close together within Homestead and Florida City. As evacuees proceed northbound out of the EPZ, US-1, the Busway and the Florida Turnpike become quite distant from Krome Ave. Also, as proceeding northbound out of Homestead, all of the area surrounding Krome Ave is agricultural with little permanent resident population. Most of the EPZ population lives closer to US-1, the Busway and the Florida Turnpike. As such, most of the vehicles using Krome Ave northbound are evacuees from Homestead and Florida City who are trying to avoid traffic congestion along US-1 and the Florida Turnpike within these densely populated areas. Once they are on Krome Avenue, most vehicles remain on Krome Ave because it is so distant from US-1 and the Florida Turnpike. Krome Avenue is a lower capacity road (normally a single lane with many traffic signals) than US-1 (three or more lanes) and the Florida Turnpike (three or more lanes, limited access highway). Due to the lower capacity of Krome Ave and the bottlenecks shown in Figures 7-3 through 7-7, it is the last road to clear of congestion, which explains why the 100th percentile ETE is significantly impacted when increasing the capacity of Krome Ave via contraflow. However, the 90th percentile is not as significantly impacted when contraflowing Krome Ave as this route only services 11% of the evacuees from within the EPZ (see Table J-5).

US-1 northbound and the Florida Turnpike (splits into the Don Shula Expressway) northbound service more than half of the evacuees from within the EPZ (see Table J-5). As such, contraflow along the Miami-Dade Busway (parallels US-1) or the Florida Turnpike has a much more pronounced impact on 90th percentile ETE than contraflow along Krome Ave. As discussed above, Krome Ave is the last road to clear in the study area. Contraflow along the Miami-Dade Busway or the Florida Turnpike does reduce the 100th percentile ETE as more evacuees from Homestead and Florida City choose these routes over Krome Ave; however the reduction in 100th percentile ETE is not as significant as contraflow along Krome Ave.

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There are two important criteria to consider when discussing contraflow:

1. Manpower/Equipment – Implementing contraflow requires a great deal of manpower and equipment. In order to avoid head-on collisions, all access points to the contraflowed roadway must be either barricaded or manned by police officers.
2. Evacuation Benefits – The NRC recommends the use of the 90th percentile ETE in protective action decision making. Thus, the evacuation benefit of contraflow can best be quantified using the reduction in 90th percentile ETE.

Table M-6 ranks each of the contraflow options in terms of these criteria, with 1 being the best and 4 being the worst. The ranking in terms of manpower/equipment is as follows:

- The Florida Turnpike is a limited access highway. Each of the interchanges/ramp systems to access the turnpike must be manned/equipped for contraflow. There are significantly less interchanges on the Florida Turnpike than there are intersections along the Busway and Krome Ave.
- The Busway has many more intersections than Krome Ave which require manpower/equipment.
- The contraflow of all 3 routes obviously requires the most manpower/equipment.

The ranking in terms of evacuation benefits is taken from the 90th percentile ETE results shown in Table M-5. Finally, the overall ranking is determined by summing the manpower/equipment ranking and the evacuation benefits ranking. The option with the lowest sum is the best. Note that the Miami-Dade Busway and Krome Ave have the same sum of rankings – 6. The Miami-Dade Busway has been assigned the higher overall ranking because the evacuation benefit is more significant.

Based on this ranking system, contraflowing the Florida Turnpike is the best overall option as it requires the least manpower and results in the second best reduction in 90th percentile ETE.

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Table M-1. Evacuation Time Estimates for Trip Generation Sensitivity Study

Trip Generation Period	Evacuation Time Estimate for Entire EPZ	
	90 th Percentile	100 th Percentile
6 Hours	6:40	9:40
7 Hours	6:40	9:40
8 Hours (Base)	6:40	9:40

Table M-2. Evacuation Time Estimates for Shadow Sensitivity Study

Percent Shadow Evacuation	Evacuating Shadow Vehicles	Evacuation Time Estimate for Entire EPZ	
		90 th Percentile	100 th Percentile
0	0	6:30	9:20
15	13,735	6:40	9:35
20 (Base)	18,314	6:40	9:40
60	54,942	7:35	11:20

Table M-3. ETE Variation with Population Change

Resident Population	Base	Population Change		
	206,329	5%	6%	7%
		216,645	218,709	220,772
Region	Base	Population Change		
		5%	6%	7%
2-MILE	1:35	1:40	1:40	1:40
5-MILE	3:05	3:05	3:05	3:05
FULL EPZ	7:25	7:45	8:00	8:00
Region	Base	Population Change		
		5%	6%	7%
2-MILE	2:10	2:10	2:10	2:10
5-MILE	8:05	8:05	8:05	8:05
FULL EPZ	11:00	11:50	12:05	12:05

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Table M-4. Evacuation Time Estimates for Construction Case

Region	No Construction (Base)		Construction	
	90 th Percentile	100 th Percentile	90 th Percentile	100 th Percentile
2-MILE	1:35	2:10	1:20	2:05
5-MILE	3:05	8:05	2:55	8:05
FULL EPZ	6:45	9:40	9:55	13:20

Table M-5. Evacuation Time Estimates Contraflow Comparison

Region	Base	Contraflowed Roadway			
		Miami-Dade Busway	Krome Ave	Florida Turnpike	Miami-Dade Busway, Krome Avenue and Florida Turnpike
	90 th Percentile				
2-MILE	1:35	1:35	1:35	1:35	1:35
5-MILE	3:05	3:05	3:05	3:05	3:05
FULL EPZ	6:45	5:50	6:25	5:35	4:50
Region	100 th Percentile				
2-MILE	2:10	2:10	2:10	2:10	2:10
5-MILE	8:05	8:05	8:05	8:05	8:05
FULL EPZ	9:40	8:35	8:10	8:35	8:10

Table M-6. Ranking of Contraflow Options

Contraflowed Roadway	Ranking		
	Manpower/Equipment	Evacuation Benefits	Overall ²
Miami-Dade Busway	3	3	3
Krome Avenue	2	4	4
Florida Turnpike	1	2	1
Miami-Dade Busway, Krome Avenue and Florida Turnpike	4	1	2

² Overall ranking is determined by summing the manpower/equipment ranking and the evacuation benefits ranking. The option with the lowest sum is the best. Miami-Dade Busway and Krome Ave have the same sum of rankings – 6. The Miami-Dade Busway has been assigned the higher overall ranking because the evacuation benefit is more significant.

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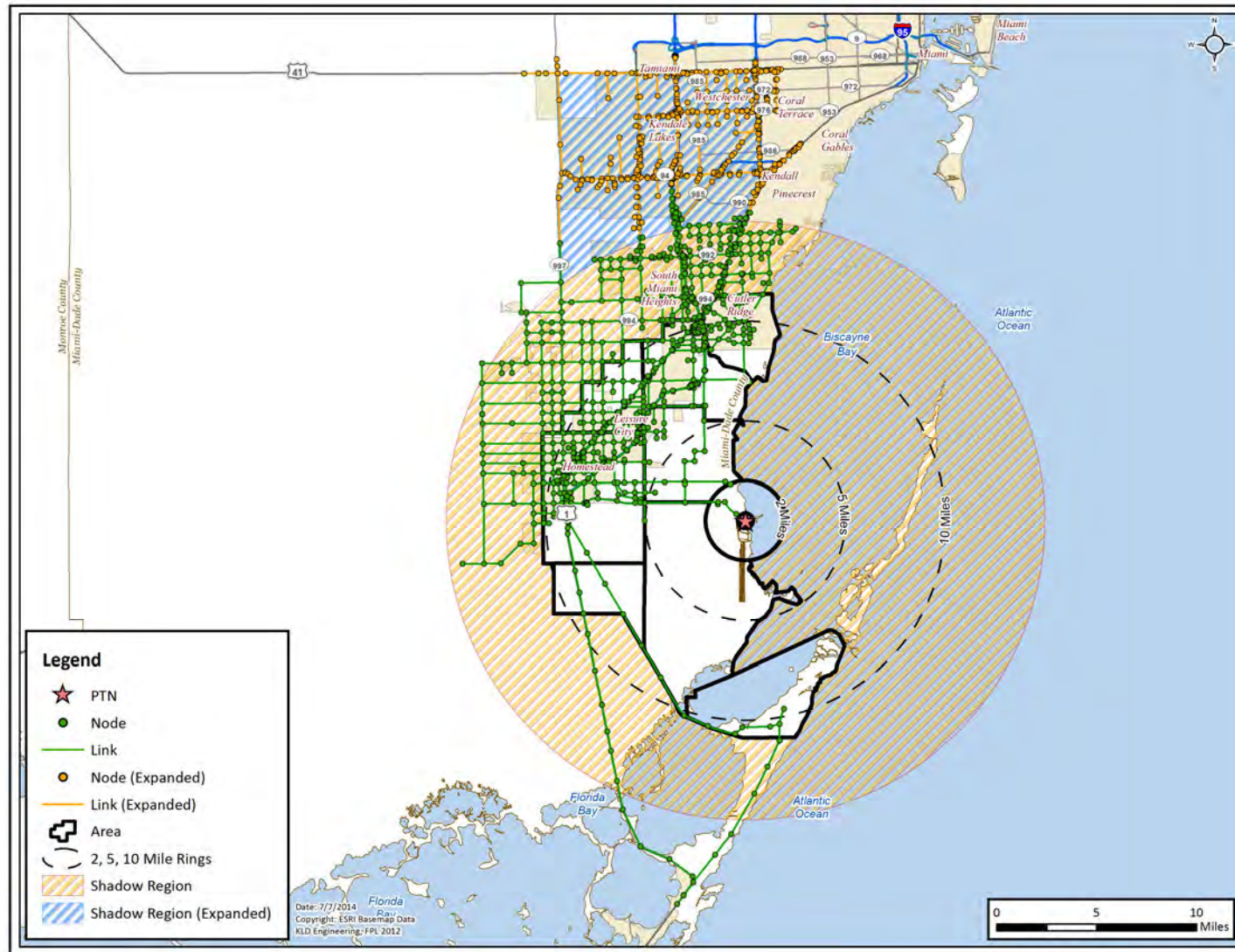


Figure M-1. Expanded Study Area

APPENDIX N

ETE Criteria Checklist

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N. ETE CRITERIA CHECKLIST

Table N-1. ETE Review Criteria Checklist

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
1.0 Introduction		
a. The emergency planning zone (EPZ) and surrounding area should be described.	Yes	Section 1
b. A map should be included that identifies primary features of the site, including major roadways, significant topographical features, boundaries of counties, and population centers within the EPZ.	Yes	Figure 1-1
c. A comparison of the current and previous ETE should be provided and includes similar information as identified in Table 1-1, "ETE Comparison," of NUREG/CR-7002.	Yes	Table 1-3
1.1 Approach		
a. A discussion of the approach and level of detail obtained during the field survey of the roadway network should be provided.	Yes	Section 1.3
b. Sources of demographic data for schools, special facilities, large employers, and special events should be identified.	Yes	Section 2.1 Section 3
c. Discussion should be presented on use of traffic control plans in the analysis.	Yes	Section 1.1, Section 2.3, Section 9, Appendix G
d. Traffic simulation models used for the analyses should be identified by name and version.	Yes	Section 1.3, Table 1-3, Appendix B, Appendix C

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. Methods used to address data uncertainties should be described.	Yes	Section 3 – avoid double counting Section 5, Appendix F – 4.15% sampling error at 95% confidence interval for telephone survey
1.2 Assumptions		
a. The planning basis for the ETE includes the assumption that the evacuation should be ordered promptly and no early protective actions have been implemented.	Yes	Section 2.3 – Assumption 1 Section 5.1
b. Assumptions consistent with Table 1-2, “General Assumptions,” of NUREG/CR-7002 should be provided and include the basis to support their use.	Yes	Sections 2.2, 2.3
1.3 Scenario Development		
a. The ten scenarios in Table 1-3, Evacuation Scenarios, should be developed for the ETE analysis, or a reason should be provided for use of other scenarios.	Yes	Tables 2-1, 6-2
1.3.1 Staged Evacuation		
a. A discussion should be provided on the approach used in development of a staged evacuation.	Yes	Sections 5.4.2, 7.2
1.4 Evacuation Planning Areas		
a. A map of EPZ with emergency response planning areas (ERPAs) should be included.	Yes	Figure 6-1
b. A table should be provided identifying the ERPAs considered for each ETE calculation by downwind direction in each sector.	Yes	Table 6-1

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
c. A table similar to Table 1-4, "Evacuation Areas for a Staged Evacuation Keyhole," of NUREG/CR-7002 should be provided and includes the complete evacuation of the 2, 5, and 10 mile areas and for the 2 mile area/5 mile keyhole evacuations.	Yes	Table 7-5
2.0 Demand Estimation		
a. Demand estimation should be developed for the four population groups, including permanent residents of the EPZ, transients, special facilities, and schools.	Yes	Permanent residents, employees, transients – Section 3, Appendix E Special facilities, schools – Section 8, Appendix E
2.1 Permanent Residents and Transient Population		
a. The US Census should be the source of the population values, or another credible source should be provided.	Yes	Section 3.1
b. Population values should be adjusted as necessary for growth to reflect population estimates to the year of the ETE.	Yes	2010 used as the base year for analysis. No growth of population necessary.
c. A sector diagram should be included, similar to Figure 2-1, "Population by Sector," of NUREG/CR-7002, showing the population distribution for permanent residents.	Yes	Figure 3-2
2.1.1 Permanent Residents with Vehicles		
a. The persons per vehicle value should be between 1 and 2 or justification should be provided for other values.	Yes	2.28 persons per vehicle – Table 1-3
b. Major employers should be listed.	Yes	Appendix E – Table E-3
2.1.2 Transient Population		

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. A list of facilities which attract transient populations should be included, and peak and average attendance for these facilities should be listed. The source of information used to develop attendance values should be provided.	Yes	Sections 3.3, 3.4, Appendix E
b. The average population during the season should be used, itemized and totaled for each scenario.	Yes	Tables 3-4, 3-5, 3-6 and Appendix E itemize the transient population and employee estimates. These estimates are multiplied by the scenario specific percentages provided in Table 6-3 to estimate transient population by scenario.
c. The percent of permanent residents assumed to be at facilities should be estimated.	Yes	Sections 3.3, 3.4
d. The number of people per vehicle should be provided. Numbers may vary by scenario, and if so, discussion on why values vary should be provided.	Yes	Sections 3.3, 3.4
e. A sector diagram should be included, similar to Figure 2-1 of NUREG/CR-7002, showing the population distribution for the transient population.	Yes	Figure 3-6 – transients Figure 3-8 – employees
2.2 Transit Dependent Permanent Residents		
a. The methodology used to determine the number of transit dependent residents should be discussed.	Yes	Section 8.1, Table 8-1
b. Transportation resources needed to evacuate this group should be quantified.	Yes	Section 8.1, Tables 8-5, 8-9
c. The county/local evacuation plans for transit dependent residents should be used in the analysis.	Yes	Sections 8.1, 8.4

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
d. The methodology used to determine the number of people with disabilities and those with access and functional needs who may need assistance and do not reside in special facilities should be provided. Data from local/county registration programs should be used in the estimate, but should not be the only set of data.	Yes	Section 8.5
e. Capacities should be provided for all types of transportation resources. Bus seating capacity of 50% should be used or justification should be provided for higher values.	Yes	Section 2.3 – Assumption 10 Sections 3.5, 8.1, 8.2, 8.3
f. An estimate of this population should be provided and information should be provided that the existing registration programs were used in developing the estimate.	Yes	Table 8-1 – transit dependents Section 8.5 – special needs
g. A summary table of the total number of buses, ambulances, or other transport needed to support evacuation should be provided and the quantification of resources should be detailed enough to assure double counting has not occurred.	Yes	Section 8.4 – page 8-6 Table 8-5
2.3 Special Facility Residents		
a. A list of special facilities, including the type of facility, location, and average population should be provided. Special facility staff should be included in the total special facility population.	Yes	Table E-2 – list medical facilities, location, and population Table E-6 – list correctional facilities, location, and population

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. A discussion should be provided on how special facility data was obtained.	Yes	Section 3.5, Sections 8.3
c. The number of wheelchair and bed-bound individuals should be provided.	Yes	Table 8-4, Table E-2
d. An estimate of the number and capacity of vehicles needed to support the evacuation of the facility should be provided.	Yes	Section 3.5, Section 8.3, Section 8.6 Tables 8-4, 8-5
e. The logistics for mobilizing specially trained staff (e.g., medical support or security support for prisons, jails, and other correctional facilities) should be discussed when appropriate.	Yes	Section 3.5, 8.4, 8.6
2.4 Schools		
a. A list of schools including name, location, student population, and transportation resources required to support the evacuation, should be provided. The source of this information should be provided.	Yes	Table 8-2, E-1 Section 8.2
b. Transportation resources for elementary and middle schools should be based on 100% of the school capacity.	Yes	Table 8-2
c. The estimate of high school students who will use their personal vehicle to evacuate should be provided and a basis for the values used should be discussed.	Yes	Section 8.2
d. The need for return trips should be identified if necessary.	Yes	Section 8.4 – page 8-9
2.5.1 Special Events		
a. A complete list of special events should be provided and includes information on the population, estimated duration, and season of the event.	Yes	Section 3.7

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. The special event that encompasses the peak transient population should be analyzed in the ETE.	Yes	Section 3.7
c. The percent of permanent residents attending the event should be estimated.	Yes	Section 3.7
2.5.2 Shadow Evacuation		
a. A shadow evacuation of 20 percent should be included for areas outside the evacuation area extending to 15 miles from the NPP.	Yes	Section 2.2 – Assumption 5 Figure 2-1 Section 3.2
b. Population estimates for the shadow evacuation in the 10 to 15 mile area beyond the EPZ are provided by sector.	Yes	Section 3.2 Figure 3-4 Table 3-3
c. The loading of the shadow evacuation onto the roadway network should be consistent with the trip generation time generated for the permanent resident population.	Yes	Section 5 – Table 5-8
2.5.3 Background and Pass Through Traffic		
a. The volume of background traffic and pass through traffic is based on the average daytime traffic. Values may be reduced for nighttime scenarios.	Yes	Section 3.8 Table 3-7 Section 6 Table 6-3
b. Pass through traffic is assumed to have stopped entering the EPZ about two hours after the initial notification.	Yes	Section 2.3 – Assumption 5 Section 3.6
2.6 Summary of Demand Estimation		

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. A summary table should be provided that identifies the total populations and total vehicles used in analysis for permanent residents, transients, transit dependent residents, special facilities, schools, shadow population, and pass-through demand used in each scenario.	Yes	Tables 3-9, 3-10
3.0 Roadway Capacity		
a. The method(s) used to assess roadway capacity should be discussed.	Yes	Section 4
3.1 Roadway Characteristics		
a. A field survey of key routes within the EPZ has been conducted.	Yes	Section 1.3
b. Information should be provided describing the extent of the survey, and types of information gathered and used in the analysis.	Yes	Section 1.3
c. A table similar to that in Appendix A, "Roadway Characteristics," of NUREG/CR-7002 should be provided.	Yes	Appendix K, Table K-1
d. Calculations for a representative roadway segment should be provided.	Yes	Section 4
e. A legible map of the roadway system that identifies node numbers and segments used to develop the ETE should be provided and should be similar to Figure 3-1, "Roadway Network Identifying Nodes and Segments," of NUREG/CR-7002.	Yes	Appendix K, Figures K-1 through K-33 present the entire link-node analysis network at a scale suitable to identify all links and nodes
3.2 Capacity Analysis		

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. The approach used to calculate the roadway capacity for the transportation network should be described in detail and identifies factors that should be expressly used in the modeling.	Yes	Section 4
b. The capacity analysis identifies where field information should be used in the ETE calculation.	Yes	Section 1.3, Section 4
3.3 Intersection Control		
a. A list of intersections should be provided that includes the total number of intersections modeled that are unsignalized, signalized, or manned by response personnel.	Yes	Appendix K, Table K-2
b. Characteristics for the 10 highest volume intersections within the EPZ are provided including the location, signal cycle length, and turn lane queue capacity.	Yes	Table J-1
c. Discussion should be provided on how signal cycle time is used in the calculations.	Yes	Section 4.1, Appendix C.
3.4 Adverse Weather		
a. The adverse weather condition should be identified and the effects of adverse weather on mobilization time should be considered.	Yes	Table 2-1, 2-2, Section 2.3 – Assumption 9 Mobilization time – none
b. The speed and capacity reduction factors identified in Table 3-1, “Weather Capacity Factors,” of NUREG/CR-7002 should be used or a basis should be provided for other values.	Yes	Table 2-2 – based on HCM 2010. The factors provided in Table 3-1 of NUREG/CR-7002 are from HCM 2000.
c. The study identifies assumptions for snow removal on streets and driveways, when applicable.	N/A	N/A

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
4.0 Development of Evacuation Times		
4.1 Trip Generation Time		
a. The process used to develop trip generation times should be identified.	Yes	Section 5
b. When telephone surveys are used, the scope of the survey, area of survey, number of participants, and statistical relevance should be provided.	Yes	Appendix F
c. Data obtained from telephone surveys should be summarized.	Yes	Appendix F
d. The trip generation time for each population group should be developed from site specific information.	Yes	Section 5, Appendix F
4.1.1 Permanent Residents and Transient Population		
a. Permanent residents are assumed to evacuate from their homes but are not assumed to be at home at all times. Trip generation time includes the assumption that a percentage of residents will need to return home prior to evacuating.	Yes	Section 5 discusses trip generation for households with and without returning commuters. Table 6-3 presents the percentage of households with returning commuters and the percentage of households either without returning commuters or with no commuters. Appendix F presents the percent households who will await the return of commuters.

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. Discussion should be provided on the time and method used to notify transients. The trip generation time discusses any difficulties notifying persons in hard to reach areas such as on lakes or in campgrounds.	Yes	Section 5.4.3
c. The trip generation time accounts for transients potentially returning to hotels prior to evacuating.	Yes	Section 5, Figure 5-1
d. Effect of public transportation resources used during special events where a large number of transients should be expected should be considered.	Yes	Section 3.7
e. The trip generation time for the transient population should be integrated and loaded onto the transportation network with the general public.	Yes	Section 5, Table 5-8
4.1.2 Transit Dependent Residents		
a. If available, existing plans and bus routes should be used in the ETE analysis. If new plans should be developed with the ETE, they have been agreed upon by the responsible authorities.	Yes	Section 8.4 – page 8-7 Figure 8-2, Table 8-9
b. Discussion should be included on the means of evacuating ambulatory and non-ambulatory residents.	Yes	Section 8.4, Section 8.5
c. The number, location, and availability of buses, and other resources needed to support the demand estimation should be provided.	Yes	Table 8-5
d. Logistical details, such as the time to obtain buses, brief drivers, and initiate the bus route should be provided.	Yes	Section 8.4, Figure 8-1

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. Discussion should identify the time estimated for transit dependent residents to prepare and travel to a bus pickup point, and describes the expected means of travel to the pickup point.	Yes	Section 8.4
f. The number of bus stops and time needed to load passengers should be discussed.	Yes	Section 8.4
g. A map of bus routes should be included.	Yes	Figure 8-2
h. The trip generation time for non-ambulatory persons includes the time to mobilize ambulances or special vehicles, time to drive to the home of residents, loading time, and time to drive out of the EPZ should be provided.	Yes	Section 8.4
i. Information should be provided to supports analysis of return trips, if necessary.	Yes	Sections 8.4, 8.5 Figure 8-1 Tables 8-10 through 8-11
4.1.3 Special Facilities		
a. Information on evacuation logistics and mobilization times should be provided.	Yes	Section 8.3, 8.6
b. Discussion should be provided on the inbound and outbound speeds.	Yes	Section 8.4, Section 8.6
c. The number of wheelchair and bed-bounds individuals should be provided, and the logistics of evacuating these residents should be discussed.	Yes	Section 8.3, Tables 8-4
d. Time for loading of residents should be provided	Yes	Section 8.4

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NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. Information should be provided that indicates whether the evacuation can be completed in a single trip or if additional trips should be needed.	Yes	Section 8.4, Table 8-4
f. If return trips should be needed, the destination of vehicles should be provided.	Yes	Section 8.4, 8.6
g. Discussion should be provided on whether special facility residents are expected to pass through the reception center prior to being evacuated to their final destination.	Yes	Section 8.4, 8.6
h. Supporting information should be provided to quantify the time elements for the return trips.	Yes	Section 8.4, 8.6
4.1.4 Schools		
a. Information on evacuation logistics and mobilization time should be provided.	Yes	Section 8.4
b. Discussion should be provided on the inbound and outbound speeds.	Yes	School bus routes are presented in Table 8-6 School bus speeds are presented in Tables 8-7 (good weather), and 8-8 (rain). Outbound speeds are defined as the minimum of the evacuation route speed and the State school bus speed limit.
c. Time for loading of students should be provided.	Yes	Tables 8-6 through 8-7, Discussion in Section 8.4
d. Information should be provided that indicates whether the evacuation can be completed in a single trip or if additional trips are needed.	Yes	Section 8.4 – page 8-6

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Development of Evacuation Time Estimates

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. If return trips are needed, the destination of school buses should be provided.	Yes	Section 8.4, Table 8-3
f. If used, reception centers should be identified. Discussion should be provided on whether students are expected to pass through the reception center prior to being evacuated to their final destination.	Yes	Table 8-3. Students are evacuated to School Reception Centers where they will be picked up by parents or guardians.
g. Supporting information should be provided to quantify the time elements for the return trips.	Yes	Section 8.4 – page 8-9
4.2 ETE Modeling		
a. General information about the model should be provided and demonstrates its use in ETE studies.	Yes	DYNEV II (Ver. 4.0.19.2). Section 1.3, Table 1-3, Appendix B, Appendix C.
b. If a traffic simulation model is not used to conduct the ETE calculation, sufficient detail should be provided to validate the analytical approach used. All criteria elements should have been met, as appropriate.	No	Not applicable as a traffic simulation model was used.
4.2.1 Traffic Simulation Model Input		
a. Traffic simulation model assumptions and a representative set of model inputs should be provided.	Yes	Appendices B and C describe the simulation model assumptions and algorithms Table J-2
b. A glossary of terms should be provided for the key performance measures and parameters used in the analysis.	Yes	Appendix A Tables C-1, C-2

Turkey Point Nuclear Power Plant
Development of Evacuation Time Estimates

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
4.2.2 Traffic Simulation Model Output		
a. A discussion regarding whether the traffic simulation model used must be in equilibration prior to calculating the ETE should be provided.	Yes	Appendix B
b. The minimum following model outputs should be provided to support review: 1. Total volume and percent by hour at each EPZ exit node. 2. Network wide average travel time. 3. Longest queue length for the 10 intersections with the highest traffic volume. 4. Total vehicles exiting the network. 5. A plot that provides both the mobilization curve and evacuation curve identifying the cumulative percentage of evacuees who have mobilized and exited the EPZ. 6. Average speed for each major evacuation route that exits the EPZ.	Yes	1. Table J-5. 2. Table J-3. 3. Table J-1. 4. Table J-3. 5. Figures J-1 through J-12 (one plot for each scenario considered). 6. Table J-4. Network wide average speed also provided in Table J-3.
c. Color coded roadway maps should be provided for various times (i.e., at 2, 4, 6 hrs., etc.) during a full EPZ evacuation scenario, identifying areas where long queues exist including level of service (LOS) "E" and LOS "F" conditions, if they occur.	Yes	Figures 7-3 through 7-7
4.3 Evacuation Time Estimates for the General Public		
a. The ETE should include the time to evacuate 90% and 100% of the total permanent resident and transient population	Yes	Tables 7-1, 7-2

Turkey Point Nuclear Power Plant
Development of Evacuation Time Estimates

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. The ETE for 100% of the general public should include all members of the general public. Any reductions or truncated data should be explained.	Yes	Section 5.4 – truncating survey data to eliminate statistical outliers Table 7-2 – 100 th percentile ETE for general public
c. Tables should be provided for the 90 and 100 percent ETEs similar to Table 4-3, “ETEs for Staged Evacuation Keyhole,” of NUREG/CR-7002.	Yes	Tables 7-3, 7-4
d. ETEs should be provided for the 100 percent evacuation of special facilities, transit dependent, and school populations.	Yes	Section 8.4, 8.6 – special facilities Tables 8-7 and 8-8 - schools Tables 8-10 and 8-11 – transit-dependent
5.0 Other Considerations		
5.1 Development of Traffic Control Plans		
a. Information that responsible authorities have approved the traffic control plan used in the analysis should be provided.	Yes	Section 9, Appendix G
b. A discussion of adjustments or additions to the traffic control plan that affect the ETE should be provided.	Yes	Appendix G
5.2 Enhancements in Evacuation Time		
a. The results of assessments for improvement of evacuation time should be provided.	Yes	Section 13, Appendix M
b. A statement or discussion regarding presentation of enhancements to local authorities should be provided.	Yes	Results of the ETE study were formally presented to local authorities at the final project meeting. Recommended enhancements were discussed.

Turkey Point Nuclear Power Plant
Development of Evacuation Time Estimates

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
5.3 State and Local Review		
a. A list of agencies contacted and the extent of interaction with these agencies should be discussed.	Yes	Table 1-1
b. Information should be provided on any unresolved issues that may affect the ETE.	Yes	No issues were determined after review with the offsite agencies
5.4 Reviews and Updates		
a. A discussion of when an updated ETE analysis is required to be performed and submitted to the NRC.	Yes	Appendix M, Section M.3
5.5 Reception Centers and Congregate Care Center		
a. A map of congregate care centers and reception centers should be provided.	Yes	Figure 10-1 – reception centers Figure 10-2 – host schools
b. If return trips are required, assumptions used to estimate return times for buses should be provided.	Yes	Sections 8.4 and 8.5 discuss a multi-wave evacuation procedure. Figure 8-1
c. It should be clearly stated if it is assumed that passengers are left at the reception center and are taken by separate buses to the congregate care center.	Yes	Section 2.3 – Assumption 7h Section 10

Technical Reviewer _____

Date _____

Supervisory Review _____

Date _____

Supplemental Information 2

Turkey Point Plant (PTN) COLA Emergency Plan Regulatory Requirements Matrix (Rev. 0)

Turkey Point Plant (PTN) COLA Emergency Plan Regulatory Requirements Matrix

TABLE 1	10CFR50 Appendix E Emergency Preparedness Cross Reference	P. 1
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TABLE 10	10 CFR 52.80 Contents of Applications; Additional Technical Information	P.24

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
IV A.	The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization	B.1, B.5		
IV A.	and the means for notification of such individuals in the event of an emergency.	E.2		
IV A.1	A description of the normal plant operating organization.	B.1		
IV A.2.a	A description of the onsite emergency response organization with a detailed discussion of: Authorities, responsibilities, and duties of the individual(s) who will take charge during an emergency;	B.2, B.3, B.5		
IV A.2.b	Plant staff emergency assignments;	B.5		
IV A.2.c	Authorities, responsibilities, and duties on an onsite emergency coordinator who shall be in charge of the exchange of information with offsite authorities responsible for coordinating and implementing offsite emergency measures.	B.2, B.4		
IV A.3	A description, by position and function to be performed, of the licensee's headquarters personnel who will be sent to the plant site to augment the onsite emergency organization.	B.5.c, B.7		
IV A.4	Identification, by position and function to be performed, of persons within the licensee organization who will be responsible for making offsite dose projections, and a description of how these projections will be made and the results transmitted to State and local authorities, NRC, and other appropriate governmental entities.	B5.b.2, 3, 4 5, 6, 7, & 11		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
IV A.5	Identification, by position and function to be performed, of other employees of the licensee with special qualifications for coping with emergency conditions that may arise. Other persons with special qualifications, such as consultants, who are not employees of the licensee and who may be called upon for assistance for emergencies shall also be identified. The special qualifications of these persons shall be described.	A.3		
IV A.6	A description of the local offsite services to be provided in support of the licensee's emergency organization.	L.1, 2, 3, 4		
IV A.7	Identification of, and assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies.	C.1, 2, 3, 4		
IV A.8	Identification of the State and/or local officials responsible for planning for, ordering, and controlling appropriate protective actions, including evacuations when necessary.	J.9		
IV B	The means to be used for determining the magnitude of and for continually assessing the impact of the release of radioactive materials shall be described,	I.2, I.3, I.4, I.5, I.6, I.7, I.8, I.9, I.10		
IV B (continued)	including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies,	Annex 1, Annex 2, Annex 3, E.2, E.3,		
IV B (continued)	and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the site boundary to protect health and safety.	Annex 1, Annex 2, Annex 3, J.7, J.9, J.10		
IV B (continued)	The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring.	Annex 1, 3.2, Annex 2, 3.2, Annex 3, 3.2		
IV B (continued)	These emergency action levels shall be discussed and agreed on by the applicant and State and local governmental authorities and approved by NRC.	D.2		
IV B (continued)	They shall also be reviewed with the State and local governmental authorities on an annual basis.	D.3		
IV C	The entire spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the total emergency organization shall be described.	D.1		
IV C (continued)	The communication steps to be taken to alert or activate	E.2		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	emergency personnel under each class of emergency shall be described.			
IV C (continued)	Emergency action levels (based not only on onsite and offsite radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, such as the pressure in containment and the response of the Emergency Core Cooling System) for notification of offsite agencies shall be described.	Annex 1, Annex 2, Annex 3		
IV C (continued)	The existence, but not the details, of a message authentication scheme shall be noted for such agencies.	E.1		
IV C (continued)	The emergency classes defined shall include: (1) notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency. These classes are further discussed in NUREG - 0654; FEMA - REP - 1.	D.1		
IV D.1	Administrative and physical means for notifying local, State, and Federal officials and agencies and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary, shall be described. This description shall include identification of the appropriate officials, by title and agency, of the State and local government agencies within the EPZs.	E.3		
IV D.2	Provisions shall be described for yearly dissemination to the public within the plume exposure pathway EPZ of basic emergency planning information, such as the methods and times required for public notification and the protective actions planned if an accident occurs, general information as to the nature and effects of radiation, and a listing of local broadcast stations that will be used for dissemination of information during an emergency. Signs or other measures shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an accident occurs.	G.1, G.2		
IV D.3	A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency.	E.2.b.1		
IV D.3 (continued)	The design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification of the public within the	E.6		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	plume exposure pathway EPZ within about 15 minutes. The use of this notification capability will range from immediate notification of the public (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the State and local governmental officials to make a judgment whether or not to activate the public notification system. Where there is a decision to activate the notification system, the State and local officials will determine whether to activate the entire notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public notification system shall remain with the appropriate governmental authorities.			
IV 4.E.1	Adequate provisions shall be made and described for emergency facilities and equipment, including: Equipment at the site for personnel monitoring;	H.1, H.2, H.5		
IV 4.E.2	Equipment for determining the magnitude of and for continuously assessing the impact of the release of radioactive materials to the environment;	H.5.b, H.5.d		
IV 4.E.3	Facilities and supplies at the site for decontamination of onsite individuals;	H.5.b, H.5.c		
IV 4.E.4	Facilities and medical supplies at the site for appropriate emergency first aid treatment;	L.2		
IV 4.E.5	Arrangements for the services of physicians and other medical personnel qualified to handle radiation emergencies on-site;	L.3		
IV 4.E.6	Arrangements for transportation of contaminated injured individuals from the site to specifically identified treatment facilities outside the site boundary;	L.4		
IV 4.E.7	Arrangements for treatment of individuals injured in support of licensed activities on the site at treatment facilities outside the site boundary;	L.1		
IV 4.E.8	A licensee onsite technical support center and a licensee near-site emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency;	H.1, H.2		
IV 4.E.9	At least one onsite and one offsite communications system; each system shall have a backup power source. All communication plans shall have arrangements for	F.1		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	emergencies, including titles and alternates for those in charge at both ends of the communication links and the primary and backup means of communication.			
IV 4.E.9.a	Where consistent with the function of the governmental agency, these arrangements will include: Provision for communications with contiguous State/local governments within the plume exposure pathway EPZ. Such communications shall be tested monthly.	N.2		
IV 4.E.9.b	Provision for communications with Federal emergency response organizations. Such communications systems shall be tested annually.	N.2		
IV 4.E.9.c	Provision for communications among the nuclear power reactor control room, the onsite technical support center, and the near-site emergency operations facility; and among the nuclear facility, the principal State and local emergency operations centers, and the field assessment teams. Such communications systems shall be tested annually.	N.2		
IV 4.E.9.d	Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite technical support center, and the near-site emergency operations facility. Such communications shall be tested monthly.	N.2		
IV F.1.i	The program to provide for: (a) The training of employees and exercising, by periodic drills, of radiation emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties, and (b) The participation in the training and drills by other persons whose assistance may be needed in the event of a radiation emergency shall be described. This shall include a description of specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel: Directors and/or coordinators of the plant emergency organization;	O.2 O.4.a		
IV F.1.ii	Personnel responsible for accident assessment, including control room shift personnel;	O.4.b		
IV F.1.iii	Radiological monitoring teams;	O.4.c		
IV F.1.iv	Fire control teams (fire brigades);	O.4.d		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
IV F.1.v	Repair and damage control teams;	O.4.e		
IV F.1.vi	First aid and rescue teams;	O.4.f		
IV F.1.vii	Medical support personnel;	O.4.h		
IV F.1.viii	Licensee's headquarters support personnel;	O.4.i		
IV F.1.ix	Security personnel.	O.4.d.2		
IV F.1	In addition, a radiological orientation training program shall be made available to local services personnel; e.g., local emergency services/Civil Defense, local law enforcement personnel, local news media persons.	O.4.g G.5, P.3		
IV F.2	The plan shall describe provisions for the conduct of emergency preparedness exercises as follows: Exercises shall test the adequacy of timing and content of implementing procedures and methods, test emergency equipment and communications networks, test the public notification system, and ensure that emergency organization personnel are familiar with their duties.	N.1		
IV F.2.a	A full participation exercise which tests as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located.	N.1		
IV F.2.b	Each licensee at each site shall conduct an exercise of its onsite emergency plan every 2 years. The exercise may be included in the full participation biennial exercise required by paragraph 2.c. of this section. In addition, the licensee shall take actions necessary to ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of the licensee's onsite emergency response capabilities.	N.1		
IV F.2.c	Offsite plans for each site shall be exercised biennially with full participation by each offsite authority having a role under the plan. Where the offsite authority has a role under a radiological response plan for more than one site, it shall fully participate in one exercise every two years and shall, at least, partially participate in other offsite plan exercises in this period.	N.1		
IV F.2.d	A State should fully participate in the ingestion pathway portion of exercises at least once every six years. In States with more than one site, the State should rotate	N.1 a		

TABLE 1
10CFR50 Appendix E Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	this participation from site to site.			
IV F.2.e	Licensees shall enable any State or local Government located within the plume exposure pathway EPZ to participate in the licensee's drills when requested by such State or local Government.	N.1.b		
IV F.2.f	Remedial exercises will be required if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC, in consultation with FEMA, cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency. The extent of State and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.	N.1.a		
IV F.2.g	All training, including exercises, shall provide for formal critiques in order to identify weak or deficient areas that need correction. Any weaknesses or deficiencies that are identified shall be corrected.	N.4, N.5		
IV F.2.h	The participation of State and local governments in an emergency exercise is not required to the extent that the applicant has identified those governments as refusing to participate further in emergency planning activities, pursuant to 10 CFR 50.47(c)(1). In such cases, an exercise shall be held with the applicant or licensee and such governmental entities as elect to participate in the emergency planning process.	N/A		
IV G	Provisions to be employed to ensure that the emergency plan, its implementing procedures, and emergency equipment and supplies are maintained up to date shall be described.	P.3		
IV H	Criteria to be used to determine when, following an accident, reentry of the facility would be appropriate or when operation could be resumed shall be described.	M.1.a		

TABLE 2
10CFR50.47 Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
(b) 1	The onsite and, except as provided in paragraph (d) of this section, offsite emergency response plans for nuclear power reactors must meet the following standards: Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned.	A.1		
(b) 1 (continued)	the emergency responsibilities of the various supporting organizations have been specifically established,	A.1		
(b) 1 (continued)	and each principal response organization has staff to respond and to augment its initial response on a continuous basis.	A.4		
(b) 2	On-shift facility licensee responsibilities for emergency response are unambiguously defined.	B.1		
(b) 2 (continued)	timely augmentation of response capabilities is available	B.5.a		
(b) 2 (continued)	and the interfaces among various onsite response activities and offsite support and response activities are specified.	Figure A-2		
(b) 3	Arrangements for requesting and effectively using assistance resources have been made,	A.3		
(b) 3 (continued)	arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made,	C.2		
(b) 3 (continued)	and other organizations capable of augmenting the planned response have been identified.	C.4		
(b) 4	A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee,	D.1		
(b) 4 (continued)	and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	E.2.b		
(b) 5	Procedures have been established for notification, by the licensee, of State and local response organizations	E.2.b		
(b) 5 (continued)	and for notification of emergency personnel by all organizations;	E.2		
(b) 5 (continued)	the content of initial and follow up messages to response	E.3, E.4		

TABLE 2
10CFR50.47 Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	organizations and the public has been established;			
(b) 5 (continued)	and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	E.6		
(b) 6	Provisions exist for prompt communications among principal response organizations to emergency personnel	F.1		
(b) 6 (continued)	and to the public.			
(b) 7	Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors),	G.1		
(b) 7 (continued)	the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance,	G.2		
(b) 7 (continued)	and procedures for coordinated dissemination of information to the public are established.	G.3, G.4		
(b) 8	Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	H.1, H.2, H.3		
(b) 9	Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	I		
(b) 10	A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public.	J		
(b) 10 (continued)	Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place,	J.10.m.1, Figure J-2		
(b) 10 (continued)	and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.	J.11		
(b) 11	Means for controlling radiological exposures, in an emergency, are established for emergency workers.	K.1		
(b) 11 (continued)	The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.	K.1		

TABLE 2
10CFR50.47 Emergency Preparedness Cross Reference

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
(b) 12	Arrangements are made for medical services for contaminated injured individuals.	L.1		
(b) 13	General plans for recovery and reentry are developed.	M.1		
(b) 14	Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities,	N.1, N.2		
(b) 14 (continued)	periodic drills are (will be) conducted to develop and maintain key skills,	N.2		
(b) 14 (continued)	and deficiencies identified as a result of exercises or drills are (will be) corrected.	N.5		
(b) 15	Radiological emergency response training is provided to those who may be called on to assist in an emergency.	O.1, O.2, O.3, O.4, O.5		
(b) 16	Responsibilities for plan development and review and for distribution of emergency plans are established,	P		
(b) 16 (continued)	and planners are properly trained.	P.1		

TABLE 3
NUREG-0696 Functional Criteria for Emergency Response Facilities

NUREG-0696 Section #	STATEMENT	EPLAN	OTHER	COMMENTS
2.1	The TECHNICAL SUPPORT CENTER (TSC) provides management, technical and administrative support to the Control Room during an emergency of Alert or higher classification..	B.5		
2.2	The TSC is the primary communications center for the Plant during an emergency.	H.1.b		
2.2	The TSC is located near the Control Room (within a two minute walk)	H.1.b		
2.2	There are no major security barriers between the Control Room and the TSC.	H.1.b		
2.3	Staffing and training:			
	Activate within 30 minutes after staffing	H.4		
	Staffing shall consist of sufficient technical, engineering and senior designated licensee personnel	B.5		
	Staffing per emergency classification	B.5		
	Training of TSC staff to support facility operation	O.2, O.5		
2.4	Size of the Facility	H.1.b		
	Approximately 75 sq. ft. / person	H.1.b		
	Acquire, process and display data	H.1.b		
	Space to repair, maintain and service of equipment, displays and instrumentation	H.1.b		
	Personnel access to the functional displays	H.1.b		
	Communications and transmission device/links	H.1.b		
	Storage of and/or access to plant records	H.1.b		
	A separate room (for 3 individuals) for NRC private consultation.	H.1.b		
2.5	Structure	H.1.b		
	Adequate capabilities for earthquakes; high winds (other than tornadoes);and floods	H.1.b		
2.6	Habitability	H.1.b		
	Same radiological protection as the Control Room under accident conditions	H.1.b		
	Ventilation system functions in a manner similar to the Control Room ventilation system.	H.1.b		
	Radiological Monitoring dedicated to the TSC	H.1.b		
2.7	Communications	F.1		
	ENS	F.1		

TABLE 3
NUREG-0696 Functional Criteria for Emergency Response Facilities

NUREG-0696 Section #	STATEMENT	EPLAN	OTHER	COMMENTS
	HPN	F.1		
	Dedicated links to the Control Room(s), OSC and the EOF	F.1		
	Between work areas in the TSC	F.1		
	At least two dial phones for the NRC	F.1		
3.1	The OPERATIONS SUPPORT CENTER (OSC)	H.1.c		
	A location where logistical support is assembled	H.1.c		
	Supervise personnel designated to fill these roles	H.1.c		
3.2	Habitability	H.1.c		
	No requirements, ability to relocate	H.1.c		
3.3	Communications	F.1		
	Control Room	F.1		
	Technical Support Center	F.1		
	The EMERGENCY OPERATIONS FACILITY (EOF)	H.2		
4.1	Functions			
	Overall management of emergency response	B.5		
	Coord. Radiological & environmental assessments	B.5		
	Determine PARs	B.5		
	Coordination with the offsite agencies and authorities	B.5		
	Staffed by licensee, Federal, state	B.5		
	Acquisition, display and evaluation of all radiological and meteorological and plant systems pertinent to determine offsite protective measures	B.5		
	Coord with the offsite authorities	B.5		
	Industrial security provided to restrict access	B.5		
4.2	Location, Structure and Habitability	H.2		
	Optimum functionality	H.2		
	Affected or interrupted by radiological releases	H.2		
	Habitability & location per table 2	H.2		
	Distance beyond 10 miles of the TSC	H.2		
	Well designed for the life of the plant	H.2		
4.3	Staffing and training	B.5, O.2, O.5		
4.4	Size	H.2		
	Approximately 75 sq. ft. / person	H.2		

TABLE 3
NUREG-0696 Functional Criteria for Emergency Response Facilities

NUREG-0696 Section #	STATEMENT	EPLAN	OTHER	COMMENTS
	Acquire, process and display data	H.2		
	Space to repair, maintain and service of equipment, displays and instrumentation	H.2		
	Personnel access to the functional displays	H.2		
	Communications and transmission device/links	H.2		
	Storage of and/or access to plant records	H.2		
	A separate room (for 3 individuals) for NRC private consultation.	H.2		
	>35 response personnel (unless state and locals respond to the EOF)	H.2		
	9 NRC	H.2		
	1 FEMA	H.2		
4.5	Radiological Monitoring	H.2		
	Adequate radiological protection for the responders	H.2		
4.6	Communications			
	EOF to senior licensee manager in charge in TSC	F.1		
	Communication to manage the licensee emergency response resources	F.1		
	Communication to coordinate radiological monitoring	F.1		
	Communication to coordinate offsite emergency response activities	F.1		
	Communication to disseminate information and recommend protective actions to responsible government agencies	F.1		
	Communications include:	F.1		
	ENS	F.1		
	HPN	F.1		

TABLE 4
10 CFR 50.33 Contents of Applications; General Information

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.33 (g)	<p>(g) If the application is for an operating license for a nuclear power reactor, the applicant shall submit radiological emergency response plans of State and local governmental entities in the United States that are wholly or partially within the plume exposure pathway Emergency Planning Zone (EPZ)⁽³⁾, as well as the plans of State governments wholly or partially within the ingestion pathway EPZ.⁽⁴⁾ Generally, the plume exposure pathway EPZ for nuclear power reactors shall consist of an area about 10 miles (16 km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 km) in radius. The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to the local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries. The size of the EPZs also may be determined on a case-by-case basis for gas-cooled reactors and for reactors with an authorized power level less than 250 MW thermal. The plans for the ingestion pathway shall focus on such actions as are appropriate to protect the food ingestion pathway.</p>	N/A		

TABLE 4
10 CFR 50.33 Contents of Applications; General Information

	<p>³ Emergency Planning Zones (EPZs) are discussed in NUREG-0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light- Water Nuclear Power Plants," December 1978.</p> <p>⁴ If the State and local emergency response plans have been previously provided to the NRC for inclusion in the facility docket, the applicant need only provide the appropriate reference to meet this requirement.</p>			
REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.33 (j)	(j) If the application contains Restricted Data or other defense information, it shall be prepared in such manner that all Restricted Data and other defense information are separated from the unclassified information.	N/A		No restrictions known

TABLE 5
10 CFR 50.34 Contents of Applications; General Information

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.34	<p>(a) (a) <i>Preliminary safety analysis report.</i> Each application for a construction permit shall include a preliminary safety analysis report. The minimum information⁵ to be included shall consist of the following:</p> <p>(10) (10) A discussion of the applicant's preliminary plans for coping with emergencies. Appendix E sets forth items which shall be included in these plans.</p>	N/A	SAR	
	(b)(6)(v) Plans for coping with emergencies, which shall include the items specified in appendix E.	Emergency Plan complies see Appendix E Cross Reference		
	(f) (2) (xxv) Provide an onsite Technical Support Center, an onsite Operational Support Center, and, for construction permit applications only, a nearsite Emergency Operations Facility. (III.A.1.2).	Sections H.1, H.2		

TABLE 6
10 CFR 50.54 Conditions of Licenses

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.54(q)	<p>(q) A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in § 50.47(b) and the requirements in appendix E of this part. A licensee authorized to possess and/or operate a research reactor or a fuel facility shall follow and maintain in effect emergency plans which meet the requirements in appendix E to this part. The licensee shall retain the emergency plan and each change that decreases the effectiveness of the plan as a record until the Commission terminates the license for the nuclear power reactor. The nuclear power reactor licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the standards of § 50.47(b) and the requirements of appendix E to this part. The research reactor and/or the fuel facility licensee may make changes to these plans without Commission approval only if these changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the requirements of appendix E to this part. This nuclear power reactor, research reactor, or fuel facility licensee shall retain a record of each change to the emergency plan made without prior Commission approval for a period of three years from the date of the change. Proposed changes that decrease the effectiveness of the approved emergency plans may not be implemented without application to and approval by the Commission. The licensee shall submit, as specified in § 50.4, a report of each proposed change for approval. If a change is made without approval, the licensee shall submit, as specified in § 50.4, a report of each change within 30 days after the change is made.</p>	N/A	Procedural Guidance to be provided.	

TABLE 6
10 CFR 50.54 Conditions of Licenses

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.54(q)	<p>(t)(1) The licensee shall provide for the development, revision, implementation, and maintenance of its emergency preparedness program. The licensee shall ensure that all program elements are reviewed by persons who have no direct responsibility for the implementation of the emergency preparedness program either:</p> <p>(i) At intervals not to exceed 12 months or,</p> <p>(ii) As necessary, based on an assessment by the licensee against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect emergency preparedness, but no longer than 12 months after the change. In any case, all elements of the emergency preparedness program must be reviewed at least once every 24 months.</p> <p>(2) The review must include an evaluation for adequacy of interfaces with State and local governments and of licensee drills, exercises, capabilities, and procedures. The results of the review, along with recommendations for improvements, must be documented, reported to the licensee's corporate and plant management, and retained for a period of 5 years. The part of the review involving the evaluation for adequacy of interface with State and local governments must be available to the appropriate State and local governments.</p>	<p>P.9</p> <p>P.9</p> <p>P.9</p>		

TABLE 7
10 CFR 50.72 Immediate Notification Requirements For Operating Nuclear Power Reactors.

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.72	<p>(a) General requirements.¹ (1) Each nuclear power reactor licensee licensed under Sec. 50.21(b) or Sec. 50.22 of this part shall notify the NRC Operations Center via the Emergency Notification System of:</p> <p>(i) The declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan;</p>	E.3		
	(2) If the Emergency Notification System is inoperative, the licensee shall make the required notifications via commercial telephone service, other dedicated telephone system, or any other method which will ensure that a report is made as soon as practical to the NRC Operations Center.	F.1.f		
	(3) The licensee shall notify the NRC immediately after notification of the appropriate State or local agencies and not later than one hour after the time the licensee declares one of the Emergency Classes.	E.3		
	(4) The licensee shall activate the Emergency Response Data System (ERDS) ⁴ as soon as possible but not later than one hour after declaring an Emergency Class of alert, site area emergency, or general emergency. The ERDS may also be activated by the licensee during emergency drills or exercises if the licensee's computer system has the capability to transmit the exercise data.	F.1.d.5		

TABLE 7

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 50.72	<p>(c) <i>Followup notification.</i> With respect to the telephone notifications made under paragraphs (a) and (b) of this section, in addition to making the required initial notification, each licensee, shall during the course of the event:</p> <p>(1) <i>Immediately report</i> (i) any further degradation in the level of safety of the plant or other worsening plant conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made, or (ii) any change from one Emergency Class to another, or (iii) a termination of the Emergency Class.</p> <p>(3) Maintain an open, continuous communication channel with the NRC Operations Center upon request by the NRC.</p>	<p>E.4</p> <p>E.3</p> <p>F.1.f</p>		

TABLE 8
10 CFR 52.79 Contents of Applications; Technical Information in Final Safety Analysis Report

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 52.79	(c) The application for a combined license must include the proposed inspections, tests and analyses, including those applicable to emergency planning, which the licensee shall perform and the acceptance criteria therefore which are necessary and sufficient to provide reasonable assurance that, if the inspections, tests and analyses are performed and the acceptance criteria met, the facility has been constructed and will operate in conformity with the combined license, the provisions of the Atomic Energy Act, and the NRC's regulations. Where the application references a certified standard design, the inspections, tests, analyses and acceptance criteria contained in the certified design must apply to those portions of the facility design which are covered by the design certification.	N/A	ITAAC	Part of the application.
10 CFR 52.79	(d) The application must contain emergency plans which provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site. (1) If the application references an early site permit, the application may incorporate by reference emergency plans, or major features of emergency plans, approved in connection with the issuance of the permit.	N/A		Licensing action to include the Emergency Plan with the COLA
10 CFR 52.79	(d) (2) If the application does not reference an early site permit, or if no emergency plans were approved in connection with the issuance of the permit, the applicant shall make good faith efforts to obtain certifications from the local and State governmental agencies with emergency planning responsibilities (i) that the proposed emergency plans are practicable, (ii) that these agencies are committed to participating in any further development of the plans, including any required field demonstrations, and (iii) that these agencies are committed to executing	N/A	Letters of Certification	Licensing action. To be included with the ER early submittal or with the COLA.

TABLE 8
10 CFR 52.79 Contents of Applications; Technical Information in Final Safety Analysis Report

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
	their responsibilities under the plans in the event of an emergency. The application must contain any certifications that have been obtained. If these certifications cannot be obtained, the application must contain information, including a utility plan, sufficient to show that the proposed plans nonetheless provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site.			

TABLE 9
10 CFR 52.77 Contents of Applications; General Information

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 52.77	The application must contain all of the information required by 10 CFR 50.33, as that section would apply to applicants for construction permits and operating licenses.	N/A		

TABLE 10
10 CFR 52.80 Contents of Applications; Additional Technical Information

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 52.80	(a) A plant-specific probabilistic risk assessment (PRA). If the application references a standard design certification or standard design approval, or if the application proposes to use a nuclear power reactor manufactured under a manufacturing license under subpart F of this part, the plant-specific PRA must use the PRA for the design certification, design approval, or manufactured reactor, as applicable, and must be updated to account for site-specific design information and any design changes, departures, or variances.	N/A		
	(b) The proposed inspections, tests, and analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria which are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, the facility has been constructed and will operate in conformity with the combined license, the provisions of the Atomic Energy Act, and the NRC's regulations.	N/A	ITAAC	
	(1) If the application references an early site permit with ITAAC, the early site permit ITAAC must apply to those aspects of the combined license which are approved in the early site permit.	N/A	ITAAC	
	(2) If the application references a standard design certification, the ITAAC contained in the certified design must apply to those portions of the facility design which are approved in the design certification.	N/A	ITAAC	
	(3) If the application references an early site permit with ITAAC or a standard design certification or both, the application may include a notification that a required inspection, test, or analysis in the ITAAC has been successfully completed and that the corresponding acceptance criterion has been met. The Federal Register notification required by § 52.85 must indicate that the application includes this notification.	N/A	N/A	

TABLE 10
10 CFR 52.80 Contents of Applications; Additional Technical Information

REGULATION	STATEMENT	EPLAN	OTHER	COMMENTS
10 CFR 100	.1 (c) Siting factors and criteria are important in assuring that radiological doses from normal operation and postulated accidents will be acceptably low, that natural phenomena and potential man-made hazards will be appropriately accounted for in the design of the plant, that site characteristics are such that adequate security measures to protect the plant can be developed, and that physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans are identified.	N/A	N/A	
10CFR100.21	(g) Physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans must be identified;	N/A	N/A	

Supplemental Information 3

State and County 10 CFR 52.79(a)(22) Certification Letters



STATE OF FLORIDA
DIVISION OF EMERGENCY MANAGEMENT

CHARLIE CRIST
Governor

RUBEN D. ALMAGUER
Interim Director

May 29, 2009

Mr. Martin Gettler
Vice President, New Nuclear Projects
Florida Power & Light Company
700 Universe Blvd.
Juno Beach, Florida 33408

Dear Mr. Gettler:

The Division of Emergency Management (Division) has received a copy of the Turkey Point Emergency Plan and the evacuation time estimate study to support the Combined Operating License Application for two proposed additional nuclear generating units at Turkey Point. The Division concurs with the proposed emergency classification system, initiating conditions, and emergency action levels described in the plan. The Division has also reviewed the updated evacuation time estimate study and concurs with the information contained in the study.

It is our understanding that the Combined Operating License Application is being developed in accordance with 10 Code of Federal Regulation (CFR) 52 and will be submitted to the Nuclear Regulatory Commission within the next few months. Emergency planning provisions of 10 CFR 52 and the application process require Florida Power & Light to obtain certifications (assurances) from local and state governmental agencies with emergency planning responsibilities that the agency will participate in emergency planning and support emergency response to the proposed new units, if constructed. Therefore, pursuant to section 252.60, Florida Statutes, the Division provides the following assurances:

- The proposed emergency plan is a thorough, practical, and useful tool for use in managing real life events;
- The Division will fully participate in the continuing planning efforts and scheduled field demonstrations for this emergency plan;
- The Division is committed to leading the effort to ensure that the health and safety of the public is maintained as the highest priority in the implementation and continued improvement of the emergency preparedness and response plans for the Turkey Point Nuclear Power Plant; and
- The Division is committed to executing our responsibilities under the plans in the event of an emergency.

Mr. Martin Gettler
May 29, 2009
Page Two

Over the years, the Division has maintained a successful working partnership with Florida Power & Light in support of both the Turkey Point and St. Lucie Nuclear Power Plants. It is our commitment to support emergency preparedness for this as well as all hazards that may potentially impact the citizens of Florida. Therefore, we will continue to work with Florida Power & Light and the counties in their planning efforts for the proposed new units at Turkey Point. If you have any questions, please contact Michael Younger at (850) 413-9922.

Respectfully,

A handwritten signature in dark ink, appearing to read 'Ruben D. Almaguer', enclosed within a large, loopy oval shape.

Ruben D. Almaguer
Interim Director

RDA/my



Carlos Alvarez, Mayor

Emergency Management &
Homeland Security
9300 NW 41 Street
Doral, Florida 33178-2414
T 305-468-5400 F 305-468-5401

miamidade.gov

June 1, 2009

Mr. Martin Gettler
Vice President, New Nuclear Projects
Florida Power and Light Company
700 Universe Blvd.
Juno Beach, FL 33408

Dear Mr. Gettler:

The Miami-Dade County Department of Emergency Management (DEM) has reviewed the PTN Emergency Plan supporting the Combined Operating License Application for two (2) proposed new generating units at Turkey Point. DEM believes the proposed emergency plan is practicable. DEM has also reviewed the updated Evacuation Time Estimate and concurs with information in the final report prepared by FPL.

FPL has advised DEM that it is developing a Combined Operating License Application in accordance with 10 CFR 52 and that it will be submitting such application to the Nuclear Regulatory Commission within the next year. FPL has further advised DEM that the planning provisions of 10 CFR 52 and the application process require Florida Power and Light (FPL) to obtain certifications (assurances) from local and state governmental agencies with emergency planning responsibilities that the agency will participate in emergency planning and support emergency response to the proposed new units, if constructed. Therefore, pursuant to section 252.60, Florida Statutes, the Miami-Dade County Department of Emergency Management provides the following assurances:

- The proposed emergency plan is an adequate plan for use in managing real life events;
- The Department of Emergency Management will fully participate in the continuing planning efforts and scheduled field demonstrations for this Emergency Plan;
- The Department of Emergency Management is committed to executing its responsibilities under the plans in the event of an emergency.

Over the years, the Department of Emergency Management has maintained a successful working partnership with FPL relating to Turkey Point Units 3 and 4. It is our commitment to support emergency preparedness for this as well as all hazards that may potentially impact the residents and visitors of Miami-Dade County, Florida.

Emergency Management & Homeland Security

FPLNNP-09-0169

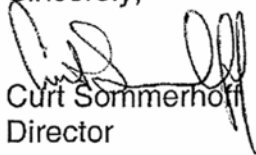
Attachment

Page 2 of 2

It is our understanding that the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units will be clearly established in a properly executed and binding letter of agreement that will be included in the Emergency Plan, if and when FPL proceeds with construction and operation of the new units.

Please do not hesitate to contact me if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Curt Sommerhoff", is written over the printed name and title.

Curt Sommerhoff
Director

**Monroe
County
Emergency
Management**



**490 63rd St. Ocean
Suite 150
Marathon, FL 33050**

**Ph: 305-289-6018
Fax: 305-289-6333**

May 14, 2009

Mr. Martin Gettler
Vice President, New Nuclear Projects
Florida Power and Light Company
700 Universe Blvd.
Juno Beach, FL 33408

Dear Mr. Martin.

The Monroe County Department of Emergency Management has reviewed the PTN Emergency Plan supporting the Combined Operating License Application for two (2) proposed new generating units at Turkey Point and we believe that the proposed emergency plan, in its' entirety, is practicable.

It is our understanding that the Combined Operating License Application is being developed in accordance with 10CFR 52 and will be submitted to the Nuclear Regulatory Commission within the next year. Emergency planning provisions of 10 CFR 52 and the application process require Florida Power and Light (FPL) to obtain certifications (assurances) from local and state governmental agencies with emergency planning responsibilities that the agency will participate in emergency planning and support emergency response to the proposed new units, if constructed.

Based on our opinion that the proposed emergency plan is thorough, practical, and useful tool in addressing radiological emergency preparedness and pursuant to S. 252.38 (1), F.S., and S. 252.60., the Monroe County Department of Emergency Management provides the following assurances:

- The proposed emergency plan is a thorough, practical, and useful tool for use in managing real life events;
- The Emergency Management Department will fully participate in the continuing planning efforts and scheduled field demonstrations for this Emergency Plan;
- The Emergency Management Department is committed to leading the effort to ensure that the health and safety of the public is maintained as the highest priority in the implementation and continued improvement of the emergency preparedness and response plans for the Turkey Point Nuclear Power Plant site; and
- The Emergency Management Department is committed to executing our responsibilities under the plans in the event of an emergency

Over the years, the Monroe County Department of Emergency Management has maintained a successful working partnership with FPL in support of Turkey Point Units 3 and 4. It is our commitment to support emergency preparedness for this as well as all hazards that may potentially impact the citizens of Monroe County. Therefore, we will continue to work with FPL and the Florida State in their planning efforts for the proposed new units at the Turkey Point site.

It is our understanding that the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units will be clearly established in a properly executed and binding letter of agreement that will be included in the Emergency Plan, if and when FPL proceeds with construction and operation of the new units.

Sincerely,



Irene Toner, FPEM, CHS-III, CPM
Director
Monroe County Emergency Management

Supplemental Information 4

Letters of Agreement

1. Letter from URS Energy & Construction dated April 4, 2012 (1 page)
2. Letter from Areva dated April 4, 2012 (1 page)
3. Letter from Baptist Hospital of Miami dated April 10, 2012 (1 page)
4. Letter from Bechtel Power Corporation dated April 4, 2012 (2 pages)
5. Letter from Florida Highway Safety and Motor Vehicles dated April 23, 2012 (1 page)
6. Letter from the Department of Energy dated April 17, 2012 (2 pages)
7. Letter from National Nuclear Security Administration dated April 12, 2012 (1 page)
8. Letter from INPO dated October 30, 2012 (1 page)
9. Letter from Monroe County Sheriff's Office dated April 9, 2012 (1 page)
10. Letter from the Miami-Dade Fire Rescue Department dated April 11, 2012 (3 pages)
11. Letter from Mercy Hospital dated September 20, 2012 (1 page)
12. Memo from the Turkey Point Security Department dated February 18, 2013 (1 page)
13. Letter from the United States Coast Guard dated April 20, 2012 (3 pages)
14. Letter from Miami-Dade Police Department dated July 30, 2012 (1 page)



April 4, 2012

Attention:
Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, Florida 33035

Dear Sir:

URS Energy & Construction confirms its commitment to support Florida Power & Light in event of an emergency at the Turkey Point Nuclear Plant. In the event of such an emergency, your point of contact will be:

John DeBruin
Vice President, Nuclear Engineering
(803) 578-7013 Office
(807) 205-6875 Cellular
Email: john.debruin@urs.com

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, reading "Joseph J. Ruggiero". The signature is fluid and cursive, with the first name "Joseph" and last name "Ruggiero" clearly legible.

Joseph J Ruggiero
Vice President – Plant Support Services
(609) 720-3221



April 4, 2012
AREVA-12-00872

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, Florida 33035

Subject: Turkey Point Nuclear Plant Emergency Plan Letter of Agreement
Reference: Email Request from Julie Wingate dated April 3, 2012

Dear Emergency Preparedness Manager:

In response to the reference email, I would like to take this opportunity to confirm that AREVA commits to provide assistance to Florida Power & Light (FPL) in the event of an emergency at your Turkey Point or St. Lucie Nuclear Plants. Services will be provided by AREVA NP to FPL upon request and authorization by an official representative of FPL in accordance with our existing Outage Services Agreement.


The designated point of contact at AREVA NP is Skip Hudson, with J.W. Page and Mark Lukowski as first and second alternates respectively. Skip is located in Singer Island, Florida while J.W. and Mark are located in the AREVA NP office in Lynchburg, Virginia. Our contact numbers are listed below

		<u>Office</u>	<u>Home</u>	<u>Cell</u>
Primary Contact	C.J. Hudson	(561) 841-9174	(561) 845-5271	(561) 371-3583
First Alternate	J.W. Page	(434) 832-2447	(434) 525-4840	(434) 841-1167
Second Alternate	Mark Lukowski	(434) 832-2645	(434) 525-3491	(434) 841-4203

AREVA NP can provide engineering, technical support, and field services to assist FPL in the management and control of an emergency. Any request to AREVA NP point of contact from designated FPL officials will be responded to as expeditiously as practical to support the FPL needs.

Should you require any further clarification, please contact me at (434) 832-2447

Sincerely,


JW Page
Project Manager

CC: C.J. Hudson
M. Lukowski
Records Center T1.2/A012P11576

AREVA NP INC.
An AREVA and Siemens company

3315 Old Forest Road, P.O. Box 10935, Lynchburg, VA 24506-0935
Tel.: (434) 832-3000 - Fax: (434) 832-3840

FORM 22709VA 11/12/2005



Baptist Hospital of Miami

BAPTIST HEALTH SOUTH FLORIDA

April 10, 2012

8900 North Kendall Drive
Miami, Florida 33176-2197
Tel: 786-596-1960
BaptistHealth.net

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Florida City, FL 33035

Dear Emergency Preparedness Manager:

The following is the information stating our support, capabilities and resources available to you in the event of an emergency at one of your nuclear plants.

1. Scope of Service:

A) Baptist Hospital is prepared to provide emergency medical services for FPL's Turkey Point Nuclear Plant for the diagnosis and treatment of injuries accompanied by radiological contamination, or actual or alleged injury due to radiation exposure.

B) Baptist Hospital shall maintain an on-call roster of qualified physicians who shall be available in the event of an emergency.

C) Baptist Hospital's Emergency Physicians shall provide emergency treatment and services without delay at our facility on a 24 hour/7 day/week basis, for FPL employees and any other person designated by FPL who may have been involved in a radiation incident.

2. Physician Contact:

Paul A. Andrulonis, MD
Medical Director for Emergency Services
Baptist Hospital Emergency Department
8900 N. Kendall Drive
Miami, FL 33176
Office: 786-596-6284
Cell: 954-913-8804

3. Hospital Contact:

Nursing Supervisor on Duty
786-594-9403
(Call to notify 24 hours/day)

Baptist Hospital will continue to cooperate in every way possible in the radiation emergency preparedness program. If there is anything further you require or if we can be of assistance in any way, please do not hesitate to contact us.

Becky Montesino, RN, MSN, MSHSA, CENP
Vice President/
Chief Nursing Officer

Paul A. Andrulonis, MD
Medical Director
Emergency Department



An ANCC Magnet Hospital:
Recognized for excellence in nursing.



Action Summary

Response Required: No

April 4, 2012

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344th Street
Homestead, FL 33035

Subject: FPL Turkey Point Nuclear Plant Extended Power Uprate Project
Bechtel Project Number: 25489 FPL PO: 117809
Bechtel/ File No. 25489-000-TCM-GAM-00474

Letter of Agreement – Turkey Point Nuclear Plant Emergency Response Assistance List

Emergency Preparedness Manager:

Enclosed is the latest Bechtel Emergency Response Assistance List for your use.

If you have any questions or comments regarding this information, please contact me at 786-2543-4102

Sincerely,

Michael S. Robinson
Bechtel Project Manager

MSR/cn

Attachments: 1. Bechtel Turkey Point Letter of Agreement

cc: Bechtel

L. von Lazar
E. Cretsinger
J. Valle
A. Broussard
W. Crowell
B. Kenner
C. Lookabaugh
R. Campbell
M. Charney

cc: FP&L

A. Katz
M. Jurmain
H. Patel
J. Wingate
M. Coursey
C. Amesty
File (PTN.EPU.Doc@fpl.com)

File

LETTER OF AGREEMENT - BECHTEL TURKEY POINT NUCLEAR PLANT
BECHTEL KEY MEMBERS EMERGENCY RESPONSE ASSISTANCE LIST

Name	Title	Phone#
PTN - Turkey Point Site Representatives:		
Michael S. Robinson	Project Manager	240-367-5791
Edwin Cretsinger	Assistant Project Manager	240-529-2369
Julio Valle	Assistant Project Manager	305-338-2527
Andy Broussard	Site Manager	240-344-1591
Wayne Crowell	Assistant Site Manager	240-888-7729
Dale Abbott	Project Site Superintendent	305-281-6730
Bruce Kenner	Project Engineering Manager (PEM)	240-344-0517
NIGHT SHIFT:		
Laszlo von Lazar	FPL EPU Projects Director	240-344-0629
Robert Campbell Sr	Assistant Site Manager	305-281-2461
Martin Charney	Project Site Superintendent	305-338-5442
Home Office (Frederick, Maryland) Representatives		
Craig Lookabaugh	Project Engineer (PE)	240-405-8019
Frederick Office Main Number		301-228-6000
Frederick Main Office Guard's Desk (During non-business hours)		301-228-7751

Julie L. Jones
Executive Director

2900 Apalachee Parkway
Tallahassee, Florida 32399-0500
www.fhsmv.gov



Rick Scott
Governor

Pam Bondi
Attorney General

Jeff Atwater
Chief Financial Officer

Adam Putnam
Commissioner of Agriculture

April 23, 2012

ATTN: Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, Florida 33035

RE: Letter of Agreement

Dear Emergency Preparedness Manager:

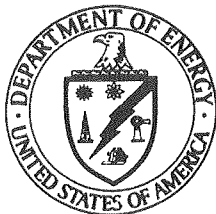
My office has received an e-mail from Julie Wingate dated April 3, 2012, in which your office has requested an updated Letter of Agreement for the Turkey Point Nuclear Power Plant Radiological Emergency Plan. The Florida Highway Patrol remains in agreement with their portion of the plan and with FHP Policy 16.01, dated July 1, 2007.

If you have any questions regarding the Policy, please contact Captain Mark Welch at (850) 617-2305.

Sincerely,

for → Kevin Bailey
Chief, Bureau of Purchasing and Contracts
Division of Administrative Services

KB/jm



Department of Energy

Oak Ridge Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

April 17, 2012

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, Florida 33035

Dear Sir or Madam:

LETTER OF AGREEMENT – RADIATION EMERGENCY ASSISTANCE CENTER/TRAINING SITE (REAC/TS) SUPPORT

Please reference electronic mail of April 3, 2012 from Julie Wingate, requesting that the Department of Energy (DOE) REAC/TS facilities and team be available to provide back-up capability and assistance to the Turkey Point Nuclear Power Plant in the event of a radiological emergency. This response constitutes our agreement to provide this service upon your request. The agreement remains in effect until terminated in writing by either party.

We wish to remind you that our REAC/TS facilities in the Oak Ridge Institute for Science and Education (ORISE) are government controlled and operated by the Oak Ridge Associated Universities under contract with DOE. Therefore, REAC/TS is prohibited from competing with commercial firms that can provide radiological emergency services. Only if the magnitude or uniqueness of a radiological emergency exceeds your in-house and commercially available capabilities would REAC/TS be authorized to provide back-up services.

Since these facilities are government controlled, no fee or retainer is required to assure the availability of back-up services by REAC/TS. However, if you utilize the services of REAC/TS, we should expect to recover those costs that could reasonably be related to handling such an incident, including all charges billed to DOE or ORISE by hospitals and physicians. Information concerning the REAC/TS facilities; staff; services available; and procedures for seeking REAC/TS assistance can be obtained by direct contact with the REAC/TS Director, Dr. Albert L. Wiley, ORISE, Post Office Box 117, Oak Ridge, Tennessee 37831, or at telephone number (865) 576-3131.

Sincerely,

A handwritten signature in cursive script, reading "M. G. Branton".

Michele G. Branton
Contracting Officer's Representative

Emergency Preparedness Manager

-2-

April 17, 2012

cc:

Rebecca M. Kennard, MS 26, ORISE

Albert L. Wiley, MS 39, ORISE



**National Nuclear Security
Administration**
Savannah River Site Office
P.O. Box A
Aiken, South Carolina 29802

April 12, 2012

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, FL 33035

Dear Emergency Preparedness Manager:

Subject: Department of Energy (DOE)/National Nuclear Security Administration (NNSA) Letter
of Agreement for Emergency Support

Assurance is hereby given that DOE/NNSA will respond to requests for radiological assistance from licensees and Federal and State agencies involved in or cognizant of an incident believed to involve source, by-product, or other special nuclear material as defined by the Atomic Energy Act of 1954, as amended or other ionizing radiation sources. Assistance as indicated above would be made available to the Florida Power & Light Company with respect to incidents occurring at the Turkey Point Nuclear Plant upon request and in consonance with response activities conducted by State, local, and private industry emergency response personnel.

Unless DOE/NNSA or a DOE/NNSA contractor is responsible for the activity, ionizing radiation source, or radioactive material involved in the incident, DOE/NNSA radiological assistance will be limited to advice, detection and identification of radioactive materials, and/or monitoring and assessment actions essential for the control of the immediate hazards to health and safety. DOE/NNSA radiological assistance will be terminated when it is no longer needed or the necessary assistance is available from State, local, or commercial services. Therefore, responsibility for post-accident recovery, including further actions for the protection of individuals and the public health and safety, should be assumed by the appropriate government agency or private authority as soon as emergency conditions are stabilized.

Requests for DOE/NNSA radiological assistance may be directed to the Savannah River Site Operations Center at the 24-hour emergency assistance telephone number, (803) 725-3333. Questions regarding the DOE/NNSA Radiological Assistance Program may be directed to me at (803) 952-6613.

Sincerely,

A handwritten signature in black ink, appearing to read "Christina T. Edwards".

Christina T. Edwards
Regional Response Coordinator
DOE Region 3



***Institute of
Nuclear Power
Operations***

*Suite 100
700 Galleria Parkway, SE
Atlanta, GA 30339-5943
770-644-8000
FAX 770-644-8549*

October 30, 2012

Dear Ladies and Gentlemen:

This letter certifies that the plant emergency assistance agreement between INPO and its member utilities remains in effect. In the event of an emergency at your utility, INPO will assist you in acquiring the help of other organizations in the industry, as described in Section 1 of the Emergency Resources Manual, INPO 03-001, and in the United States Nuclear Industry Response Framework. If requested, INPO will provide the following assistance:

- coordinate technical information flow from the affected utility to the nuclear industry and government agencies
- coordinate the procurement and shipping of equipment and supplies
- locate personnel with technical expertise
- facilitate industry vendor and commercial supplier support
- obtain technical information and industry operating experience regarding plant components and systems
- provide an INPO liaison to facilitate interface

This agreement will remain in effect until terminated in writing. Should you have any questions, please call Steve Meng at (770) 644-8548 or e-mail at MengSW@inpo.org.

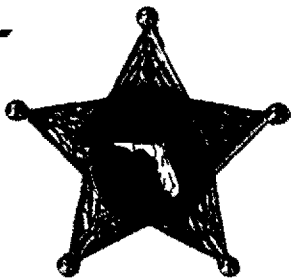
Sincerely,

A handwritten signature in black ink, appearing to read 'Jeffrey T. Gasser', is written over a horizontal line.

Jeffrey T. Gasser
Vice President
Emergency Response

JTG:cjm

Sheriff



Monroe County Sheriff's Office

Robert P. Peryam, Sheriff

5525 College Road

Key West, Florida 33040

(305) 292-7000 FAX: (305) 292-7070 1-800-273-COPS

www.keyssso.net

April 9, 2012

SUBSTATIONS

Freeman Substation
20950 Overseas Hwy.
Cudjoe Key, FL 33042
(305) 745-3184
FAX (305) 745-3761

Marathon Substation
3103 Overseas Hwy.
Marathon, FL 33050
(305) 289-2430
FAX (305) 289-2497

Islamorada Substation
87000 Overseas Hwy.
Islamorada, FL 33036
(305) 853-7021
FAX (305) 853-9372

Roth Building
50 High Point Road
Favermier, FL 33070
(305) 853-3211
FAX (305) 853-3205

DETENTION CENTERS

Key West Det. Center
5501 College Road
Key West, FL 33040
(305) 293-7300
FAX (305) 293-7353

Marathon Det. Facility
3981 Ocean Terrace
Marathon, FL 33050
(305) 289-2420
FAX (305) 289-2424

Plantation Det. Facility
53 High Point Road
Plantation Key, FL 33070
(305) 853-3266
FAX (305) 853-3270

SPECIAL OPERATIONS

P.O. Box 500975
Marathon, FL 33050
(305) 289-2410
FAX (305) 289-2498

AVIATION DIVISION

10100 Overseas Hwy.
Marathon, FL 33050
(305) 289-2777
FAX (305) 289-2776

COMMUNICATIONS

2796 Overseas Hwy.
Marathon, FL 33050
(305) 289-2351
FAX (305) 289-2493

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, Florida 33035

To Whom It May Concern:

In response to your recent request for valid verification of the agreement for emergency response at the Turkey Point Nuclear Plant; I am pleased to provide the following:

Personnel: 193 sworn Deputy Sheriffs and 39 Reserve Deputy Sheriffs (5 certified)

Facilities: The Sheriff's Office currently has operational facilities as listed:

- Headquarters – Stock Island, Florida
- Monroe County Detention Center, Stock Island, Florida
- District I Substation-Cudjoe Key, Florida (21 miles north of Key West, FL.)
- District II Substation- Marathon, Florida (40 miles north of Key West, Florida)
- Islamorada Substation – Islamorada, Florida (79 miles north of Key West, FL.)
- District III Substation - Plantation Key, Florida (85 miles north of Key West, FL.)

Vehicles: The 173 sworn personnel have patrol units assigned on a full time basis.

Standard Equipment: All of the patrol units are equipped with standard emergency equipment, i.e. lights and sirens to facilitate emergency response.

Specialized Equipment: The Sheriff's Office maintains a SWAT team with a total of 15 officers and a Bomb Disposal Unit, all of which are appropriately equipped. Between all of the Substations, we have 4 patrol PWC's and 8 boats equipped for police use.

Communications Equipment: All vehicles listed above are equipped with two-way, hand-held, radio equipment that is supported by a wide-area ASTRO Digital SmartZone Dual Mode Trunked 800 MHZ, 26 Frequency, Communications System that includes Statewide Mutual Aide talk groups.

The duties that this Agency can perform in the event of an emergency would include the rendering of first-aid, control of traffic and general law enforcement requirements. The Sheriff's jurisdiction is generally confined to Monroe County, Florida unless it is extended by the invitation of the Metro-Dade Public Safety Department, or other appropriate law enforcement agency.

In the event that such emergency should arise, we will respond to the limits of our available manpower and equipment while continuing to provide necessary law enforcement services to the community. If the information contained in this letter is insufficient or needs clarification, please feel free to contact me at your earliest convenience.

Very truly yours,

Colonel Rick Ramsay
Undersheriff of Monroe County

RPP/vam





Miami-Dade Fire Rescue Department

Office of the Fire Chief
9300 N.W. 41st Street
Doral, Florida 33178-2414
T 786-331-5000 F 786-331-5101

miamidade.gov

April 11, 2012

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
Florida Power and Light Company
9760 SW 344 Street
Florida City, FL 33035

Dear Preparedness Manager:

This letter confirms the Miami Dade Fire Rescue Department's continued support in the event of an emergency situation at your facility. Please be advised that our normal emergency response plan remains unchanged.

Upon notification through emergency operators (911) of a fire or incident at Florida Power & Light (FPL) Turkey Point Plant, the Miami Dade Fire Rescue Department (MDFR) will respond with a dispatch of fire and rescue units. A typical assignment will include:

1. Six Suppression Units
 - a. One (1) Aerial
 - b. One (1) 100' Ladder/Platform
 - c. Four (4) Pumpers
2. Two (2) Advanced Life Support (ALS) Rescue Units
3. Two (2) Command Units
4. The normal complement of personnel assigned to these units is 32
5. A Hazardous Materials Unit will be dispatched that specializes in incidences involving hazardous materials, and is equipped with sophisticated information systems and equipment.

If conditions warrant, additional units would be dispatched, including support units. Fire Department emergency services would include:

1. Fire Suppression
2. Basic and Advanced Life Support and related assistance

April 11, 2012

Page 2

Miami Dade Fire Rescue response strategies for large area fires would include the following type of support:

1. Near or on-site staging areas for pre-positioning of equipment and materials.
2. Support from airlift resources as necessary and available for firefighting (personnel and equipment transport only.)
3. Incident command and control function with technical assistance.
4. for large accelerant fire support, the dispatch of the following types of equipment, if required, could include:
 - a. A foam trailer from Miami International Airport (MIA) capable of holding 1000 gallons of 3% aqueous film-forming foam (AFFF) concentrate, containing a permanently mounted monitor nozzle for foam application.
 - b. Transportable extinguishing systems such as the MIA crash (foam) truck capable of generating a high-volume solution of AFFF.
 - c. Fire apparatus pumpers that will meet a combined flow demand requirement in excess of 2000 gpm.
 - d. High volume monitor nozzles (supplied from ground monitors, apparatus monitors and ladder pipe monitors, all with associated hoses and nozzles) capable of a combined flow of 1000 to 6000 gpm.
 - e. Portable ventilation equipment.
 - f. Communication equipment as necessary for activation of mutual aid fire fighting teams.
 - g. SCBA equipment with refill capability.
 - h. Portable emergency lighting
 - i. Personnel protective equipment with reflective capability
5. Provisions for treatment of multiple casualties up to and including advanced life support air transport.

During an emergency MDFR is able to provide high volume (>100 GPM) monitor nozzles and associated equipment to be supplied from ground monitor and/or ladder apparatus. Under most anticipated conditions, this will occur within 1 hour. Should it become necessary, MDFR will be able to provide assistance for cooling the Spent Fuel Pool during an emergency incident. This will occur in accordance with the EPA protective action guidelines for emergency workers, by using fire rescue equipment to spray any safely accessible opening of the structure. Subject to available resources, MDFR will also be able to assist in minor mitigation involving a Spent Fuel Pool release by spraying water from a remote location.

April 11, 2012
Page 3


Personnel and equipment are obligated to implement provisions of the Turkey Point Radiological Emergency Plan to the extent of available resources. The Radiological Emergency Plan places the Turkey Point Emergency Coordinator responsible for overall site response to any emergency, including large scale fires and explosions. Incident command authority for response to a fire emergency at Turkey Point, including search and rescue, fire suppression, and property conservation is as follows:

- Inside the Security Protected Area, the Fire Brigade Leader has command and control authority for a fire emergency, with MDFR providing mutual aid support. On-site radiation protection personnel would support response effort.
- Outside the Security Protected Area, the Chief Fire Officer from MDFR has command and control authority for a fire emergency, with the Turkey Point Fire Brigade Leader acting in a support capacity providing technical liaison and coordination with the Emergency Coordinator.

Both MDFR and Turkey Point recognize the use of the National Incident Management System (NIMS) and support the use of the "Unified Command" concept should a large-scale fire emergency occur.

If additional information is necessary, please contact Assist Fire Chief Dave Downey, at telephone number 786-331-5104, or electronic mail at david.downey@miamidade.gov. Please copy his assistant, Ms. Dulce Williams, on any correspondence sent electronically at, dulce.williams@miamidade.gov.

Sincerely,



William W. Bryson, Fire Chief
Miami Dade Fire Rescue

WWB/dw

c: Dave Downey, Assistant Fire Chief for Operations



September 28, 2012

Emergency Preparedness Manager
FPL Turkey Point Nuclear Plant
9760 SW 344 Street
Florida City, Florida 33035

Dear Mr. Epstein,

The following is the information stating our support, capabilities and resources available to you in the event of an emergency at one of your nuclear plants.

1. Administrative point of contact:
Barbara Simmons CEO
Mercy Hospital
3663 South Miami Avenue
Miami, Florida 33133
Business hours: Office (305) 284-2121
24 hour-seven days a week (945) 802-4362
2. Scope of Services:
 - a) Physicians and Mercy Hospital shall perform radiological emergency medical services ("Services") for FPL's Turkey Point Nuclear Power Plant for the diagnosis and treatment of injury due to radiation exposure.
 - b) Physicians and Mercy Hospital shall maintain a twenty-four hour per day roster of qualified physicians who shall be on call and available in the event of an emergency.
 - c) Physicians and Mercy Hospital shall provide emergency treatment and Services without delay at the facility on a twenty-four hour per day seven day a per week basis, for FPL employees and any other person designated by FPL who may have been involved in a radiation incident

We will continue to cooperate in every way possible in the radiological emergency preparedness program. If there is anything further you require or if we can be of any assistance in any way, please don't hesitate to contact us.

Barbara Simmons
CEO
Mercy Hospital

Robert Moskowitz MD
E.D. Director
Mercy Hospital



MEMO

To Emergency Preparedness
From Sean Fletcher
Date February 18, 2013
Subject Turkey Point Security Integrated Response Plan

This memo is intended to present a description of the interface agreements that are in place between the Turkey Point Security Department and numerous key Law Enforcement Agencies.

In addition to the Letter of Agreement with the Miami-Dade Police Department, the Turkey Point Security Department maintains a Security Force procedure (**PTN-SY-029- LLEA Integrated Response Plan**) which enhances existing agreements with key Law Enforcement Agencies that are likely to respond to a security contingency event at the Turkey Point Nuclear Plant. This instruction does not supersede any Nuclear Regulatory Commission approved documents related to the Turkey Point Nuclear Plant, but is intended to enhance these documents as they relate to a contingency response. This enhancement includes guidance in Command and Control, Communications, and Logistics.

This procedure (**PTN-SY-029- LLEA Integrated Response Plan**) has been reviewed and concurred with the following agencies:

Miami-Dade Police Department- **Primary**
Federal Bureau of Investigation
United States Customs and Border Protection (CBP/ ICE)
United States Coast Guard
Florida Department of Law Enforcement
Homestead Police Department

A handwritten signature in black ink, appearing to read 'Timothy Eck', written over a horizontal line.

Timothy Eck
Security Manager
Turkey Point Nuclear Plant



3010
April 20, 2012

Emergency Preparedness Manager
Emergency Preparedness Department
Turkey Point Nuclear Plant
9760 SW 344 Street.
Florida City, FL 33035

Dear Emergency Preparedness Manager,

The following information is provided in response to your annual requirement for the United States Coast Guard to provide a new letter of support indicating our ability to meet the requirements of your Radiological Emergency Plan. This letter provides current resource and support capabilities for Coast Guard assets located in the vicinity of the Florida City Turkey Point Nuclear Plant. Please note that any emergency assistance that the Coast Guard may provide would be limited by the fact that Coast Guard crews are not equipped or trained for radiological response, and thus, cannot be exposed to radiological contamination. Coast Guard assets will be restricted to activities and geographic locations that are air monitored for radioactive fallout and are certified to be safe without protective clothing or equipment. Consequently, the Coast Guard is unable to act as the primary responder for nuclear power plant disasters.

As requested in your letter, the following information is provided.

1. Administrative point of contact.

- (a) The Seventh Coast Guard District's Contingency Preparedness Officer and administrative point of contact for this issue is Lieutenant Ken Jones. LT Ken Jones' phone number is (305) 415-7156 and email address is Kenneth.C.Jones@uscg.mil.
- (b) Operational response point of contact. Coast Guard Sector Miami, in their capacity as Federal Maritime Security Coordinator for your region, is the First Responder for incidents at your facility. Sector Miami's operational response point of contact for this issue is CDR Stephen Chamberlin at (305) 535-4302.

2. Description of resources and support that can be provided.

- (a) Maritime: The nearest Coast Guard facility to Turkey Point Nuclear Plant is Coast Guard Station Miami Beach. Station Miami Beach has two 45 foot Response Boat – Medium (RB-M) with a capability of carrying 24 people max (20 excluding crew), two Special Purpose Craft - Law Enforcement (SPC/LE) with a capability of carrying 18 people max (15 excluding crew), and three Response Boat - Small with a capability of carrying 10 people max (7 excluding crew). All of these vessels may not be available for response at any given time due to current operations, staffing or maintenance.
- (b) Provided that the Station resources are not engaged in a life threatening emergency or some other operational commitment, the normal vessel response time to the vicinity of

the Turkey Point Nuclear Plant is 40 to 70 minutes after notification and depending on the boat deployed. These maritime assets can also enforce Coast Guard imposed safety and security zones to prevent waterside entry into radiological contaminated areas, and to transport response personnel, equipment, and injured personnel.

- (c) Air: The nearest Coast Guard Air Station to the Turkey Point Nuclear Plant is Air Station Miami. Air Station Miami maintains HH-65 Rescue helicopters that are capable of carrying 2-3 people and of remaining on scene for 90 minutes without refueling. The normal response time for helicopters based at Coast Guard Air Station Miami to Turkey Point is approximately 40 minutes after notification. Provided that the area has been certified as safe, and upon official request, these helicopters are available for transportation of personnel and material to assist in the disaster response, as well as for medical evacuation of injured personnel. Additional information about these assets can be found at <http://www.uscg.mil/datasheet/>.
- (d) Security Support: The Coast Guard Captain of the Port of Miami, located at Sector Miami, may establish a safety or security zone preventing vessel movement into the U.S. navigable waters affected by a disaster. Power plant facility officials must contact Commander, Coast Guard Sector Miami to have a safety or security zone established. A request for a safety or security zone may be made through the Sector Miami Command Center as outlined in paragraph 3 below. Coast Guard vessels may be available to physically prevent vessel entry into contaminated waters, as stipulated in subparagraph 4 (c). However, safety or security zone implementation may only be available by radio broadcast if air monitoring is not available or if the effects and movement of fallout cannot be adequately predicted.

3. Process/procedure to be used to obtain this support and method for information exchange.

Should you need our support, either in the form of asset support or the establishment of a safety or security zone, your initial point of contact is the Sector Miami Command Center in Miami Beach, Florida. The Command Center can be reached at (305) 535-4472. If for any reason you are unable to contact them in the event of an emergency, you should contact the Coast Guard Seventh District Command Center in Miami, Florida. The Seventh District Command Center can be reached at (305) 415-6800. Both Command Centers are staffed 24 hours a day year round.

4. Description of the authorities, responsibilities, and limits on Coast Guard actions.

- (a) Under Title 14 U.S. Code Section 88, the Coast Guard has the authority to render aid to distressed persons, vessels, and aircraft on the high seas and in the navigable waters of the United States. This includes the authority to perform any acts necessary to rescue and aid persons and protect and save property.
- (b) Under 14 U.S. Code Section 89, the Coast Guard may enforce all Federal laws on vessels and waters over which the United States has jurisdiction. Further, under 14 U.S. Code Section 141, when so requested by proper authority, the Coast Guard may utilize its personnel and facilities to assist federal, state, and local government authorities to

perform any activity for which Coast Guard personnel and facilities are especially qualified. Among other things, this may include transportation of personnel and material to assist in disasters or response to other emergency situations.

(c) Under the Ports and Waterways Safety Act, 33 U.S. Code Section 1221, 33 CFR 165, the Magnuson Act, 50 U.S. Code Section 191, and the Coast Guard's regulatory authority under 33 CFR 6, the Coast Guard has the authority to implement and enforce safety and security zones.

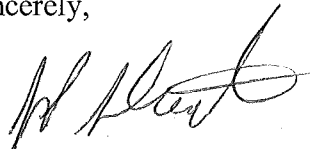
(d) Any emergency assistance that the Coast Guard may provide would be limited by the fact that Coast Guard crews are not equipped or trained for radiological response, and thus, cannot be exposed to radiological contamination. Coast Guard assets will be restricted to activities and geographic locations that are air monitored for radioactive fallout and are certified to be safe without protective clothing or equipment.

5. Any other information pertinent to your organization's emergency response capabilities.

The Coast Guard Deployable Operation Group (DOG) provides specialized force packages which can be obtained utilizing the same requesting procedures mentioned in paragraph 3. The DOG's specialized emergency response units are the National Strike Force (NSF) and Maritime Safety and Security Team (MSST). The NSF is capable of providing highly specialized personnel and equipment to facilitate preparedness and response to oil and hazardous substance pollution incidents in order to protect public health and the environment. The MSST has rapid response elements (waterborne and landside) to provide waterside security and landside force protection, safety and security zones, entry control points, canine, divers, and underwater remote vehicle.

6. Should you desire specific details of Coast Guard capabilities please contact Lieutenant Ken Jones at (305) 415-7156 and email address is Kenneth.C.Jones@uscg.mil

Sincerely,



JOHN P. SLAUGHTER
Captain, U. S. Coast Guard
Chief, Planning and Force Readiness Division
Seventh Coast Guard District
By direction of the District Commander

Copy: Federal Emergency Management Agency Region IV
State of Florida Department of Community Affairs
Miami-Dade County Public Safety Office
Commander, Seventh Coast Guard District (drm), (dp), (dx), (dl)
Commanding Officer, Coast Guard Air Station Miami
Commander, Coast Guard Sector Miami
Commanding Officer, Station Miami Beach



Miami-Dade Police Department

Director's Office



An Internationally
Accredited
Police Service

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July 30, 2012

Attention:
Emergency Preparedness Manager
Emergency Preparedness Department
FPL Turkey Point Nuclear Plant
9760 SW 344 Street
Homestead, FL 33035


Dear Emergency Preparedness Manager:

Thank you for your recent correspondence requesting that the Miami-Dade Police Department (MDPD) confirm its continued support of police services to any emergency incident at the Turkey Point Nuclear Power Plant.

The MDPD will continue to respond to all incidents at the power plant with the manpower and resources needed to adequately support your personnel. Additionally, our Homeland Security and Special Patrol Bureaus participate in a variety of training exercises to specifically deal with potential incidents and events at your facility.

Please feel free to contact Major Gary Shimminger, of the Homeland Security Bureau, at (305) 470-3900, if we can be of further assistance.

Sincerely,


James K. Loftus
Director

c: Thomas Hanlon, Major
Special Patrol Bureau

Ariel Artime, Major
South District

Supplemental Information 5

**NUREG-0654 Section II, Evaluation Criteria Cross-
Reference to Florida Radiological Emergency
Management Plan (REMP) & Appendix II,
Turkey Point Nuclear Site**

**Florida Radiological Emergency Management Plan (REMP) & Appendix II
Turkey Point Nuclear Plant Site Plan
Review/Cross-Reference to NUREG-0654, Section II, Evaluation Criteria**

**Note: The State Comprehensive Emergency Management Plan has been
cross-referenced in some sections as appropriate.**

NUREG-0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
A. ASSIGNMENT OF RESPONSIBILITY			
1. a. Response Organizations	Chapter 2, Sections II-VII	Section II.A	Section II.B
b. Concept of Operations	Chapter 2, Sections II-VII Chapter 3, Section II	Section II.A	Section II.B
c. Organizational Charts	Chapter 2, Figures 2-1 and 2-2	Figure II-4	Figure II-6
d. Emergency Response Direction & Control	Chapter 2, Section I Chapter 3, Section II	Section II.A.1 & II.A.2 Section III.A	Section II.B.1 & II.B.2 Section III.B
e. 24-hour Response	Chapter 2, Section 1 Chapter 5, Section I Chapter 6, Sections II & III Chapter 9, Section III.B	Section II (Pg. II-1) Section II.A.1	Section II (Pg. II-1) Section II.B.1
2. a. Primary & Support Responsibilities	Chapter 2, Sections I & II; Figure 2-2	Section II.A & Figure II-3	Section II.B & Figure II-5
b. Legal Basis for Authorities	Chapter 2, Section I	Section II (Pg. II-1)	Section II (Pg. II-1)
3. Written Agreements	CEMP, Section 1	CEMP, Section 1	CEMP, Section 1
4. Principal organization -- continuous operations and responsibility	Chapter 2, Section I Chapter 6, Sections II & III	Section II (Pg. II-1) Section II.A.1	Section II (Pg. II-1) Section II.B.1
B. ONSITE EMERGENCY ORGANIZATION	N/A N/A		N/A

NUREG-0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
C. EMERGENCY RESPONSE SUPPORT AND RESOURCES			
1. a. Authorization to Request Federal Assistance	Chapter 9, Section IV.A & B	N/A	N/A
b. Federal Resources Expected	Chapter 9, Section IV.B	N/A N/A	
c. Support for Federal Response	Chapter 8, Section II.C	Section IX.G	Section IX.G
2. a. Representative to EOF	Chapter 5, Sections II.B & II.C Chapter 8, Section II.C & III	Section IX.C	Section IX.C
b. Utility Dispatch EOC Reps	N/A	N/A	N/A
3. Radiological Laboratories and Analyses Services	Chapter 8, Section V & Figure 8-1 Chapter 9, Sections III & IV	NA N/A	
4. Support Facilities and Org.	Chapter 9, Sections III & IV Chapter 12, Sections I & II; Figures 12-1 & 12-2	Section II Section IX.G Section XIII	Section II Section IX.G Section XIII

NUREG-0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
D. EMERGENCY CLASSIFICATION SYSTEM			
1. Licensee establishment of Emergency Classification & Emergency Action Level (EAL) Scheme	NA N/A		N/A
2. Initiating Conditions include example conditions in App. 1	N/A N/A		N/A
3. State/Local establishment of Emergency Classification and EAL Scheme	Chapter 4, Sections II & III	Section IV & REMP	Section IV & REMP
4. State/Local Procedures for Emergency Actions	Chapter 4, Section III Figure 4-1 Chapter 4, Sections I & II	Section V	Section V
E. NOTIFICATION METHODS & PROCEDURES			
1. Notification of Response Organizations and Message Verification	Chapter 5, Sections I & II	Section V	Section V
2. Alerting, Notifying, and Mobilizing Response Personnel	Chapter 5, Sections I & II	Section V, A through D	Section V, A through D
3. Contents of Initial Emergency Messages	Chapter 5, Section I & Figure 5-1	N/A	N/A
4. Follow-up Message Content	Chapter 5, Section I & Figure 5-1	N/A	N/A
5. Dissemination of Emergency Information to the Broadcast Media (EAS)	Chapter 5, Section III Chapter 7, Section VII	Section VI	Section VI

NUREG-0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
6. Public Warning and Notification in Plume Exposure Pathway EPZ	Chapter 5, Section III Chapter 7, Section VII	Section VI	Section VI
7. Draft Messages for Protective Actions for the Public	Chapter 7, Figures 7-1 through 7-8	Section VI	Section VI
F. EMERGENCY COMMUNICATIONS			
1a. 24-hour Primary and Back-up Notification and Activation of State/Local Response Network	Chapter 5, Section I Chapter 6, Section II	Section VII.A	Section VII.B
b. With Contiguous State/Local Governments in 10-Mile EPZ	Chapter 6, Section III	Section VII.A	Section VII.B
c. With Federal Response Organizations	Chapter 6, Section III.B	Section VII.A	Section VII.B
d. Between the Plant EOF and State/local EOC's and Radiological Monitoring Teams	Chapter 6, Section III.A, D, & F	Section VII.A	Section VII.B

NUREG-0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
F. EMERGENCY COMMUNICATIONS (Cont.)			
e. Alerting and Activating Emergency Response Personnel	Chapter 6, Sections II and III	Section VII.A	Section VII.B
f. Between Licensee and NRC	N/A	N/A	N/A
2. Communication Link for Medical Support Facilities	Chapter 6, Section III. B & C	Section VII.A	Section VII.B
3. Periodic Testing of Emergency Communications System	Chapter 6, Section IV Figure 6-1	Section VII.C	Section VII.C

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
G. PUBLIC EDUCATION & INFORMATION			
1. Dissemination of Annual Public Information on Emergency Notification & Actions	Chapter 7, Section VII	Section VIII.A	Section VIII.A
2. Public Information Program for Permanent & Transient Population	Chapter 7, Section VII	Section VIII.A	Section VIII.A
3.a. Media Points of Contact & Locations	Chapter 7, Section II, III, & IV. B	Section IX.D	Section IX.D
b. Space for News Media	Chapter 7, Section IV	N/A	N/A
4.a. Designated Organization Spokesperson	Chapter 7, Section II	Section VIII.C & IX.D	Section VIII.C & IX.D
b. Coordination among Spokespersons	Chapter 7, Section V	Section VIII.C	Section VIII.C
c. Rumor Control	Chapter 7, Section VI	Section VIII.D	Section VIII.D
5. Annual Program to Acquaint News Media	Chapter 7, Section VII	Section VIII.B	Section VIII.B
H. EMERGENCY FACILITIES AND EQUIPMENT			
1. Licensee TSC	N/A	N/A N/A	
2. Licensee EOF	N/A	N/A	N/A

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
3. EOC for Response Direction & Control	Chapter 8, Section II. A & B	Section IX.A Figure II-7	Section IX.B Figure II-8
4. Activation and Staffing of Facilities and EOC's	Chapter 8, Section II.A	Section V (A through D) Section IX.A	Section V (A through D) Section IX.B
5. Onsite Monitoring Systems	N/A	N/A	N/A
6. Data Access to Offsite Monitoring/Analysis Equipment	N/A N/A		N/A
7. Offsite Radiological Monitoring Equipment	Chapter 8, Section V.B Figure 8-2	Section IX.F & Figure II-12	Section IX.F & Figure II-12
8. Meteorological Instrumentation	N/A N/A		N/A
9. Licensee OSC	N/A	N/A	N/A
10. Emergency Equipment Insp.Inventory, and Op. Check	Chapter 8, Section V.B	Section IX.F.1	Section IX.F.2
11. Emergency Kits	Chapter 8, Figures 8-1 through 8-4	Section IX.F.1 & Figure II-12	Section IX.F.1 & Figure II-12
12. Central Point for Receipt/Analysis of Field Monitoring Data	Chapter 8, Section V.A Figure 8-1	Section X	Section X

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
I. ACCIDENT ASSESSMENT			
1. Plant System and Effluent Parameters	N/A	N/A	N/A
2. Post-Accident Sampling Capability	N/A	N/A	N/A
3. Methods/techniques for Determining Source Term	N/A	N/A	N/A
4. Effluent Monitor Readings and Onsite/Offsite Exposures, Contamination	N/A	N/A N/A	
5. Acquire/Evaluate Met Data iaw Appendix 2	N/A	N/A	N/A
6. Determine Release Rates/Doses if Instrumentation Offscale	N/A	N/A N/A	
7. Field Monitoring Capability and Resources within 10-Mile EPZ	Chapter 8, Figures 8.2 through 8.4 Chapter 9, Section III	Section X	Section X
8. Radiological Hazard Assessment Capability	Chapter 9, Sections III & IV Chapter 11, Section III.C	Section X	Section X
9. Detection and Measurement of Airborne Radioiodine	Chapter 9, Section III.A	N/A	N/A
10. Relating Measured Parameters and Gross Radioactivity Measurements; Dose Estimation and Comparison with PAG's	Chapter 9, Section III.A Department of Health Operating Procedures	N/A	N/A
11. Arrangements to Locate/Track Airborne Radioactive Plume	Chapter 9, Section III.A	N/A	N/A

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
J. PROTECTIVE RESPONSE			
1. Means/Time Required to Warn Onsite Individuals	N/A N/A		N/A
2. Evacuation Routes and Transportation Provisions	Chapter 11, Section V	Section XII.E	Section XII.E
3. Radiological Monitoring of Site Evacuees	N/A N/A		N/A
4. Onsite Evacuation at Site Area or General Emergency	N/A N/A		N/A
5. Accountability of Individuals Onsite	N/A N/A		N/A
6. Licensee Provisions for Onsite Respiratory prot.; Prot. Clothing; Radioprotective drugs	N/A N/A		N/A
7. Method for Recommending Protective Actions to State/Locals	N/A N/A		N/A
8. Licensee Evacuation Time Estimates iaw App. 4	N/A N/A		N/A
9. Criteria and PAGs for Protective Actions	Chapter 11, Section IV Figures 11-1, 11-2, & 11-3	Section XII.A	Section XII.A
10.a. Map showing Evacuation Zones & Routes ; Evac. Time Estimate; Sampling and Monitoring Pts; and Shelter Locations	Chapter 11, Section V	Figure II-9 Figure II-10 Figure II-15 Figure II-16	Figure II-11 Figure II-15 Figure II-16
b. Population Density Map	Chapter 11, Section V	Figure II-14	Figure II-14
c. Notification of All Population Segments	Chapter 5, Section III Chapter 7, Section VII	Section VI	Section VI
d. Protection for Immobile Persons	Chapter 11, Sections V & VII Chapter 10, Section IV	Section XII.E.2	Section XII.E.2
e. Provisions for use of Radioprotective Drugs	Chapter 10, Section IV Chapter 11, Section VII	Section XII.B	Section XII.B

J. PROTECTIVE RESPONSE (CONTINUED)			
f. Administration of Radioprotective Drugs to Emergency Workers	Chapter 10, Section IV Chapter 11, Section VII	Section XI Section XII.B	Section XI Section XII.B
g. Means of Relocation	Chapter 11, Section III.C	Section XII.E	Section XII.E
h. Relocation Centers (Shelters)	Chapter 11, Section V	Section IX.G Figure II-9	Section IX.G Figure II-11
i. Traffic Capacities of Evacuation Routes	Chapter 11, Section V	Figure II-16	Figure II-16
j. Control of Access to Evacuated Areas	Chapter 2, Section II.C Figure 2-2 Chapter 11, Section III.B.2	Section XII.C & E Figure II-3	Section XII.C & E Figure II-5
k. Potential Impediments to Use of Evacuation Zones	Chapter 11, Section V	Addressed in State REMP	Addressed in State REMP
l. Evacuation Time Estimates	Chapter 11, Section V	Figure II-16	Figure II-16
m. Bases for the Choice of Protective Actions	Chapter 11, Section III.A	N/A	N/A
11. Protective Measures for the Ingestion Pathway	Chapter 11, Section II.B Figure 11-3	N/A N/A	
12. Registering and Monitoring Evacuees	Chapter 11, Section III.B	Section XII. F & G	Section XII. F & G

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
K. RADIOLOGICAL EXPOSURE CONTROL			
1. Onsite Exposure Guidelines	N/A	N/A	N/A
2. Onsite Radiation Protection Program	N/A N/A		N/A
3. a. Doses Received by Emergency Personnel & Distribution of Dosimeters	Chapter 10, Section II	Section XI	Section XI
b. Dosimeter Reading and Records for Emergency Workers	Chapter 10, Section II Figures 10-1 & 10-2	Section XI	Section XI
4. Decision to Authorize Exposure in Excess of PAG's for Emergency Workers	Chapter 10, Section III Chapter 11, Section IV Figure 10-3	Section II.A.1 Section XI	Section II.B.1 Section XI
5. a. Action Levels for Determining the Need for Decontamination	Chapter 10, Section V Figure 10-2	Section XII.F Action levels are described in the REMP.	Section XII.F Note: Action levels are described in the REMP.
b. Means for Decontamination	Chapter 10, Section V Chapter 11, Section ?	Section XII.F	Section XII.F
6. Onsite Contamination Control	N/A	N/A	N/A
7. Decontamination of Relocated Onsite Personnel	N/A N/A		N/A
L. MEDICAL AND PUBLIC HEALTH SUPPORT			
1. Hospital and Medical Services to Evaluate and Treat Radiation Exposure	Chapter 12, Sections I, II & III Figures 12-1 & 12-2	Section XIII	Section XIII
2. Onsite First Aid Capability	N/A	N/A	N/A
3. Public, Private, and Military Medical Support	Chapter 12, Section II.A Figures 12-1 & 12-2	N/A N/A	
4. Transporting Victims to Medical Facilities	Chapter 12, Section III Figure 12-2	Section II.A.9	Section II.B. 7

M. RECOVERY AND REENTRY PLANNING AND POST-ACCIDENT OPERATIONS	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
1. Plans and Procedures (re-entry into evacuate area)	Chapter 11, Section III Chapter 13, Sections I – III Figure 13-1	Section XIV & State REMP	Section XIV & State REMP
2. Key Positions in Licensee Recovery Organization	N/A N/A		N/A
3. Notification of Initiation of Recovery Operation	Chapter 13, Section II	N/A	N/A
4. Method of Periodically Estimating Total Population Exposure	Chapter 13, Section IV	N/A	N/A
N. EXERCISES AND DRILLS			
1.a. Exercises that Require Response of Offsite Authorities	Chapter 14, Section II	Section XV & State REMP	Section XV & REMP
b. Exercise Scenario and Critique	Chapter 14, Section II.F & G	Section XV & State REMP	Section XV & State REMP
2. a. Communication Drills	Chapter 14, Section III.A	Section XV & State REMP	Section XV & State REMP
b. Fire Drills	N/A	N/A	N/A
c. Medical Emergency Drills	NA for State; however addressed in Chapter 14, Section III.B	Section XV & State REMP	Section XV & State REMP
d. Radiological Monitoring Drills	Chapter 14, Section III.C	Section XV & State REMP	Section XV & State REMP
e. Health Physics Drills 1) Response to Simulated, Elevated Airborne/Liquid Samples	Chapter 14, Section III.D	N/A	N/A

N. EXERCISES AND DRILLS (CONT.)	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
2) Analysis of Inplant Samples	N/A	N/A	N/A
3. a. Objectives and Evaluation Criteria	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
b. Dates, Time Periods and Participating Organizations	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
c. Simulated Events	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
d. Time Schedule of Real and Simulated Initiating Events	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
e. Narrative Summary	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
f. Arrangements and Advance Material for Observers	Chapter 14, Section II.F.2	Section XV & State REMP	Section XV & State REMP
4. Federal, State, and Local Critique and Evaluation	Chapter 14, Section II.G	Section XV & State REMP	Section XV & State REMP

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
5. Evaluation Criteria for Plan, Procedural Changes/ Assignment of Corrective Actions	Chapter 14, Section II.G	Section XV & State REMP	Section XV & State REMP
O. RADIOLOGICAL EMERGENCY RESPONSE TRAINING			
1. Organization Training of Appropriate Individuals	Chapter 15, Section II	Section XVI & State REMP	Section XVI & State REMP
a. Site-specific Training for Offsite Responders	N/A N/A		N/A
b. Offsite Response Training	Chapter 15, Sections II - IV	Section XVI & State REMP	Section XVI & State REMP
2. Onsite ERO Training	N/A	N/A	N/A
3. Licensee First Aid Team Training	N/A N/A		N/A
4. Training Program Establishment	Chapter 15, Section I - V	Section XVI & State REMP	Section XVI & State REMP
a. Directors/coordinators of Response	Chapter 15, Section II.C Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
O. RADIOLOGICAL EMERGENCY RESPONSE TRAINING (CONT.)			
b. Accident Assessment Personnel	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
c. Radiological monitoring team/analysis personnel	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
d. Police/security/fire-fighting personnel	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
e. Repair/damage Cont. Personnel.	N/A N/A		N/A
f. First aid/rescue personnel	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
g. Local support services personnel (civil defense, emergency service)	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
h. Medical support personnel	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
i. Licensee headquarters support personnel	N/A N/A		N/A
j. Personnel responsible for Transmission of Emergency Information	Chapter 15, Figures 15-1 through 15-3	Section XVI & State REMP	Section XVI & State REMP
5. Initial Training and Retraining	Chapter 15, Sections III & V	Section XVI & State REMP	Section XVI & State REMP

* Locals who have accident assessment capability are encouraged to include in training programs.

NUREG 0654 CRITERIA	State of Florida Radiological Emergency Management Plan (REMP)	Miami-Dade County	Monroe County
P. RESPONSIBILITY FOR THE PLANNING EFFORT			
1. Training for Planners	Chapter 15, Section III	Section XVI & State REMP	Section XVI & State REMP
2. Authority and Responsibility for Planning	State Comprehensive Emergency Management Plan (SCEMP): Section IV.C.2	Section II	Section II
3. Emergency Planning Coordinator	State Comprehensive Emergency Management Plan (SCEMP): Section IV.C.2	Section II.A.2	Section II.B.2
4. Plan and Agreement Review and Update	State Comprehensive Emergency Management Plan (SCEMP): Section IV.C.2	Section II.A.2	Section II.B.2
5. Distribution of Plans and Approved Revisions	State Comprehensive Emergency Management Plan (SCEMP): Section IV.C.2	Section II.A.2	Section II.A.2
6. Supporting Plans and their Source	State Comprehensive Emergency Management Plan SCEMP): Section IV.C.2 & Section VII	In accordance with SCEMP: Section IV.C.2 & Section VII	In accordance with SCEMP: Section IV.C.2 & Section VII
7. Procedure List to Implement Plan	Standard Operating Procedure (SOP) List is not contained in State Plan. Operating Procedures are available on request.	SOP List is not contained in county plan. Procedures are available on request.	SOP List is not contained in county plan. Procedures are available on request.
8. Table of Contents & Cross Reference	Table of Contents	Table of Contents	Table of Contents
9. Independent review of EP Program	N/A N/A		N/A
10. Quarterly Update of Telephone Numbers	REMP, Chapter 5, Section 1	REMP, Chapter 5, Section 1	REMP, Chapter 5, Section 1

PUBLIC INFORMATION AND EDUCATION

I. **General**

The purpose of Emergency Support Function (ESF) 14, Public Information, is to establish a mechanism that efficiently provides and disseminates information to the general public in the event of a nuclear emergency.

This chapter provides guidance for keeping the public informed about potential hazards present at nuclear power plants, emergency responses required to cope with a radiological emergency and protective measures that can be taken to minimize or alleviate adverse public health effects.

II. **Public Information Spokesperson**

- A. The Florida Division of Emergency Management (FDEM), External Public Affairs Office, serves as the lead agency for ESF 14. Depending on the severity of the situation, the Governor's Press Office and staff may assist with press releases. In the event of a nuclear power plant emergency the Governor, the State Coordinating Officer, or designee, will be in demand for news media interviews and press conferences. The State Coordinating Officer or designee will be the official spokesperson for the State.
- B. ESF 14 staff **will** be located in the State Emergency Operations Center (SEOC) in Tallahassee and **may** operate on a 24-hour basis to facilitate the flow of public information. A Public Information Officer **will** be deployed as a member of the State Management Team (SMT) to the licensee's emergency news center.
- C. A spokesperson **will** be available from each of the major organizations involved in the response. These **may** include representatives from the licensee, county commission, county emergency management, county health departments, the State Coordinating Officer or Deputy State Coordinating Officer.

III. **Public Information Officers**

Public Information Officers (PIOs) are those persons authorized by their organizations to release news and background information to the media, monitor events and summarize information for distribution to responding organizations and the media, coordinate and verify information with all participating organizations, ensure timely notification to the public, assist public information spokespersons and maintain records of news releases and public information.

A. **State Public Information Officer**

Any information released to the news media from any state agency will be coordinated through the State Public Information Officer in the SEOC or the Deputy State Coordinating Officer in the emergency operations facility.

The State Public Information Officer will:

- 1. Collect, edit and release information to the media
- 2. Establish contact with wire services, newspapers, radio and television

PUBLIC INFORMATION AND EDUCATION

3. Assist news media personnel in the performance of their functions including accreditation, identification and obtaining of interviews
4. Coordinate the release of information with the licensee and county PIOs
5. Brief the news media as conditions warrant
6. Coordinate with ESF 5 for situational awareness
7. Ensure the Florida Emergency Information Line is operational before, during, and after an emergency
8. Assign public information staff who will work from the licensee's emergency news center or the SEOC.

B. County Public Information Officers

1. Each Risk county will provide a PIO to represent the county at the licensee's emergency news center.
2. Each Host county directly involved in emergency response activities has the option to provide a PIO to represent the county at the licensee's emergency news center.

C. Licensee Public Information Officers

The licensee will provide a PIO in the licensee's emergency news center.

IV. Emergency News Facilities

The FDEM will provide space and equipment (i.e. telephone line access, etc.) at the SEOC in Tallahassee for media representatives for the dissemination of information during an emergency.

The affected licensee will provide space and equipment (such as telephone line access, etc.) at the emergency news center for media representatives for the dissemination of information during an emergency.

A. Emergency Support Function 14 (Public Information)

ESF 14 at the SEOC serves as the primary location for news and information releases until activation of the licensee's emergency news center.

B. Emergency News Center

The emergency news center serves as the focal point for news and information releases during an emergency. The licensee's emergency news center is located at the licensee's Emergency Offsite Facility (EOF). The Farley Emergency News Center is located near the Alabama Forward Emergency Operations Center in Houston County. From this location, public information staff, including technical experts, from the licensee, state and counties will issue news releases. Periodic news conferences will be conducted as needed at the emergency news center. A spokesperson from each organization will be present at each news conference.

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Each licensee will designate an individual who will act as the emergency news center manager and will be responsible for the overall management and coordination of the emergency news center activities to include:

1. Providing adequate physical accommodations, including space and equipment, to conduct media briefings and coordination meetings
2. Establishing briefing schedules
3. Providing background information to include press kits
4. Providing notice of significant events such as evacuations
5. Establishing security protocols to include identification procedures
6. Providing periodic updated releases to wire services

V. Coordination of Media Releases

The dissemination of information to the news media and public will be coordinated by the PIOs from the state, counties, and licensees. Each PIO will collect information regarding emergency operations and protective actions decisions from their respective personnel in the emergency operations centers. The accuracy and validity of this information will be verified orally or by facsimile hard copy. Upon verification of information, the PIOs will develop coordinated news releases. The State Coordinating Officer or designee (when located at the emergency operations facility) and the Department of Health are responsible for reviewing information and determining its validity and accuracy prior to the release of public information by the state. Sample media releases for each appropriate emergency class are included in Figures 7-1 through 7-8.

A. Notification of Unusual Event

Due to the nature of conditions at this emergency class, an informative release of information to the media or public regarding off-site emergency operations or is not anticipated from the state. State and local emergency response agencies will monitor conditions until the event escalates or terminates.

B. Alert

Upon declaration of an Alert, the Public Information Officers will be notified in accordance with standard operating guidelines and placed, at a minimum, on standby status. Public information plans and implementing procedures will be reviewed by the Public Information Officers and informational materials (press packets, emergency forms, etc.) will be made ready, should conditions escalate.

Each Risk county may deploy PIOs to the emergency news center. The licensee may deploy Public Information Officers and an emergency news center manager to the emergency news center.

C. Site Area Emergency and General Emergency

Upon escalation to a Site Area Emergency or General Emergency, ESF 14 **will** activate the Florida Emergency Information Line. The SEOC will serve as the primary

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source for information releases until activation of the licensee's emergency news center. Upon activation of the licensee's emergency news center, the State Public Information Officer and support staff will be deployed. Should conditions warrant, these facilities may be activated prior to declaration of a Site Area Emergency or General Emergency.

Each Risk county will dispatch PIOs to the emergency news center. The licensee will dispatch PIOs and a emergency news center manager to the emergency news center.

VI. **Rumor Control**

The FDEM operates the Florida Emergency Information Line to handle citizens inquiries during an emergency/disaster situation. The Florida Emergency Information Line **can** run **24-hour** operations. The Florida Emergency Information Line telephone number and Telephone Device for the Deaf number will be released to the general public upon activation of the SEOC and/or the licensee's emergency news center. During an emergency, other State agency personnel will be used to supplement the Florida Division of Emergency Management (FDEM) staff. Florida Emergency Information Line standard operating guidelines provide for the management and coordination of rumor information and trends. The coordination of rumor trends between the State and Risk counties will occur with calls between representatives of the rumor control personnel for the Florida Emergency Information Line, the emergency news center, and the Risk counties.

Each Risk county will activate similar information lines to answer public inquiries. These telephone numbers are published in the public education booklets that are distributed to residents and transients within each 10-mile emergency planning zone. Each Risk county's information line will also be re-released to the general public upon activation of the SEOC and the emergency news center.

VII. **Public Education**

- A. The licensee and risk counties will coordinate information and materials released to the public to ensure residents and transients are advised of appropriate protective measures to take during a radiological emergency within the 10-mile Emergency Planning Zone (EPZ).
- B. Public education materials are revised and disseminated annually to businesses and residents within the 10-mile EPZs of each nuclear power plant site in Florida.
- C. Appropriate public notices will be posted in parks, beaches, and other outdoor recreational facilities within the 10-mile EPZ that are under the control of State and local government. These will inform the transient population of appropriate actions to take when they hear an emergency alert signal.
- D. Each nuclear power plant also produces a site-specific public information booklet **annually**. The booklets provide, at a minimum, information pertaining to the following:
 - 1. Explanation of radiological concepts
 - 2. Emergency Alert System stations
 - 3. Power plant operations

PUBLIC INFORMATION AND EDUCATION

4. Protective measures
 5. Evacuation routes
 6. Special needs populations
 7. Additional contacts for information
- E. At least annually, the licensee, in conjunction with the FDEM and the Risk counties, will conduct media briefings to advise the media of the following information:
1. Emergency plans and procedures
 2. The flow of information and role of the media during an emergency
 3. Radiation concepts
 4. Emergency contact persons
- F. This may be accomplished through the use of presentations, detailed evacuation maps, press packets or other educational materials developed by the FDEM, in conjunction with the risk counties and licensees.

**FIGURE 7-1
SAMPLE PRESS RELEASE - UNUSUAL EVENT**

State Emergency Response Team

NEWS RELEASE No. _____
Date (insert)

Contact: State of Florida
(Insert name) / Public
Information Officer
(Phone Number)

THIS IS A DRILL**THIS IS A DRILL****THIS IS A DRILL**

Division of Emergency Management Receives Notification of an Unusual Event at (Insert name) Nuclear Power Plant

(Insert Origination)-- The Florida Division of Emergency Management has received notification of an Unusual Event at (Insert plant name) Nuclear Power Plant operated by (Insert company name).

An Unusual Event is the first stage in a four-stage series of emergency conditions as classified by the Nuclear Regulatory Commission. The purpose of a Notification of an Unusual Event is to relay pertinent information to the State Emergency Operations Center in case a response is warranted by the Forward State Emergency Response Team.

The Florida Division of Emergency Management was notified of the condition by plant personnel. The Division is currently monitoring the situation at the State Emergency Operations Center in Tallahassee. The State Emergency Operation Center is currently at Level 3 - the monitoring phase, but will be activated and staffed by representatives from State agencies if assistance or a response by the Forward State Emergency Response Team is required.

The Governor is being kept informed of the emergency. Under Florida law, the Governor has the ultimate responsibility for protecting the public health and safety in emergencies that are beyond the capability of local government to control.

The Florida Division of Emergency Management has activated the Florida Emergency Information telephone line, and persons may call to obtain accurate, up-to-date information about the power plant emergency. The toll-free number is 1-800-###-####.

###

**FIGURE 7-2
SAMPLE PRESS RELEASE - ALERT**

State Emergency Response Team

NEWS RELEASE No. _____
Date (insert)

Contact: State of Florida
(Insert name) / Public
Information Officer
(Phone Number)

THIS IS A DRILL

THIS IS A DRILL

THIS IS A DRILL

The Division of Emergency Management Responds to Alert at (Plant) Nuclear Power Plant

(Insert Origination) - The Florida Division of Emergency Management has responded to an Alert at the (insert name) Nuclear Power Plant operated by (insert company name).

An Alert is the second stage in a four-stage series of emergency conditions as classified by the Nuclear Regulatory Commission. The purpose of an Alert is to relay pertinent plant condition information to the State Emergency Operations Center in case a response is warranted by the State Management Team.

Upon being notified of the condition by Plant personnel, the Division activated the State Emergency Operations Center in Tallahassee and dispatched the State Management Team to the (insert plant name) Nuclear Power Plant in (insert County Name) County. Leading the team is (insert name), who is serving as the State Coordinating Officer's designee. The State Coordinating Officer serves as the Governor's authorized representative.

The Governor is being kept informed of the emergency. Under Florida law, the Governor has the ultimate responsibility for protecting the public health and safety in emergencies that are beyond the capability of local government to control.

The State Emergency Operations Center is currently activated and staffed by representatives from State agencies whose assistance may be required. It will remain open for the duration of the emergency.

The Florida Division of Emergency Management has activated the Florida Emergency Information 24-hour hotline for citizens to obtain accurate, up-to-date information about the power plant emergency. The toll-free number is 1-800-###-####.

###

FIGURE 7-3
SAMPLE MEDIA RELEASE - SITE AREA RELEASE

State Emergency Response Team

NEWS RELEASE No. _____

Date (insert)

Contact: State of Florida
(Insert name) / Public
Information Officer
(Phone Number)

THIS IS A DRILL

THIS IS A DRILL

THIS IS A DRILL

**State Emergency Response Team Advances to (Insert plant name)
Nuclear Power Plant**

(Insert Origination) - The Florida Division of Emergency Management is responding to a Site Area Emergency at the (insert plant name) Nuclear Power Plant operated by (insert company name).

The Division has activated the State Emergency Operations Center and dispatched the State Management Team to (insert plant name). The State Management Team is coordinating any required actions by State agencies and the Governor. Leading the State's team is (insert name), who is serving as the appointed State Coordinating Officer's designee. The State Coordinating Officer serves as the Governor's authorized representative.

A Site Area Emergency is the third stage in a four-stage series of emergency conditions as classified by the Nuclear Regulatory Commission. It involves a failure of a plant function essential to the protection of public health and safety. Currently, the public is not in danger but should stay tuned to local media for any changes in plant conditions.

The Florida Division of Emergency Management has activated the Florida Emergency Information 24-hour hotline for citizens to obtain accurate, up-to-date information about the power plant emergency. The toll-free number is 1-800-###-####.

###

FIGURE 7-4
SAMPLE PRESS RELEASE - GENERAL EMERGENCY

State Emergency Response Team

NEWS RELEASE No. _____
 Date (insert)

Contact: State of Florida
 (Insert name) / Public
 Information Officer
 (Phone Number)

THIS IS A DRILL

THIS IS A DRILL

THIS IS A DRILL

Forward State Emergency Response Team Responds to a General Emergency at (insert plant name) Nuclear Power Plant

(Insert Origination) - The Florida Division of Emergency Management has responded to a General Emergency at the (insert name) Nuclear Power Plant operated by (insert company name).

A General Emergency is the fourth stage in a four-stage series of emergency conditions as classified by the Nuclear Regulatory Commission. It involves a failure of a plant function essential to the protection of public health and safety. The public is in no danger but should stay alert to any changes in Plant conditions.

Upon being notified of the condition by Plant personnel, The Division activated the State Emergency Operations Center in Tallahassee and dispatched the State Management Team to the utility's (insert name) Nuclear Power Plant in (insert County name) County. Leading the State's team is (insert name), the designee of the State Coordinating Officer. The State Coordinating Officer serves as the Governor's authorized representative.

The Governor is being kept informed of the emergency. Under Florida law, the Governor has the ultimate responsibility for protecting the public health and safety in emergencies that are beyond the capability of local government to control.

The State Emergency Operations Center is activated and staffed by representatives from state agencies whose assistance may be required. It will remain open for the duration of the emergency.

The Division of Emergency Management has activated the Florida Emergency Information 24-hour hotline for citizens to obtain accurate, up-to-date information about the power plant emergency. The toll-free number is 1-800-###-####.

###

FIGURE 7-5
SAMPLE MEDIA RELEASE - CONTINUATION OF EVENT

State Emergency Response Team

NEWS RELEASE No. _____
 Date (insert)

Contact: State of Florida
 (Insert name) / Public
 Information Officer
 (Phone Number)

THIS IS A DRILL

THIS IS A DRILL

THIS IS A DRILL

Governor Declares Emergency At (Insert name) Nuclear Power Plant

(Insert Origination) - Governor Rick Scott today declared a state of emergency in (Insert County Names) counties due to the potentially hazardous effects of a radioactive release from the (Insert plant name) Nuclear Power Plant operated by (Insert company name).

The plant condition has been classified at a (Insert condition) level since (Insert time declared) today. A (Insert condition) is the (insert stage #) stage of a four step series of emergency conditions as classified by the Nuclear Regulatory Commission. It involves an (insert designator of condition, ex. General Emergency - actual or imminent substantial core degradation or melting with potential for loss of containment integrity).

Governor Scott also directed all state agencies and the Florida National Guard to provide whatever assistance is requested by the local governments. The Florida Division of Emergency Management is authorized to direct the use of any state and county facilities, including public schools, for the sheltering of evacuees.

The Division has activated the State Emergency Operations Center and dispatched the State Management Team to (insert plant name). The State Management Team is coordinating any required actions by state agencies and the Governor. Leading the State's team is (insert name), the designee of the State Coordinating Officer. The State Coordinating Officer serves as the Governor's authorized representative.

The State Emergency Operations Center is staffed by representatives from state agencies whose assistance may be required. It will remain open for the duration of the emergency.

The Florida Division of Emergency Management has activated an emergency information telephone line that persons may call to get accurate, up to date information about the power plant emergency. The toll-free number is 1-800-342-3557.

###

FIGURE 7-6
SAMPLE PRESS RELEASE - EMERGENCY ALERT SYSTEM ACTIVATION

State Emergency Response Team

NEWS RELEASE No. _____
Date (insert)

Contact: State of Florida
(Insert name) / Public
Information Officer
(Phone Number)

THIS IS A DRILL**THIS IS A DRILL****THIS IS A DRILL**

**FOR IMMEDIATE BROADCAST - Emergency Alert System ACTIVATION
REQUESTED**

EMERGENCY ALERT SYSTEM MESSAGE

A **General Emergency** has been declared at the (Insert plant name) Nuclear Power Plant today, (Insert date) _____ at (Insert time) _____. A **General Emergency** is the fourth stage of a four-step series of emergency conditions as classified by the Nuclear Regulatory Commission. It involves actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

OR

A **Site Area Emergency** has been declared at the (Insert plant name) Nuclear Power Plant today, (Insert date) _____ at (Insert time) _____. A **Site Area Emergency** is the third stage of a four-step series of emergency conditions as classified by the Nuclear Regulatory Commission. It involves a failure of a plant function essential to the protection of public health and safety.

In response to this situation, State and county officials have declared a state of Emergency and have ordered all persons within the following zones/areas to **EVACUATE: Zones/Areas** _____. At this time, public and recreational facilities in the affected areas have been closed.

*****ENTER EVACUATION ZONES/Areas*****

All residents and visitors leaving the area are to go to the Emergency Reception Centers located in (Insert county name) County or shelters located in (Insert Host County) County. To get there, evacuees should stay on evacuation routes, and follow the direction of traffic control points along the way.

FIGURE 7-6 (Continued)
SAMPLE PRESS RELEASE - EMERGENCY ALERT SYSTEM ACTIVATION

Drivers are advised to close car windows, turn off car fans/vents and use air conditioning only when necessary and be prepared to seek shelter in the nearest building. Keep your radio tuned to one of the following emergency broadcast stations:

(Insert plant name) Nuclear Power Plant Emergency Alert System stations -

WWWW	---- AM	WWWW	---- AM
XXXX	---- AM	XXXX	---- AM
YYYY	---- FM	YYYY	---- FM
<u>ZZZZ</u>	---- FM	<u>ZZZZ</u>	---- FM

More information on the emergency will be released as soon as it is available. Please keep your radio tuned to one of the following emergency broadcast stations for further information.

FIGURE 7-7
SAMPLE PRESS RELEASE - AGRICULTURE EMBARGO

State Emergency Response Team

NEWS RELEASE No. _____
 Date (insert)

Contact: State of Florida
 (Insert name) / Public
 Information Officer
 (Phone Number)

THIS IS A DRILL**THIS IS A DRILL****THIS IS A DRILL**

Governor Declares Agricultural Embargo

(Insert Origination) - Governor Rick Scott has declared an agricultural embargo for all locally-grown garden and farm produce within the following counties: (Insert Counties). The embargo was declared as a result of the emergency and release of radioactive materials at the (Insert name) Power Plant in (Insert County) County, said officials at the State Emergency Operations Center in Tallahassee.

Until further notice, all roadside vendors in the affected counties are advised to cover their produce and cease sales and distribution of the following locally-grown agriculture products:

- * Milk and milk products;
- * Fruits and vegetables;
- * Fish and shell fish; and
- * Honey.

Farmers are advised to prevent livestock from drinking from open water sources such as creeks, ponds and rivers located in the following counties: (Insert Counties):

Dairy cattle and lactating cattle should be put on stored feed and sheltered. All other farm livestock should be put on stored feed if possible. Special care should be given to livestock feed and feeding sites to avoid contamination by airborne contaminants. Harvested hay bales or rolled hay should be covered if possible with plastic or tarpaulins.

The killing and butchering of beef cattle, swine, goats, fowl, poultry and wild game should cease until further notice. The Fish and Wildlife Conservation Commission has suspended all hunting and fishing in the following counties: (Insert Counties). Fishing and sporting activities in (Insert bodies of water) have been suspended until further notice.

For additional information, contact the local agriculture extension agent or the Department of Agriculture and Consumer Services. The Florida Division of Emergency Management has activated the Florida Emergency Information Line, and persons may call to obtain accurate, up-to-date information about the power plant emergency. The toll-free number is 1-800-###-####.

###

PUBLIC INFORMATION AND EDUCATION

FIGURE 7-8
SAMPLE PRESS RELEASE – ALL CLEAR

The Governor of Florida has announced that the emergency conditions at the _____ Nuclear Power Plant have ended. It is now safe to return to your residence and/or business. Repeating . . . the emergency conditions in the area of the _____ Nuclear Power Plant have now ended. You may return home and resume normal activities. There is no longer any threat to persons in the area. If you need additional information, you may contact _____

NOTE TO CORRESPONDENTS:

This message has been issued by authority of the Governor of Florida. Additional information may be obtained from _____

Date/Time of issue: _____.

Issued by: _____.

EMERGENCY FACILITIES AND EQUIPMENT

I. General

This chapter describes the emergency response facilities utilized for each of the power plants, the supplies and equipment designated for emergency response and the key personnel and organizations that are anticipated to respond to emergencies at each facility. These emergency response facilities have been established in the vicinity of the power plant to allow for the effective coordination of state, local, federal and licensee resources during an emergency at a nuclear power plant. In order to effectively mitigate against emergency situations at the nuclear power plant these facilities should be located outside the 10-mile Emergency Planning Zone (EPZ).

Impact assessments of offsite radiological emergencies will be performed by the Bureau of Radiation Control (BRC), in accordance with their standard operating procedures.

II. Emergency Response Facilities**A. State Emergency Operations Center**

1. The State Emergency Operations Center (SEOC) serves as the coordination point for the State's response for any major emergency. For a more detailed discussion of the SEOC, refer to Section IV.B of the State Comprehensive Emergency Management Plan (CEMP).
2. Staffing of the SEOC will be in accordance with Section IV.D of the CEMP. It is the responsibility of the section chiefs and branch directors to ensure that each response area is adequately staffed in accordance with established operating guidelines.

B. County Emergency Operations Centers

1. Each Risk and Host county affected by a radiological emergency **will** establish a county Emergency Operations Center (EOC) to coordinate the county emergency response. The locations of the county emergency operations centers are identified in the respective site appendices.
2. County EOCs will be activated and staffed in accordance with county emergency management plans.

C. Licensee Emergency Operations Facilities

1. Each licensee **will** establish an Emergency Offsite Facility (EOF) for the management of overall licensee emergency response, including coordination with federal, State and local officials.
2. The licensee EOFs for each nuclear power plant are located at:
 - a. Crystal River – Progress Energy training facility, 8200 West Venable Drive, Crystal River, FL 34429.
 - b. St. Lucie - Midway substation 9001 Midway Road, Ft. Pierce, FL 34945.
 - c. Turkey Point – Florida Power and Light corporate headquarters, 9250 West Flagler Street, Miami, FL 33174.

EMERGENCY FACILITIES AND EQUIPMENT

3. The licensee **may** activate the emergency operations facility upon declaration of an **Alert** and will activate it upon the declaration of a **Site Area Emergency** or **General Emergency**, or as emergency conditions warrant.

III. **Transportation to Licensee's Emergency Operations Sites**

- A. The State Management Team (SMT) will travel by the most expeditious manner from Tallahassee to the affected licensee's EOF.
- B. Department of Health personnel assigned to field monitoring teams and the Mobile Emergency Radiological Laboratory will travel from Orlando to each of the sites in accordance with procedures. A Department of Health field team is located in Miami and will travel in accordance with established procedures to an emergency at the Turkey Point Nuclear Power Plant.

IV. **Joseph M. Farley Nuclear Power Plant**

The Alabama Forward Emergency Operations Center is located in the Houston County Courthouse in 114 N Oates Street, Dothan, AL 36303. Southern Nuclear Company also has a common emergency operations facility at the Southern Nuclear corporate headquarters located at 40 Inverness Parkway, Birmingham, AL 35242. Florida is not included within the 10-mile emergency planning zone as the Farley Nuclear Power Plant is located 16 miles north of the Florida-Alabama border on the Chattahoochee River. If offsite radiological monitoring is necessary in the ingestion pathway zone, the Department of Health field monitoring teams will be coordinated through the Mobile Emergency Radiological Laboratory as outlined in the BRC's standard operating procedures.

The Liaison Team will travel to Dothan, Alabama via ground or air transportation. The BRC may, depending on accident conditions, send representatives to this facility to perform functions such as dose assessment.

V. **Radiological Response Equipment**

A. **Laboratory Support**

The BRC has a radiochemistry laboratory in Orlando with a full range of capability for analysis of environmental media. The major analytical systems and capabilities are outlined in Figure 8-1.

The BRC also maintains a Mobile Emergency Radiological Laboratory that will be dispatched to the vicinity of the power plant at the time of an emergency. The mobile laboratory provides a wide range of capability for analysis of environmental media and is provided with pre-designated parking locations near each reactor site. The mobile laboratory is self-contained and may be operated without support services when necessary.

The state will analyze collected samples at the Department of Health's Health Physics Lab (Orlando), and the Mobile Emergency Radiological Lab. Additional laboratory assistance may be requested from the United States Department of Energy and the Environmental Protection Agency.

EMERGENCY FACILITIES AND EQUIPMENT

Implementation of the major analytical systems is explained in the BRC's Standard Operating Procedures. Additional laboratory assistance may be requested from the United States Department of Energy.

B. Offsite Monitoring Equipment

Offsite monitoring equipment available for the Department of Health's field teams in Orlando and Miami is outlined in Figure 8-2. Additional radiation survey instruments used in ongoing program activities are located in the Department's offices in Pensacola, Tallahassee, Ft. Myers, Tampa, Jacksonville, Miami, Orlando, Ft. Lauderdale, Lantana, and Winter Haven. Department of Health personnel will maintain inventories of offsite monitoring equipment. Means for equipment calibration, maintenance, and equipment operations are explained in the BRC's standard operating procedures.

EMERGENCY FACILITIES AND EQUIPMENT

**FIGURE 8-1
RADIOCHEMISTRY LABORATORY AND ANALYTICAL CAPABILITIES**

Type of Sample	Analysis	Equipment Used
Air (particulate filter and radioiodine cartridge)	Gross Alpha, Gross Beta (filter) Gamma Analysis (filter + cartridge) Isotopic Uranium by specific chemistry (filter) Isotopic Plutonium by specific chemistry (filter)	1, 2 3 6 6
Swipes	Gross Alpha, Gross Beta Strontium-89, 90 by specific chemistry Gamma Analysis Isotopic Uranium by specific chemistry Isotopic Plutonium by specific chemistry Tritium, Carbon-14 Nickel-63 by specific chemistry Promethium-147 by specific chemistry	1, 2 1, 2 3 6 6 7, 8 7 7
Fauna	Gamma Analysis	3
Milk	Strontium-89, 90 by specific chemistry, I-131 by specific chemistry, Gamma Analysis	1, 2 1, 2 3
Soil	Gamma Analysis Radium-226 by ingrowth of daughters Tritium, Carbon-14	3 4 7, 8
Vegetation	Gamma Analysis	3
Water	Gross Alpha, Gross Beta Radium-226, Radium-228, Polonium-210, Total Uranium, Strontium-89, 90 all by specific chemistry Gamma Analysis Isotopic Uranium by specific chemistry Isotopic Plutonium by specific chemistry Tritium, Carbon-14 Radon-222 Nickel-63 by specific chemistry Promethium-147 by specific chemistry	1,2 1,2 3 5, 6 5, 6 7 7 7
Ambient Radiation	Gamma Radiation	9

Major Laboratory Equipment:

- (3) low background, gas flow proportional counters with automatic sample changers including one Tennelec LB5100 Series II, one Gamma Products 5000N and one Gamma Products 5020.
- (3) Eight-Detector, low background, gas flow, proportional counter systems including a Tennelec LB4110, and (2) Protean MDS-8.
- Gamma Spectroscopy system consisting of Canberra N type 65% ultra low background HPGE detector, Princeton Gamma Tech N type 41% HPGE detector, Princeton Gamma Tech P type 22% HPGE detector, two Ludlum shielded 2" NaI well counter Canberra Genie 2000 PC analysis software.
- Gamma Spectroscopy system consisting of two 3 x 3 NaI and two 4 x 4 NaI detectors, one FIDLER detector with Canberra Alpha M for VAX analysis software.
- (2) Ordela PERALS (Photon Electron Rejecting Alpha Liquid Spectroscopy) spectrometer.
- (3) Canberra 7401 alpha spectroscopy chambers with PIPS detectors.
- Packard Tri Carb 2900TR Liquid scintillation counter.
- Packard Model 307 Sample Oxidizer for preparation of solid samples for H3/C14 analysis.
- Thermoluminescent dosimetry system consisting of Panasonic Model 716 automatic TLD reader, 300 Panasonic 814 TLD badges.

EMERGENCY FACILITIES AND EQUIPMENT

FIGURE 8-1 continued

Mobile Emergency Radiological Laboratory - Bureau of Radiation Control, Orlando

The Mobile Emergency Radiological Laboratory is a self-contained mobile laboratory that can be driven to a designated berthing location near the nuclear power plant as designated in the Department of Health's standard operating procedures.

The Mobile Emergency Radiological Laboratory is stationed at 2044 All Children's Way, Orlando, FL 32818.

A. Analytical Capabilities

The Mobile Emergency Radiological Laboratory is equipped with a computer based gamma spectroscopy system. It also carries survey instruments, personnel dosimeters, and other supplies used to outfit field teams and operate a contamination control line.

B. Communications

1. State Law Enforcement Radio System (800 Mhz statewide system)
2. Satellite telephone/radio
3. Telephone at prime and alternate berthing stations (Phone numbers listed in Emergency Response Directory)
4. Facsimile
5. Cellular telephone

C. Equipment

Typical quantities and description of inventory item:

1. (1) A.C. generator (10 KW)
2. (2) Gamma spectroscopy systems, one N type and one P type germanium detectors
3. (4) Low-volume air samplers
4. (2) Ludlum Model 3 with alpha scintillation probes (0- 50,000 cpm)
5. (34) Direct reading pocket dosimeters (0-200 mR) with chargers
6. (7) Ludlum 2241 with GM pancake probe (0-999,000 cpm)
7. (1) Ludlum 177-45 frisking station (0-500,000 cpm)
8. (3) Eberline ASP-1 with GM pancake probe (3,600,000 cpm)
9. (25) Electronic Personal Dosimeters (0-1600 R)
10. (1) Ludlum Model 52 Portal Monitor
11. (8) CDV 718 Radiac sets (0-9999 R/hr)
12. (1) Triather Liquid Scintillation Analyzer
13. (1) iSolo portable alpha beta counter
14. (1) Automatic alpha beta counter
15. (1) Ortec Detective EX portable germanium gamma isotopic identifier
16. (20) Thermo RadEye PRD Nal gamma detection meters (1 µR/hr-25mR/hr)
17. (12) Canberra Ultra Radiac EM GM gamma detection instruments (20µR/hr-500 R/hr)
18. Rubber boots, rubber gloves, cloth gloves, cotton coveralls, racal hood units with battery packs and filters and vinyl shoe covers.

EMERGENCY FACILITIES AND EQUIPMENT

FIGURE 8-2
OFFSITE MONITORING EQUIPMENT AVAILABLE TO FIELD TEAMS

A. Orlando

1. Handheld rate meters with alpha scintillation probes and G.M. pancake probes
2. (4) Portable 2500 Watt AC generators
3. (2) Portable gamma spectroscopy system
4. (4) Far West Technology REM500 neutron dose rate instruments (0.1 mR/hr-999 R/hr)
5. (17) Thermo RadEye PRD Alarming Personal Radiation Detectors
6. (12) Ludlum Model 2401-S Gamma Scintillators
7. (12) Ludlum Model 2401-P beta gamma pancake
8. (11) Canberra Model 213 Ultra Radiacs
9. (3) Ludlum Model 19 micro R meters
10. (8) High volume Air pumps
11. (1) ISCO 3700 Portable Water Sampler
12. (10) Ludlum Model 3 with 44-10-17 directional NaI probe.
13. (15000) CDV-742 Self Reading Dosimeters 0-200 R
14. (1,000) Self Reading Dosimeters 0-200 mR, 0-500 mR.

B. Miami

Emergency kit for the Miami field team is stored at the Miami-Dade Emergency Operations Center, 9300 NW 41st Street, and other equipment is at the area office.

1. Emergency Kit containing dosimeters, direct reading with chargers, low volume air samplers, and protective clothing.
2. Neutron instrument (1)
3. Portable gamma spectroscopy system (1)

EMERGENCY FACILITIES AND EQUIPMENT

FIGURE 8-3
RADIOLOGICAL EMERGENCY RESPONSE KITS

* Radiological Emergency Response Kits:

- | | |
|-----------------------|------------------------|
| -Vinyl boots, large | -Assorted plastic bags |
| -Barricade tape | -Entrenchment tool |
| -Masking tape | -Flashlights |
| -Gloves, disposable | -Rain suits |
| -Coveralls | -Plastic sheeting |
| -Pocket Calculator | -Warning signs |
| -Niptong | -Sample tags |
| -Steel measuring tape | -Pocket knife |
| -Smears and folders | -"D" cell batteries |
| -Flashlight bulbs | |

* Available at all regional offices and in field team cars.

Regional offices are located at:

Tallahassee

4042 Bald Cypress Way
Tallahassee, FL

Jacksonville

705 Wells Rd, Suite 300
Orange Park, FL

Pensacola

414 North 75th Ave
Pensacola, FL

Miami

401 NW 2nd Ave
Miami, FL

Orlando

2044 All Children's Way
Orlando, FL

Orlando

400 West Robinson
Orlando, FL

Ft. Myers

2295 Victoria Ave
Ft. Myers, FL

Lantana

1199 West Lantana Rd
Lantana, FL

Ft. Lauderdale

780 Southwest 24th St
Ft. Lauderdale, FL

Tampa

4508 Oak Fair Blvd, Suite 108
Tampa, FL

Winter Haven

225 Avenue D Northwest
Winter Haven, FL

ACCIDENT ASSESSMENT

I. General

This chapter describes the responsibilities for assessing the offsite impacts of a radiological emergency at a nuclear power plant and its effects on the health and well being of the residents and visitors of Florida. The state's capability for making accident assessments and performing field monitoring are described and carried out according to the Bureau of Radiation Control's (BRC) standard operating procedures.

II. Initial Assessment

The licensee will provide accident assessment and protective action recommendations to the Risk counties, and the State Management Team (SMT). The results of the assessment will be reported to state and local organizations in accordance with Chapter 5 (Notification and Activation) of this Annex.

III. Field Monitoring

A. Resources and Capabilities

Field monitoring within the Plume Exposure Pathway around nuclear power plant sites is provided by health physicists from the BRC. Laboratory support and equipment available for use by the field monitoring team is identified in Chapter 8 of this Annex. The specific systems and methods for radiation measurement, location and tracking of the radioactive plume, airborne radioiodine concentration measurement, and estimating integrated dose from actual and projected dose rates are outlined in the BRC's standard operating procedures. The BRC's Mobile Emergency Radiological Laboratory will serve as the sole point for receiving samples for analysis during the initial phase of emergency response.

B. Activation of Field Teams

Upon receipt of notification of an emergency, the BRC Duty Officer (on-duty 24-hours daily) will contact the State Watch Office for verification and then contact the appropriate county Emergency Operations Centers (EOC) to determine what, if any, protective actions have been implemented. The BRC Duty Officer will use existing information, in accordance with established Department of Health procedures, to evaluate the potential for offsite exposure and to determine the adequacy of Protective Actions. Based upon the evaluation, the BRC Duty Officer will determine whether to activate emergency field teams and/or the Mobile Emergency Radiological Laboratory.

C. Coordination of Assessment and Monitoring Activities

The coordination of field assessment and monitoring activities is the responsibility of the BRC under Emergency Support Function (ESF) 8, as defined in Chapter 2 of this Annex.

ACCIDENT ASSESSMENT

D. Local Government's Role

The counties will implement decisions based on radiological monitoring data provided by the licensee or the BRC Team in accordance with county emergency response plans and procedures.

IV. Additional Assessment and Monitoring Support

A. Emergency Management Assistance Compact

When it is determined that an accident at a nuclear power plant cannot be adequately controlled with resources available to state radiological response personnel, a request will be forwarded to the SEOC by ESF 8 BRC for the additional resources needed. The request will contain the following information:

1. Description of the problem
2. Type of resources needed
3. Which state has the resources
4. Where the resources need to be delivered
5. Clear direction to assembly point or point of delivery
6. Estimated time the resources will be needed
7. If resources include people, what arrangements have been made for housing, etc

If the Governor, State Coordinating Officer, or designee concurs with the need for assistance as requested, the Governor, the State Coordinating Officer or designee will contact the Governor or designee of the Emergency Management Assistance Compact state that has the resources and request the specified assistance.

B. National Response Framework

The provisions of the National Response Framework (NRF) will be used for federal interagency coordination for radiological emergency response. Under the NRF, the Department of Energy coordinates federal offsite radiological environmental monitoring and assessment activities as the lead technical organization in the Federal Radiological Monitoring and Assessment Center, regardless of who is designated the federal coordinating agency. The Federal Radiological Monitoring and Assessment Center will be established at or near the incident location in coordination with the Department of Homeland Security, the coordinating agency, other federal agencies, and state and local authorities.

In addition, the Department of Energy's Region 3 office at the Savannah River Site maintains a Radiological Assistance Program. A Radiological Assistance Program response is tailored based on the scale of the event and additional Radiological Assistance Program teams and resources can be deployed as necessary.

Activation of these assets will occur when the Department of Energy has been notified that a radiological emergency has occurred and that federal assistance has been requested. These requests may be made by the BRC Operations Officer or the State Coordinating Officer.

ACCIDENT ASSESSMENT

The following personnel and equipment resources are available and will be provided on request:

1. Radiological monitoring and environmental specialists with supporting equipment
2. Aerial radiological monitoring equipment
3. Fixed and mobile laboratory support
4. Remote handling equipment
5. Technical assistance in predicting the dispersion of radioactivity into the environment
6. Medical consultation on the treatment of injuries complicated by radioactive contamination
7. Technical support for emergency public information

Federal Radiological Monitoring and Assessment Center and Radiological Assistance Program teams will work to ensure the coordination between State, local and federal agencies.

C. The Southern Mutual Radiation Assistance Plan

The Southern Mutual Radiation Assistance Plan provides mutual aid in responding to radiation accidents upon request. The plan describes the monitoring and assessment capabilities of each participating state. The following states have signed into agreement with the plan: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

RADIOLOGICAL EXPOSURE CONTROL

I. General

This chapter establishes the means and responsibilities for controlling radiological exposures to emergency workers involved in an emergency response. Emergency response organizations will limit exposure to emergency workers by limiting the amount of time spent in radiation areas, limiting entry into radiation areas to the maximum extent possible, using protective clothing, respirators or decontamination when necessary, using dosimetry and radiation monitors to track worker's exposures and authorizing the use of potassium iodide to emergency workers when directed by the Bureau of Radiation Control (BRC) Operations Officer as per BRC standard operating procedures.

II. Exposure Monitoring

A. Emergency Worker Dosimetry

Each Risk and Host county involved in response operations or monitoring and decontamination activities will have a Radiation Safety Officer in the county Emergency Operations Center (EOC) that will be responsible for monitoring exposure of county emergency personnel. The Radiation Safety Officer will issue, as appropriate, dosimeters (including direct-reading and thermoluminescent dosimeter badges) to emergency workers.

The Department of Health maintains a contract with a dosimetry company that is certified by the National Voluntary Laboratory Accreditation Program to provide thermoluminescent dosimeter badges to State Emergency Response Team personnel. These dosimeter badges are stored in each risk and host county and the Florida Division of Emergency Management building in Tallahassee. The Department of Health also maintains an additional supply of thermoluminescent dosimeter badges in Orlando.

B. Dose Records

Emergency personnel, except for the BRC, will be issued a Radiation Exposure Record Form as shown in Figure 10-1. Each emergency worker is responsible for:

1. Recording the direct-read dosimeter reading every 30 minutes
2. Reporting the exposure readings to their supervisor every six hours
3. Reporting to their supervisor when direct-read dosimeter readings reach 100 mR and 500 mR
4. Returning the all dosimetry and the radiation exposure record form(s) to their supervisor at the end of the emergency

Emergency worker thermoluminescent dosimeter badges will be returned to the BRC when the emergency is over or conditions have returned to normal. The BRC will then send the thermoluminescent dosimeter badges to the vendor for reading. The BRC will receive all emergency worker exposure records from the vendor. Records will be sent to the appropriate Radiation Safety Officer for distribution to the workers. A copy will be retained by the BRC.

RADIOLOGICAL EXPOSURE CONTROL

III. Authorization of Exposure in Excess of Protective Action Guides

The BRC exposure limit is 500 millirem per day and 5000 millirem for the duration of the emergency. These doses will be limited to the level specified in Figure 10-3.

The Chairperson of the Board of County Commissioners or designee may, after consultation with the BRC Operations Officer, authorize exposure in excess of 500 mR for county emergency response personnel.

The State Coordinating Officer or designee may, after consultation with the BRC Control Operations Officer, authorize exposure in excess of 500 mR for State Management Team (SMT) personnel.

IV. Potassium Iodide (KI)

Potassium Iodide can be used to saturate the human thyroid gland with stable iodine and thus prevent the absorption of inhaled or ingested radioactive iodine. Potassium Iodide does not protect other parts of the body against radiation exposure and does not protect the thyroid from external radiation. The greatest percentage of thyroid protection occurs when Potassium Iodide is administered at or about the time of exposure.

A. Authorization for the Use of Potassium Iodide (KI)

During an incident where the thyroid committed dose equivalent due to radioactive iodine is projected to be 5 rem or greater, actions to administer Potassium Iodide should be taken. The BRC Operations Officer will authorize the use of Potassium Iodide for emergency workers, difficult to move populations, and the general public.

B. Emergency workers and difficult-to-move individuals

The State has determined Potassium Iodide will be furnished for emergency workers and difficult-to-move people in accordance with the BRC's standard operating procedures.

To provide for issuance of Potassium Iodide to emergency workers and difficult-to-move individuals, approximately 87,000 single doses of liquid Potassium Iodide (5,800 bottles, 15 adult doses per bottle) have been stored at the following locations:

Citrus County Public Health Unit 3700 W. Sovereign Path Lecanto	Bureau of Radiation Control 2044 All Children's Way Orlando
Citrus County EOC 3549 Saunders Way Lecanto	St. Lucie County EOC 15303 W. Midway Road Ft. Pierce
Levy County EOC 9010 NE 79th Avenue Bronson	Martin County EOC 800 SE Monterey Road Stuart
Miami-Dade Fire Headquarters 9300 NW 41st Street Miami	Monroe County EOC 151 Marine Avenue Tavernier

RADIOLOGICAL EXPOSURE CONTROL

Ocean Reef Public Safety Office
100 Anchor Drive
Ocean Reef

Florida Division of Emergency
Management
2555 Shumard Oak Blvd.
Tallahassee

Potassium Iodide can be issued upon the recommendation of the BRC Operations Officer. Counties can then implement their own plans for dispensing potassium iodide.

Workers should continue to take recommended doses of Potassium Iodide daily until risk of significant exposure to radioiodine by either inhalation or ingestion no longer exists.

C. Members of the Public

Potassium Iodide will be issued to members of the general public in accordance with the county health department's procedures. To provide for issuance to the public, doses are strategically stored near nuclear power plant sites. During an emergency, if supplies at one or more locations run low, additional supplies from other sites will be brought in.

V. Decontamination

Action levels for determining the need for decontamination of emergency personnel and/or equipment are shown in Figure 10-2.

- A. Bureau of Radiation Control field team personnel who have been in contaminated or potentially contaminated areas will be monitored at the Mobile Emergency Radiological Laboratory. Contaminated personnel will be processed prior to being relieved from duty.
- B. All emergency personnel will be monitored at appropriate county monitoring and washdown stations. Personnel who are contaminated will be processed through appropriate county monitoring and washdown stations. Contaminated personnel that have been injured will be treated at medical facilities identified in Chapter 12 (Medical and Public Health Support) of this Annex.
- C. All contaminated tools, clothing, equipment and other material that cannot be decontaminated will be placed in plastic bags, tagged and placed in suitable containers for later disposition, under the direction of the county Health Department and the State Department of Health.

RADIOLOGICAL EXPOSURE CONTROL

**FIGURE 10-1
RADIATION EXPOSURE RECORD FORM**

NAME: _____				<u>INSTRUCTIONS</u>																																																							
AGENCY/DEPT: _____				Charge your dosimeter and enter the best reading obtainable on the first line (0). Read the dosimeter and record the reading every 30 minutes. Report exposure readings to your supervisor every 6 hours, or when your dosimeter indicates an exposure reading of 100 mR (Milliroentgens). Begin a new card every 6 hours. The Dosimeter Badge issued to you is to be worn at all times and turned in only when requested by your supervisor. Exposure in excess of 500 mR (Milliroentgens) must be authorized.																																																							
SS #: _____		DOB: _____																																																									
DOSIMETER #: _____		TYPE: _____																																																									
DATE: _____		TIME: _____																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;"><u>Time</u></th> <th style="text-align: left; padding: 5px;"><u>Dosimeter Reading</u></th> <th style="text-align: left; padding: 5px;"><u>Total Exposure</u></th> <th style="text-align: left; padding: 5px;"><u>Location</u></th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">0</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">0+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">1+00</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">1+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">2+00</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">2+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">3+00</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">3+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">4+00</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">4+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">5+00</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">5+30</td><td></td><td></td><td></td></tr> <tr><td style="padding: 5px;">6+00</td><td></td><td></td><td></td></tr> </tbody> </table>						<u>Time</u>	<u>Dosimeter Reading</u>	<u>Total Exposure</u>	<u>Location</u>	0				0+30				1+00				1+30				2+00				2+30				3+00				3+30				4+00				4+30				5+00				5+30				6+00	
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(Front)

(Back)

Above is a sample of a 3" X 5" card which may be used as an individual Incident Radiation Exposure Record form. This form may be used in conjunction with the permanent radiation exposure record obtained from the thermoluminescent dosimeter badge.

Chapter 10

RADIOLOGICAL EXPOSURE CONTROL

FIGURE 10-1 continued

Name: _____ Dept/Agency: _____

Social Security Number: _____ Age: _____ Date of Birth: _____

Dosimeter Badge: _____ Dosimeter CDV 138: _____

Dosimeter CDV730: _____

Other: _____

Date/Time (of initial or reading)	Initial Reading	Date/Time (of final reading)	Final Reading	Net Exposure	Area or Zone Location
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	

Total Exposure: _____

Signature: _____ Date: _____

Authorized by: _____ Date: _____

If no blank forms are available please use the back of this one for additional space.

RADIOLOGICAL EXPOSURE CONTROL

**FIGURE 10-2
DECONTAMINATION ACTION GUIDES**

HIGH RADIATION AREAS^a (0.1 to 5.0 mR/hr gamma exposure rates)

<u>When Measured</u>	<u>Closed Window</u>	<u>Recommended Actions</u>
Before Decontamination	less than 2 x background and less than 0.5 mR/h above background	Unconditional release
	greater than 2 x background or greater 0.5 mR/h above background	Decontaminate (equipment held for decay/disposal)
After Decontamination	less than 2 x background and less than 0.5 mR/h above background	Unconditional release (may leave monitoring/ decon station)
	greater than 2 x background or greater than 0.5 mR/h above background	Continue decon or send to low background decon station (equipment as above)

LOW RADIATION AREAS (less than 0.1 mR/hr gamma exposure rates)

<u>When Measured</u>	<u>Open Window</u>	<u>Recommended Actions</u>
Before decontamination	less than 2 x background greater than 2 x background	Unconditional release Simple decontamination
After simple decon (e.g. flushing with water and/ or wiping)	less than 2 x background greater than 2 x background	Unconditional release Full decontamination
After full decon (e.g. washing or scrubbing with soap or solvent followed by flushing with water)	less than 2 x background greater than 2 x background less than 0.5 mR/hr ^b	Unconditional release People continue full decon. Release animals/equipment
After additional full decontamination effort	less than 2 x background greater than 2 x background less than 0.5 mR/hr ^b greater than 0.5 mR/hr ^b	Unconditional release Send people to special care Release animals/equipment Use informed judgement to control animals/equipment

^a Only done in early phase of large particulate release accidents otherwise set up in low background area.

^b Closed window measurements.

RADIOLOGICAL EXPOSURE CONTROL

FIGURE 10-3
EMERGENCY WORKER DOSE LIMITS

Guidance on Dose Limit for Workers Performing Emergency Services

Dose limit ^a rem	Activity	Condition
5	all	lower dose not practicable
10	protecting valuable property	lower dose not practicable
25	life saving or protection of large populations	lower dose not practicable
>25	life saving or protection of large populations	on a voluntary basis to persons fully aware of the risks involved (see Fig. 10-4 & 10-5)

^a Total effective dose equivalent during an emergency situation.

FIGURE 10-4
HEALTH EFFECTS ASSOCIATED WITH WHOLE-BODY DOSES

Health Effects Associated with Whole-Body Doses Received within a Few Hours^a

Whole Body Dose (rad)	Early Fatalities ^b (percent)	Whole Body Dose (rad)	Prodromal Effect ^c (percent affect)
140	5	50	2
200	15	100	15
300	50	150	50
400	85	200	85
460	95	250	98

^a Risks will be lower for protracted exposure periods.

^b Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.

^c Forewarning symptoms of more serious health effects associated with large doses of radiation.