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November 24, 2008

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC
William States Lee III Nuclear Station - Docket Nos. 52-018 and 52-019
AP1000 Combined License Application for the
William States Lee III Nuclear Station Units 1 and 2
Partial Response to Request for Additional Information (RAI No. 50)
Ltr # WLG2008.11-13

Reference: Letter from Brian C. Anderson (NRC) to Peter S. Hastings (Duke Energy), *Request for Additional Information Letter No. 025 Related to SRP Section 13.3 for the William States Lee III Units 1 and 2 Combined License Application*, dated September 26, 2008.

This letter provides the Duke Energy response to the Nuclear Regulatory Commission's (NRC) request for the following additional (RAI) items included in the reference letter:

13.03-38, ETE-38	13.03-48, ETE-48
13.03-40, ETE-40	13.03-49, ETE-49
13.03-44, ETE-44	13.03-50, ETE-50
13.03-45, ETE-47	13.03-51, ETE-51

Responses to the NRC information requests described in the referenced letter are addressed in separate enclosures, which also identify associated changes, when appropriate, that will be made in a future revision of the applicable part of the combined license application.

If you have any questions or need any additional information, please contact Peter S. Hastings at 980-373-7820.

Bryan J. Dolan
Vice President
Nuclear Plant Development

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NRO

Enclosures:

1) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-38 (ETE-38)
2) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-40 (ETE-40)
3) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-44 (ETE-44)
4) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-47 (ETE-47)
5) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-48 (ETE-48)
6) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-49 (ETE-49)
7) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-50 (ETE-50)
8) Duke Energy Response to Request for Additional Information Letter 025, RAI 13.03-51 (ETE-51)

AFFIDAVIT OF BRYAN J. DOLAN

Bryan J. Dolan, being duly sworn, states that he is Vice President, Nuclear Plant Development, Duke Energy Carolinas, LLC, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this supplement to the combined license application for the William States Lee III Nuclear Station and that all the matter and facts set forth herein are true and correct to the best of his knowledge.

Bryan J. Dolan

Bryan J. Dolan

Subscribed and sworn to me on November 24, 2008

Phoebe P. Elliott

Notary Public

My commission expires: June 26, 2011

SEAL

xc (w/o enclosures):

Michael Johnson, Director, Office of New Reactors
Gary Holahan, Deputy Director, Office of New Reactors
David Matthews, Director, Division of New Reactor Licensing
Scott Flanders, Director, Division of Site and Environmental Reviews
Glenn Tracy, Director, Division of Construction Inspection and Operational Programs
Luis Reyes, Regional Administrator, Region II
Loren Plisco, Deputy Regional Administrator, Region II
Thomas Bergman, Deputy Division Director, DNRL
Stephanie Coffin, Branch Chief, DNRL

xc (w/enclosures):

Brian Anderson, Project Manager, DNRL
Brian Hughes, Senior Project Manager, DNRL

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP)

Reference NRC RAI Number(s): 13.03-038

NRC RAI:

ETE-38:

Provide a legible map that includes the nodes identified on Figure 1-2, "Lee Link-Node Analysis Network," and in Appendix K, "Evacuation Roadway Network Characteristics." The nodes must be annotated to support the review. A larger scale is necessary. Provide a roadway map that includes the sector and quadrant boundaries.

Duke Energy Response:

A 48 inch by 36 inch PDF file of Figure 1-2, has been exported at a resolution of 400 dpi from the original GIS file. This figure is provided as Attachment 1 to this response. The node numbers (from Appendix K) are labeled in the map.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachment:

1. Lee ETE Report (Rev. 1) Figure 1-2 electronic file.

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 1 to RAI 13.03-038

ETE Report (Rev. 1), Figure 1-2
Electronic File

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-040

NRC RAI:

ETE-40

Section 4, "Estimation of Highway Capacity," (page 4-4) states "based on empirical data collected on freeways, we have employed a value of R=0.85". Provide additional information, such as a reference for the basis of this empirical data. Was the R factor applied only to the Interstate 85 or was it also applied to the rural roads of the EPZ. Explain the basis for applying this factor to other than freeways.

Duke Energy Response:

The advisability of such a capacity factor is based upon empirical studies that identified a fall-off in the service flow rate when congestion occurs at "bottlenecks" or "choke points" on a freeway system. Zhang and Levinson (Reference 1) describe a research program that collected data from a computer-based surveillance system (loop detectors) installed on the Interstate Highway System, at 27 active bottlenecks in the twin cities metro area in Minnesota over a 7-week period. When flow breakdown occurs, queues are formed which discharge at lower flow rates than the maximum capacity prior to observed breakdown. These queue discharge flow (QDF) rates vary from one location to the next and also vary by day of week and time of day based upon local conditions. The cited reference presents a mean QDF of 2016 passenger cars per hour per lane (pcphpl). This figure compares with the nominal capacity estimate of 2250 pcphpl estimated for the ETE and indicated in Appendix K for freeway links. The ratio of these two numbers is 0.896 which translates into a capacity reduction factor of 0.90. The data collected in the cited reference indicates that the variation of QDF at a location is generally in the range of +/- 5% about the average QDF. That is, the lower tail of this distribution would be equivalent to a capacity reduction factor of 0.90 - 0.05 = 0.85 which is the figure used in the Lee ETE study.

The ETE report takes a conservative view in estimating the capacity at bottlenecks when congestion develops (this capacity is the QDF rate discussed above). While it could be argued that a capacity reduction factor of 0.90 may be more representative, as discussed above, considering emergency conditions, a conservative stance was justified. Therefore, a factor of 0.85 *only when flow breaks down*, as determined by the simulation model, was applied.

Rural roads, like freeways, are classified as "uninterrupted flow" facilities. (This is in contrast with urban street systems which have closely spaced signalized intersections and are classified as "interrupted flow" facilities.) As such, traffic flow along rural roads is subject to the same effects as freeways in the event traffic demand exceeds the nominal capacity, resulting in queuing and QDF rates. As a practical matter, rural roads rarely break down at locations away from intersections. The breakdowns on rural roads which are experienced on this network occur at

intersections where other model logic applies. Therefore, the application of a factor of 0.85 is appropriate on rural roads.

Reference:

1. Lei Zhang and David Levinson, "Some Properties of Flows at Freeway Bottlenecks," Transportation Research Record 1883, 2004.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

None

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-044

NRC RAI:

ETE-44:

Discuss where voluntary evacuation population within EPZ as shown on Figure 2-1, "Voluntary Evacuation Methodology," (not the shadow evacuation as defined in Section 2.2, "Study Methodology Assumptions") is allocated within Table 6-3, "Percent of Population Groups for Various Scenarios," and Table 6-4, "Vehicle Estimates by Scenario."

Duke Energy Response:

The voluntary evacuation population is allocated in the "Shadow" column in Table 6-3. ETE Report Attachment H will be revised in a future revision to the ETE Report to include a new H-1 "Percent of ERPA Population Evacuating for Each Region." A copy of this Table is included as Attachment 1 to this response. This table identifies the voluntary evacuation percentages for each ERPA for each Regional configuration.

The maximum vehicle loading is calculated for each link on the network. This loading is characterized by the vehicle types identified in the column headings of Table 6-3. This *maximum* vehicle loading for each link is reduced by a number of factors which provides the time period specific loading for that link. The factors are: (1) trip generation rates shown in Table 5-8; (2) scenario specific percentages provided in Table 6-3; and (3) Region specific voluntary evacuation percentages provided in Table H-1.

The numbers presented in Table 6-4 are for an evacuation of the full EPZ. There are no voluntary evacuation percentages applied in obtaining the numbers in Table 6-4 because all ERPA evacuate 100% for an evacuation of the full EPZ. The vehicles for the evacuation of the full EPZ are presented because they represent the upper bound of vehicles evacuating for a given scenario. The vehicle loading on each link is calculated by the I-DYNEV system using the data inputs which include the *maximum* vehicle loading, the trip generation rates, the scenario specific percentages and the voluntary evacuation percentages.

Proposed revisions to the ETE Report require review by State and local governments prior to implementation. The revised ETE will be submitted to State and local governments for final review and approval.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

1. Revise ETE Report (Rev. 1) Appendix H to add Table H-1.

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachment:

1. New ETE Table H-1

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 1 to RAI 13.03-044

New ETE Table H-1
"Percent of ERPA Population Evacuating for Each Region"

Table H-1. Percent of ERPA Population Evacuating for Each Region

	REGION																					
	2-Mile Ring, 5-Mile Ring, Entire EPZ			2-Mile Radius and Downwind to 5-Miles							5-Mile Radius and Downwind to EPZ Boundary											
ERPA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
A-0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
A-1	35%	100%	100%	100%	100%	50%	50%	50%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
A-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	100%	100%	100%	50%	50%	50%	50%	50%	50%	50%	50%	100%
A-3	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	100%	100%	100%	50%	50%	50%	50%	50%	50%	50%	50%	100%
B-1	35%	100%	100%	50%	100%	100%	100%	50%	50%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
B-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	100%	100%	100%	100%	50%	50%	50%	50%	50%	50%	50%	50%
C-1	35%	100%	100%	50%	50%	50%	100%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
C-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	100%	100%	100%	100%	50%	50%	50%	50%	50%	50%	50%
D-1	35%	100%	100%	50%	50%	50%	50%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
D-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	50%	100%	100%	100%	100%	100%	50%	50%	50%	50%	50%
E-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	50%	50%	50%	100%	100%	100%	100%	50%	50%	50%	50%
F-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	50%	50%	50%	50%	50%	100%	100%	100%	100%	50%	50%
G-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	50%	50%	50%	50%	50%	50%	50%	100%	100%	100%	50%
H-2	35%	35%	100%	35%	35%	35%	35%	35%	35%	35%	50%	50%	50%	50%	50%	50%	50%	50%	50%	100%	100%	100%

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-047

NRC RAI:

ETE-47:

For the trip generation time Table 5-3, "Time Distribution for Employees to Leave Work," and Table 5-4 "Time Distribution for Commuters to Return Home," in Section 5, there is a note that states the survey data was normalized to the "Don't Know" response. Provide additional information to explain the normalization process.

Duke Energy Response:

Attachment A in Appendix F of the ETE report provides documentation of the survey instrument used to gather the data that serves as a basis for estimating mobilization times. A review of the survey instrument reveals that several questions have a "don't know" entry for a response. It is accepted industry practice in conducting surveys of this type to accept the answers of a respondent who offers a "don't know" response for one or two questions. To address the issue of occasional "don't know" responses from a large sample, the practice is to assume that the distribution of these responses is the same as the underlying distribution of the positive responses. In effect, the "don't know" responses are ignored and the distributions are based upon the positive data that is acquired.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

None

Lee Nuclear Station Response to Request for Additional Information (RAI))

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-048

NRC RAI:

ETE-48:

Patterns of traffic congestion are discussed in Section 7.2, "Patterns of Traffic Congestion During Evacuation." Congestion is expected to peak at 2 hours following evacuation and will begin to dissipate in most areas after the third hour. Figures 7-3 through 7-6, "Areas of Traffic Congestion 1-4 Hours After Advisory to Evacuate," illustrate the patterns of traffic congestion that arise for the case when the entire EPZ (Region R03) is advised to evacuate during the summer, weekend, midday period under good weather conditions (Scenario 3). The maps show congested areas in red and absence of congestion in white but delay times are not indicated. Provide additional information on delay times.

Duke Energy Response:

The attached table (Attachment 1) will be added to Section 7.2 of the ETE Report (Rev. 1). The table provides a description of each congestion point, including the link experiencing congestion, which can be cross-referenced to the large scale map of Figure 1-2.

Figures 7-3 through 7-6 of the ETE Report have been revised and are provided as Attachment 2 to this response. The major roads in the study area have been identified on the maps. The major congestion points in the study area have been labeled with an identification number (CP# = Congestion Point #).

Proposed revisions to the ETE Report require review by State and local governments prior to implementation. The revised ETE will be submitted to State and local governments for final review and approval.

Associated Revisions to the Lee Nuclear Station Evacuation Time Estimate Report:

1. Revise the ETE Report (Rev. 1) to add the new table in Section 7.2, "Average Delay for Selected Roadways in the WLS Analysis Network" and add discussion to the text.
2. Revise the ETE Report (Rev. 1) Figures 7-3 through 7-6, "Areas of Traffic Congestion."

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

1. New table for Section 7.2, "Average Delay for Selected Roadways in the WLS Analysis Network"
2. Revised Figures 7-3 through 7-6 of the ETE Report (Rev. 1)
3. Section 7.2 of the ETE Report, Revised Text

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 1 to RAI 13.03-048

New Table for Section 7.2 of the ETE Report
Average Delay for Selected Roadways in the WLS Analysis Network

Average Delay for Selected Roadways in the WLS Analysis Network							
	Link			Average Delay per Vehicle (min/veh) at Indicated Time			
CP #	From Node	To Node	Roadway	1:00	2:00	3:00	4:00
1	485	486	State Hwy 11 Westbound	0.5	3.3	3.3	3.3
2	431	432	State Hwy 5 Northbound - intersection with State Hwy 18	9.7	9.7	3.6	0.0
3	761	396	US Hwy 29 Southbound - lane drop from 2 lanes to 1 lane	3.6	3.6	3.6	0.0
4	283	284	State Hwy 150 Southbound - intersection with State Hwy 211	2.3	3.5	3.5	0.0
5	102	98	State Hwy 105 Northbound - approach to I-85 ramps	2.7	4.5	6.8	0.0
6	262	263	State Hwy 18 Southbound	1.0	5.8	5.5	0.0
7	205	193	State Hwy 329 Northbound - approach to I-85 ramps	8.9	9.1	0.0	0.0
8	106	110	Green River Rd - ramp to I-85 Southbound	9.3	8.9	7.4	6.5
9	435	436	State Hwy 18 Northbound - intersection with State Hwy 180	0.0	1.6	1.6	0.0
10	564	90	State Hwy 11 Westbound - approach to I-85 ramps	9.1	4.2	4.6	2.1

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 2 to RAI 13.03-048

Revised Figures 7-3 through 7-6 of the ETE Report

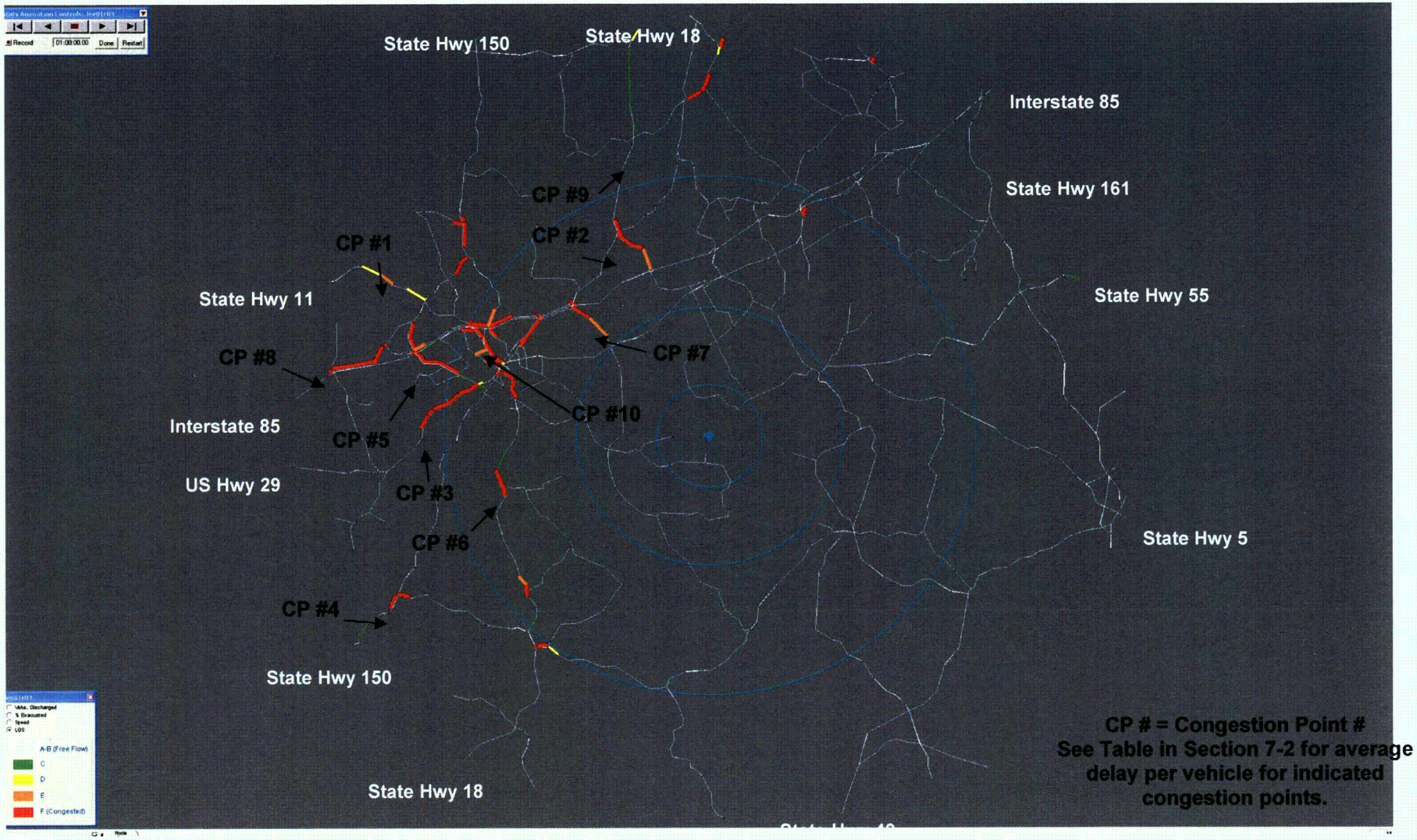

Figure 7-3. Areas of Traffic Congestion
1 Hour after the Advisory to Evacuate

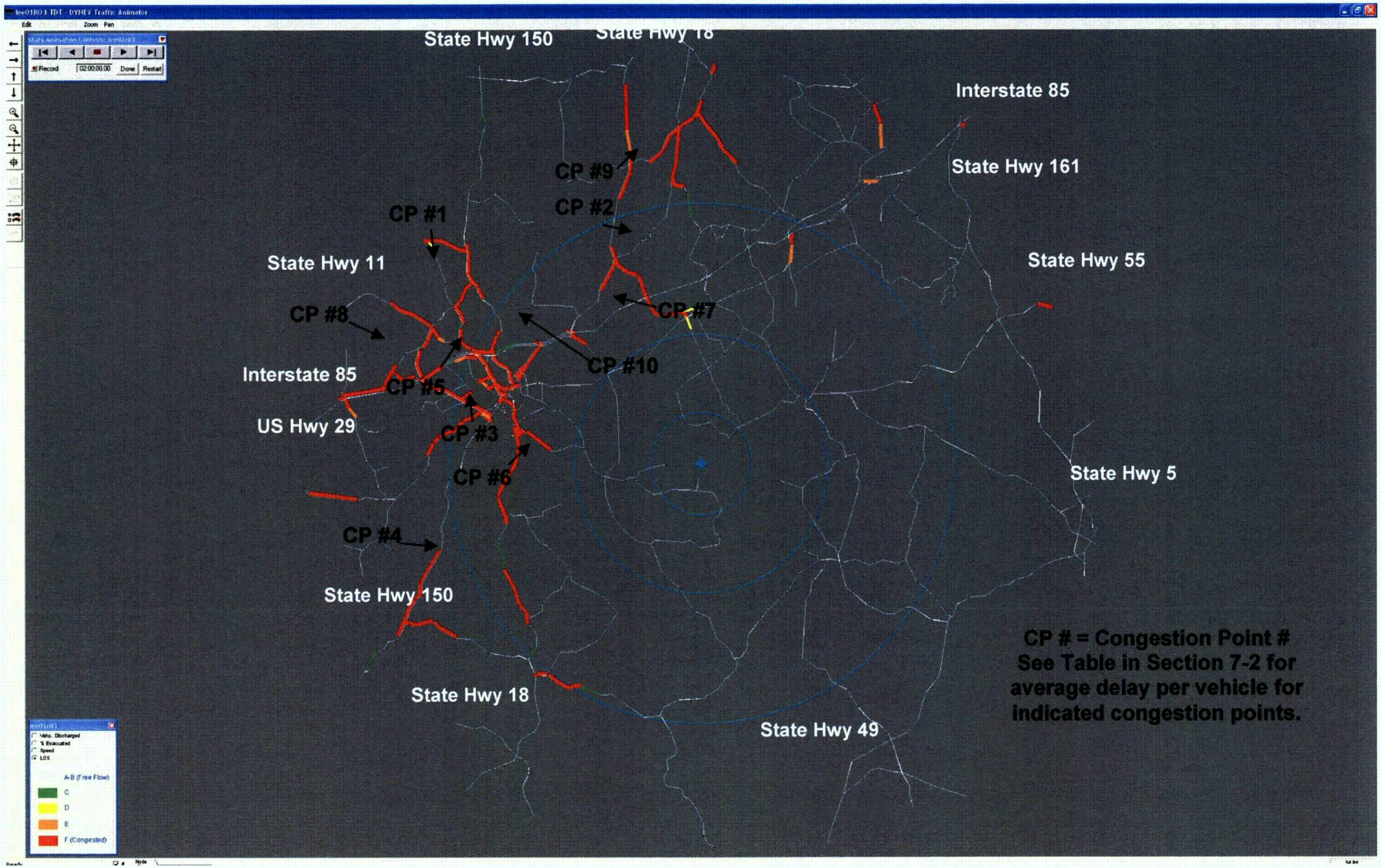

Figure 7-4. Areas of Traffic Congestion
2 Hours after the Advisory to Evacuate

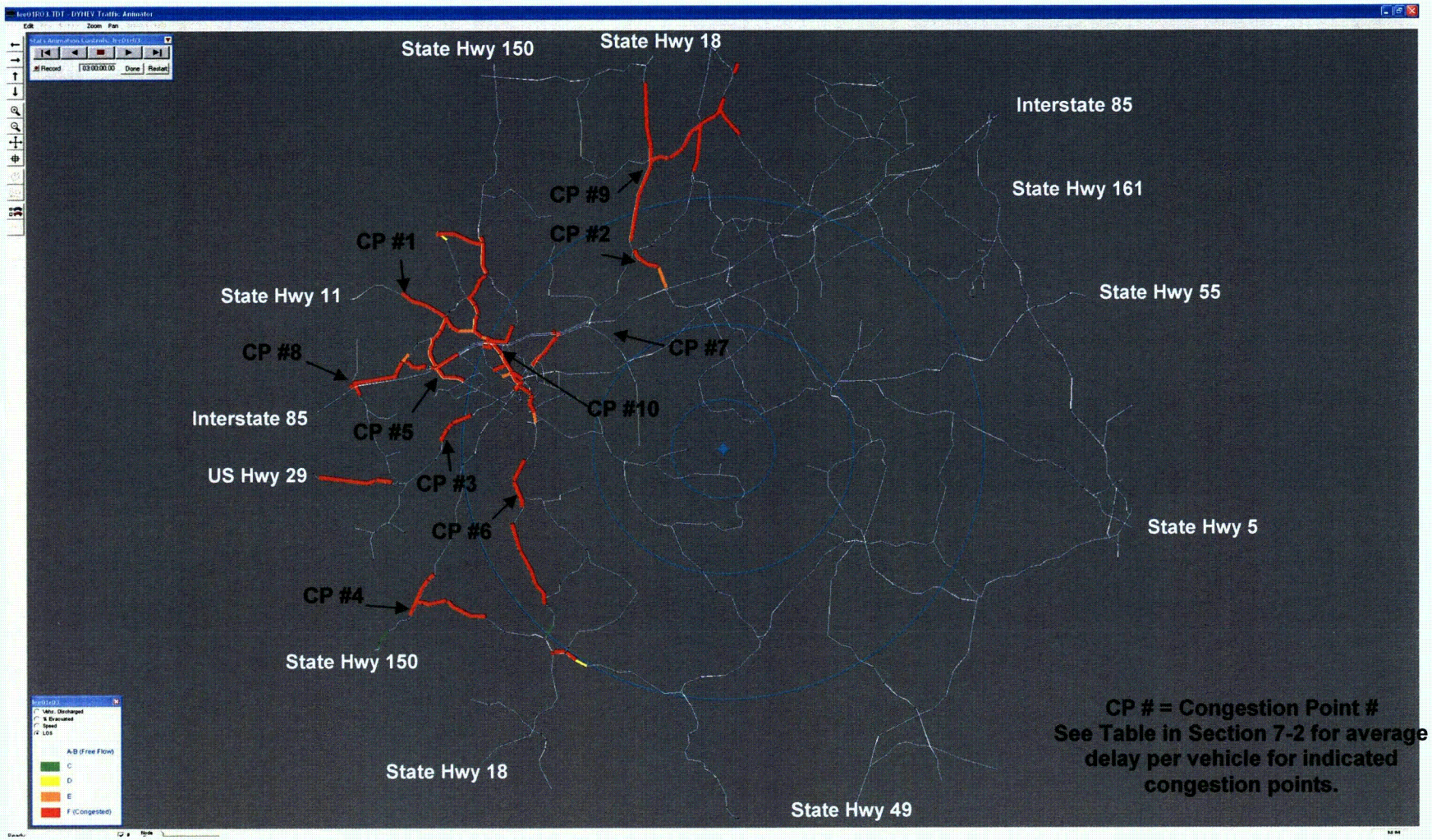

Figure 7-5. Areas of Traffic Congestion
3 Hours after the Advisory to Evacuate

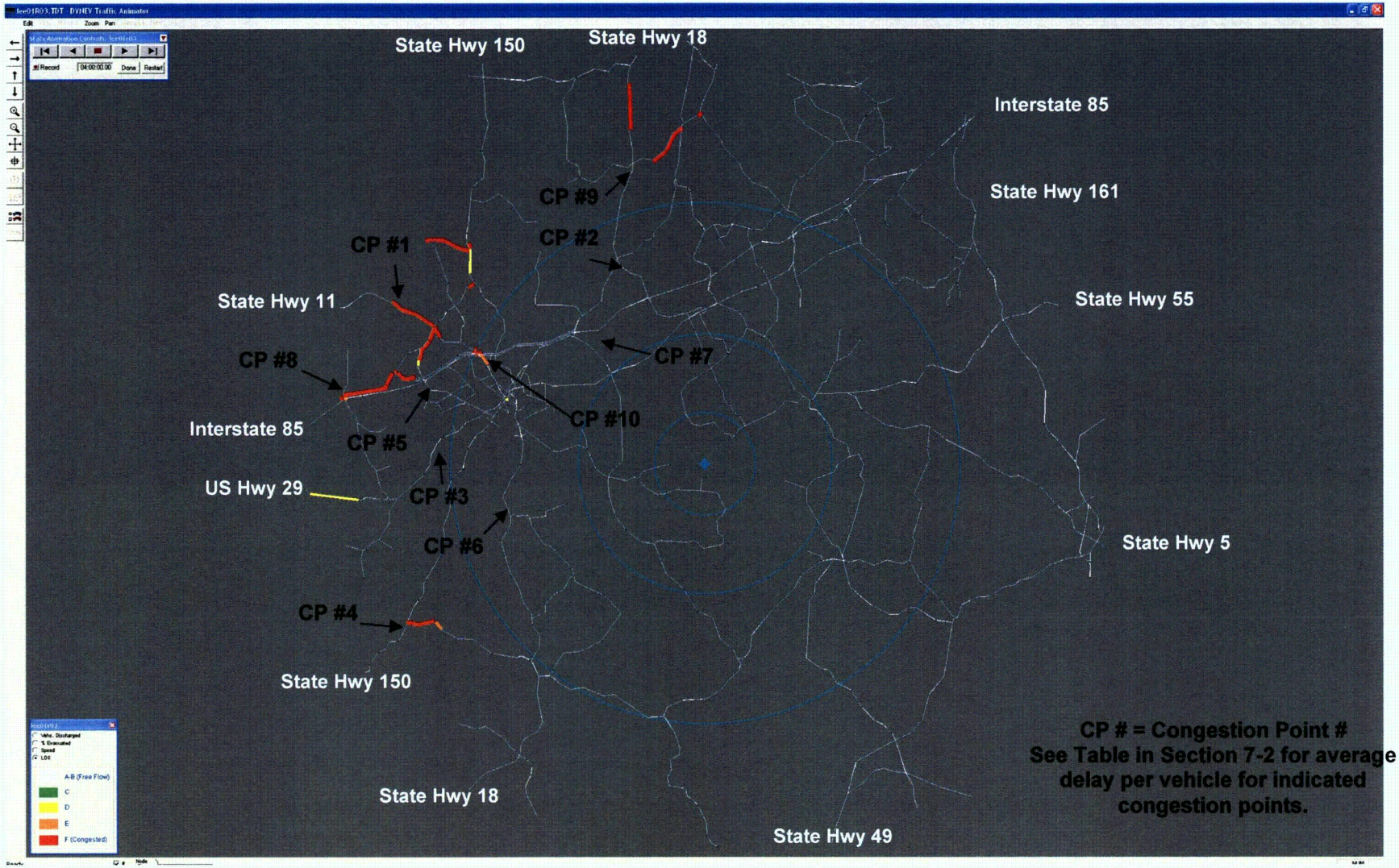

Figure 7-6. Areas of Traffic Congestion
4 Hours after the Advisory to Evacuate

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 3 to RAI 13.03-048

Section 7.2 of the ETE Report, Revised Text

Traffic congestion, as the term is used here, is defined as Level of Service (LOS) F. LOS F is defined as follows (2000 HCM):

Level of Service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of Service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow, which causes the queue to form, and Level of Service F is an appropriate designation for such points.

This definition is general and conceptual in nature, and applies primarily to uninterrupted flow. Levels of Service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them. All highway "links" which experience LOS F are delineated in these Figures by a red line; all others are lightly indicated. Congestion develops rapidly around concentrations of population and traffic bottlenecks. Many of the routes out of Gaffney are congested one hour (Figure 7-3) after Advisory to Evacuate, including:

- All entrance ramps to Interstate 85 southbound
- Southbound US Route 29
- Westbound Route 11

Figure 7-4 presents the congestion pattern two hours after the Advisory to Evacuate. Congestion continues to grow in the routes leading out of Gaffney and within Gaffney, while congestion begins to build on the following routes:

- Route 329 – northbound approaches to I-85
- Route 150 southbound and Route 18 southbound out of Gaffney
- Northbound routes toward Shelby, NC

Congestion persists on the routes out of Gaffney at 3 hours after the start of evacuation, as illustrated in Figure 7-5. Figure 7-6 shows that much of the congestion in the EPZ has eased at 4 hours after the Advisory to Evacuate; however, congestion still persists in the shadow area outside of Gaffney. The table provided below includes a description of each congestion point, including the link experiencing congestion. The table illustrates the average delay, per vehicle, at congestion points, at designated times following the advisory to evacuate.

The absence of congestion on network links implies that traffic demand there has decreased below the roadway capacity for a period of time sufficient to dissipate any traffic queues. It does not imply that traffic has completely cleared from these roadway sections.

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-049

NRC RAI:

ETE-49:

In Table 7-1C, "Time to Clear the Indicated Area of 95% of the Affected Population," there is a difference in evacuation time between normal and adverse weather. For the Regional Evacuation Table in the South Carolina Radiological Emergency Response Plan, there is a difference between normal and adverse weather for R03 of about 30 minutes. In Table 7-1D, "Time to Clear the Indicated Area of 100% of the Affected Population," there is no such difference – except for a 20 minute difference for the Ice condition. Discuss why adverse weather does not affect the total evacuation time for the 100% evacuation.

Duke Energy Response:

The presence of rain reduces capacity and free speed on all network links. When evacuating the entire EPZ (Region 03), this reduction in speed and capacity led to a modest increase in ETE at both the 90th percentile and 95th percentile level of evacuation (see Tables 7-1B and 7-1C). Rain did not influence the ETE for the 100th percentile population because the volume of traffic after 3+ hours following the Advisory to Evacuate declines to the extent that capacity is no longer a factor in influencing travel time. The effect of the reduction in free travel speed alone, due to rain, is generally not sufficient by itself to increase the ETE, due to the relatively short trip lengths. Stated another way, over the last hour of evacuation, the traffic environment was operating well within Level of Service (LOS) A and the lower speed did not increase trip time by as much as 5 minutes.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

None

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-050

NRC RAI:

ETE-50:

Section 12, "Confirmation Time," addresses the time needed to confirm that the evacuation process is effective, i.e., the public is complying with the advisory to evacuate. Please address the following questions:

a. On page 12-1 it states that "[a]lthough the counties within the EPZ may use their own procedures for confirmation, we suggest an alternative or complementary approach." This statement suggests that the confirmation process and times discussed in Section 12, "Confirmation Time," are an alternative for other that may be specific to the counties. It is unclear whether the counties have agreed with the (ETE) plan – or even if other county plans exist for confirmation of evacuation. Discuss whether the counties have agreed with the ETE plans for confirmation of evacuation, including the existence of other county plans. If other county plans exist, discuss how they would work with the ETE plan.

b. On page 12-1, it states that "[s]hould the number of telephone responses (i.e., people still at home) exceed 20 percent, then the telephone survey should be repeated after an hour's interval until the confirmation process is completed." Explain what is required if the telephone survey response is less than 20%, but still significant.

c. The estimate of the time needed to confirm that the evacuation is complete is 8.5 person hours. Discuss if the time required to mobilize the personnel needed to confirm the evacuation has been included in the time estimate. This would include the time and resources needed to obtain telephone numbers for the EPZ which are necessary prior to beginning the telephone survey. Discuss if the time and resources needed to obtain telephone numbers for the EPZ, which are necessary prior to beginning the telephone survey, is included. Provide an estimate of the time needed to confirm that the evacuation is complete.

Duke Energy Response:

a. Section 12 of the ETE Report provides a recommended methodology for evacuation confirmation to be performed by Cherokee, Cleveland and York Counties. No decision has been made regarding the actual methodology to be used. The suggested approach can be reinforced by ground based vehicles with public address systems but this is a State/local planning issue and outside the scope of the ETE. The purpose of including the proposed approach in the ETE was to provide an estimate of the time required to conduct the confirmation, using one suggested method. The method to be used to confirm evacuation status is the subject of future emergency planning efforts. Appendix 7 of the Emergency Plan includes formally executed letters certifying State and local officials' commitment to support future emergency planning efforts.

b. Responsible county officials have not yet determined what actions would be taken if the telephone survey response is less than 20%, but still significant. The method to be used to confirm evacuation status is the subject of further development of offsite emergency plans. Appendix 7 of the Emergency Plan includes formally executed letters certifying State and local officials' commitment to further development of these plans.

c. As mentioned in Section 12, the use of automated dialing equipment or the use of multiple operators can significantly reduce the 8.5 person hours needed to complete confirmation. For example, the use of 6 operators would reduce the confirmation time to 85 minutes. The method to be used to confirm evacuation status, and ultimately the time needed to confirm evacuation, is the subject of future emergency planning efforts. Appendix 7 of the Emergency Plan includes formally executed letters certifying State and local officials' commitment to support future emergency planning efforts.

   The time required to mobilize the personnel needed to confirm the evacuation has been included in the time estimate. As indicated in the third paragraph on Page 12-1, the confirmation process should not begin until 3 hours after the Advisory to Evacuate, to ensure that households have had enough time to mobilize. This 3 hour timeframe will enable telephone operators to arrive at their workplace, obtain a call list and prepare to make the necessary phone calls. By this time, virtually all evacuees will have departed and the local telephone system will be largely free of traffic.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

None

Lee Nuclear Station Response to Request for Additional Information (RAI)

RAI Letter No. 025

NRC Technical Review Branch: Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

Reference NRC RAI Number(s): 13.03-051

NRC RAI:

ETE-51:

The report discusses intelligent transportation systems (ITS), dynamic message signs, and highway advisory radio in Section 9, "Traffic Management Strategy". It is not clear if the use of such systems was considered in the ETE or if the results are dependent upon their use. Appendix G, "Traffic Management Plan," provides traffic control tactics for traffic control points, which have been developed in conjunction with the county emergency management representatives and law enforcement personnel. Section 1.3, "Analytical Tools," page 1-8, states that the analyst can identify bottlenecks and develop countermeasures that are designed to expedite the movement of vehicles. Were any such adjustments integrated into the traffic management plan? Identify any adjustments that were made to expedite the movement of vehicles and improve evacuation times.

Duke Energy Response:

Due to the rural nature of the proposed site and the related low population density and sufficient roadway capacity, the ETE provides no specific actions to improve evacuation times. The intelligent transportation systems (ITS), dynamic message signs, and highway advisory radio discussed in Section 9 were not credited in the development of the ETE and the results of the ETE are not dependent on their use. Any such actions would be addressed in State and local emergency plans. Appendix 7 of the Lee Emergency Plan includes formally executed letters certifying State and local government agency review of the ETE Report (which included the Traffic Management Plan) and commitment to supporting future development of emergency plans.

ETE Section 1.3 provides a description of the analytical tools that were used in development of the ETE. While the tools provide the ability to "identify bottlenecks and develop countermeasures," the subsequent paragraph of ETE Section 1.3 indicates that this is an iterative process that yields an evacuation plan that best services the evacuating public. This iterative process is an integral part of the ETE development procedure and no records are maintained of specific bottlenecks and countermeasures addressed by the analyst in the course of the multiple iterations. No adjustments were integrated into the traffic management plan for bottlenecks and associated countermeasures. Due to the rural nature of the proposed site, the low population density in the plume exposure pathway EPZ, and relative simplicity of the evacuation roadway network, one would expect the number and complexity of bottlenecks, and the related countermeasures, to be limited.

Associated Revision to the Lee Nuclear Station Evacuation Time Estimate Report:

None

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report or Emergency Plan:

None

Attachments:

None