

2008									
2009									
2010									
2011									
2012									
2013									
2014									
2015									
2016									
2017									

Answer: Jason Cutliffe's testimony provided the total amount spent on storm hardening for DEF from 2004 to present; Bob Matthews' testimony provided the DEF-Transmission total since 2006. The table below provides the breakdown of the figures stated in both testimonies.

	Distribution				Transmission				OM Trans & Distribution Veg Mgmt Cost Combined	Annual Total Exp.
	OM		Capital		OM		Capital			
	Hardening	Non Hardening	Hardening	Non Hardening	Hardening	Non Hardening	Hardening	Non Hardening		
2004	351,000		3,551,000				17,900,000		21,802,000	
2005	2,933,333		7,100,000				23,200,000		33,233,333	
2006	3,400,000		10,200,000		15,648,788		43,300,000	24,235,263	96,784,051	
2007	2,960,000		10,610,000		14,498,565		38,000,000	29,949,339	96,017,904	
2008	2,200,293		16,631,322		18,603,885		111,722,405	18,530,738	167,688,643	
2009	3,440,955		19,052,230		16,081,336		99,822,011	27,515,055	165,911,587	
2010	3,144,249		23,597,698		15,273,420		107,070,806	36,059,080	185,145,253	
2011	2,808,091		21,833,971		17,406,077		81,794,465	27,509,602	151,352,206	
2012	3,096,700		34,183,578		19,650,810		90,771,847	31,564,612	179,267,547	
2013	3,110,177		31,091,153		17,734,840		140,278,933	39,881,025	232,096,128	
2014	3,092,583		39,097,831		16,748,016		134,800,155	42,263,967	236,002,552	
2015	3,412,065		58,759,175		15,005,372		142,992,995	44,493,393	264,663,000	
2016	4,437,323		42,069,677		7,568,191		110,436,718	29,732,363	194,244,272	
2017	Not Includ	Not Includ	Not Includ	Not Includ	Not Includ	Not Includ	Not Includ	Not Includ	Not Includ	
		Distribution	356,164,404			Transmission	1,316,309,635	Both	351,734,437	2,024,208,476

53. When did Hurricane Irma “leav[e] the state of Florida” for purposes of the testimony assertions on page 11, lines 7-11 of the direct testimony of Jason Cutliffe?

Answer: Hurricane Irma exited the Florida Service Area north of Madison County at approximately 12PM on Monday, September 11th.

54. Please provide a chronological timeline of when sustained winds from Hurricane Irma above 39 miles per hour occurred throughout DEF's service territory. Please also indicate

when, by defined areas used to deploy workforces, the sustained winds from Hurricane Irma dropped to 39 or below, such that assessment and restoration work could commence.

Answer: Sustained winds in excess of 39 mph entered the southern portions of our service territory midday on Sunday, September 10th and exited to the north midday on Monday, September 11th. Hurricane Irma's movement from south to north allowed for initiation of post storm activities including damage assessment as it became safe to drive and operate aerial lifts.

Driving and Bucket Safety

- Employees should cease traveling (in all vehicles) or working, including climbing, when winds reach storm velocities of 39 MPH.
- Do not operate buckets in the elevated work position when the wind (steady or gusts) exceeds 30 MPH. If the bucket truck manufacturer recommends a wind speed of less than 30 MPH, the manufacturer wind speed must be followed (example: Condor recommends 25 MPH, therefore; the 25 MPH wind speed must not be exceeded).

55. Referring to the direct testimony of Robert Matthews at pages 18-19, please state what impact the rainfall discussed had on damage to transmission facilities.

Answer: Rainfall caused minimal direct impact to transmission facilities; however, excessive rainfall typically impacts restoration efforts in a couple of different ways:

1. Soaked and softened ground creates an environment in which trees more readily lean or fall into transmission lines and therefore requiring additional resources to clear the system of debris.
2. Higher than normal ground water table flooding roadways and easements creates travel delays and site accessibility issues.

56. Referring to the direct testimony of Robert Matthews at page 18, line 16, please define what is meant by "a long-duration storm." Also, as a part of this explanation please identify examples of named tropical storms impacting DEF's service territory that meet the definition of "a long-duration storm." Please also identify storms impacting DEF that would be considered "a short duration storm" or something less than a "long duration storm."

Answer: The phrase "long-duration storm" was not used with a technical definition in mind, but in a more colloquial sense. It was intended as a general characterization; for example, typically in DEF's service territory, storms track relatively quickly (a few hours) across the state and move out of our region. DEF had not experienced a storm that tracked from south to north the length of the state before Irma. This event's track

prevented support from moving about the system and prevented out-of-state support from entering the state until it had completely left the system and bordering areas.

57. Referring to the direct testimony of Jason Cutliffe, at page 27, lines 14-16, please provide the beginning and ending point with the date and hour of each for calculating the three day and eight day periods.

Answer: As outlined in Jason Cutliffe's testimony on page 21 line 5 through page 22 Line 9, on the first day of all clear Duke Energy focuses on assessing a statistically valid sample of the system, completing the Isolate-and-Restore process and moving mutual assistance resources into forward locations. Following Hurricane Irma, these actions took place on Tuesday September 12. The first three days of restoration efforts began on Wednesday September 13 and continued through Friday September 15. The eight days of restoration continued through Wednesday September 20. Duke Energy's working hours during restoration are 16 hour days from 0500 to 2100.

58. Please identify the person or persons at Accenture conducting the analysis contained in JC-1.

Answer: DEF's points of contact with Accenture were: Justin Wagaman and Miki Deric.

59. Please identify the correspondence between you and Accenture Consulting relating to the pole forensics report (JC-1), including emails, drafts, draft comments and the very earliest project engagement discussions.

Answer: For Distribution, please see the documents responsive to OPC's Second Request to Produce, question 14.

60. Please identify all workpapers supporting the pole forensics report (JC-1) and all internal reviews within Accenture Consulting.

Answer: See DEF's objection filed contemporaneous with this response.

61. Please identify each similar or comparable pole forensics study performed by Accenture prior to the report in JC-1. Identify the utility, storm event and date of study.

Answer: See DEF's objection filed contemporaneous with this response.

62. Please describe the Accenture Storm Benchmarking database and indicate when it was initiated and what data points are collected contemporaneously (including vintages of data by category) and also indicate the purposes for which it has been used.

Answer: See DEF's objection filed contemporaneous with this response.

63. Please refer to the direct testimony of Robert Matthews page 18 and 19. Please provide a detailed analysis and explanation of why DEF "experienced extensive damage to its transmission system" when wind speeds never exceeded 85 mph according to Robert Matthews' testimony.

Answer: Damage to DEF's Transmission System was "extensive" in that the impacts were felt in every county in DEF's service territory; another way of describing the impacts would have been to say the damage was "expansive." Extensive / Expansive damage through the accumulation of equipment contamination via salt spray, trees falling into lines, and wood poles and 'non-hardened' structures failing due to wind gusts, micro-burst/tornados (micro-bursts and tornados would both produce winds in excess of 85 MPH).

The forensics analyses provided in response to Staff's Second Data Request, Question No. 2, in Docket No. 20170215-EU, provide detailed review of the structure failures that meet the criteria for review (i.e. adjacent structures failed/impacted).

Wind speed alone was not intended to be correlated with use of 'extensive' – the testimony provided shared documented weather conditions and hurricane tracking information to explain the expansive / extensive impact to DEF system.

64. Please refer to Robert Matthews' testimony, page 7, lines 22 and 23 and page 8, lines 6 and 7. Mr. Matthews testifies that ground inspections are done on an 8 year cycle, but in 2017 60% of wood pole structures were ground inspected.
- a. Please provide an analysis of how many of Duke Energy Florida's poles were inspected as normal maintenance or as storm restoration in 2017.
 - b. Please quantify both the financial and physical effect, of inspecting 60% of wood poles in 2017, will have on the company's pole inspection cycles for 2018, 2019 and 2020.
 - c. Please explain why it was necessary to inspect 60% of all wooden poles instead of the normal 12.5%?
 - d. Provide the cost associated with inspecting 60% of the poles in 2017, identify the account(s) the cost were charged to and the respective amounts charged to the

account(s) and identify whether any costs were charged to the storm recovery costs being requested

Answer: The inspections referenced in Mr. Matthews' Testimony were maintenance inspections – not storm restoration inspections. The wood pole inspections are an annual O&M expense investment incurred by DEF, and reported in the Annual Reliability Report and therefore are not included in the storm recovery costs. Inspection percentages vary each year due to availability of resources, negotiated pricing of vendors, and scheduling.

- Percentage inspected is $12,699/21,285 = 59.7\%$, rounded up to 60%
 - Of the 12,699 wood poles inspected, 10,766 wood poles had Visual Inspections only.
 - A subset of the 12,699 wood poles inspected (1,933) had Visual Inspection and Sound & Bore inspection
- a) Answered above. All normal maintenance process as reported within reliability reporting
- b) Normal Maintenance process; DEF is working at standard pace to both maintain the system and reduce/remove wood structures cost effectively.
- c) Answered above. Inspection percentages vary each year due to availability of resources, negotiated pricing of vendors, and scheduling.
- d) Answered above. The wood pole inspections are an annual O&M expense investment incurred by DEF, and reported in the Annual Reliability Report; therefore are not included in the storm recovery costs. The 2017 cost of performing these inspection was \$1,242,836, as shown in DEF's annual reliability report.

AFFIDAVIT

STATE OF FLORIDA

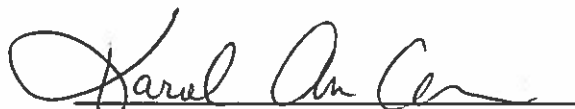
COUNTY OF Seminole

I hereby certify that on this 25 day of June, 2018, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared ROBERT MATTHEWS, who is personally known to me, and he acknowledged before me that he provided the answers to interrogatory number(s) 51,52, 55, 56, 63 and 64, of OPC'S SECOND SET OF INTERROGATORIES TO DUKE ENERGY FLORIDA, LLC (NOS. 51-64) in Docket No. 20170272-EI, and that the responses are true and correct based on his personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 25 day of June, 2018.



ROBERT MATTHEWS



Notary Public
State of Florida, at Large

My Commission Expires:



AFFIDAVIT

STATE OF FLORIDA

COUNTY OF PINELLAS

I hereby certify that on this 27th day of June, 2018, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared JASON CUTLIFFE, who is personally known to me, and he acknowledged before me that he provided the answers to interrogatory number(s) 52, 53, 54, and 57 through 59 of OPC'S SECOND SET OF INTERROGATORIES TO DUKE ENERGY FLORIDA, LLC (NOS. 51-64) in Docket No. 20170272-EI, and that the responses are true and correct based on his personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 27th day of June, 2018.



CHRISTINA WOLF
Commission # GG 146409
Expires September 27, 2021
Bonded Thru Budget Notary Services

Jason Cutliffe
JASON CUTLIFFE

Christina Wolf
Notary Public
State of Florida, at Large

My Commission Expires:
9-27-21