

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 080317-EI**

**IN RE: TAMPA ELECTRIC COMPANY'S
PETITION FOR AN INCREASE IN BASE RATES
AND MISCELLANEOUS SERVICE CHARGES**

**REBUTTAL TESTIMONY
OF
STEVEN P. HARRIS
ON BEHALF OF TAMPA ELECTRIC COMPANY**

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FPSC-COMMISSION CLERK

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6
7 **Q.** Please state your name, business address, occupation and
8 employer.

9
10 **A.** My name is Steven P. Harris. My business address is
11 ABSG Consulting, Inc. ("ABS Consulting"), 475 14th
12 Street, Oakland, California 94612. I am a Vice
13 President with ABS Consulting, an affiliated company of
14 EQECAT, Inc. both of which are subsidiaries of the ABS
15 Group of Companies, Inc.

16
17 **Q.** Did you previously submit direct testimony in this
18 proceeding?

19
20 **A.** Yes.

21
22 **Q.** What is the purpose of your rebuttal testimony?

23
24 **A.** The purpose of my rebuttal testimony is to address
25 errors and inaccuracies in portions of the testimony

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1 submitted by Hugh Larkin on behalf of the Citizens of
2 the State of Florida and by Stephen Stewart on behalf of
3 AARP pertaining to Tampa Electric's recommended
4 adjustment to its annual storm damage accrual amount.

5
6 **Q.** Do you agree with both Messrs. Larkin and Stewart who
7 suggest that Tampa Electric's annual storm damage
8 accrual of \$4 million does not need to be increased
9 substantially, if at all, because the accrual was
10 sufficient to cover actual storm damages incurred
11 through the 2004 hurricane season?

12
13 **A.** No. The reason that Tampa Electric's annual accrual of
14 \$4 million appears to have been sufficient since its
15 inception and through the hurricanes of 2004 is because
16 of Tampa Electric's very favorable storm history. Even
17 in the 2004 season, no hurricanes made direct landfall
18 in Tampa Electric's service territory. Judging the
19 annual accrual on the basis of a single season and
20 excluding the consideration of other possible damage
21 events, both large and infrequent or small and frequent,
22 is neither meaningful nor appropriate.

23
24 Messrs. Larkin's and Stewart's suggestions would require
25 Tampa Electric's management and the Commission to

1 speculate that Tampa Electric's recent good luck over a
2 brief, selective storm period considered by them will
3 continue. However, such speculation would ignore the
4 fact that over the 105-year Florida hurricane history,
5 there have been many more hurricane landfalls and
6 damaging events than in the last 25 years. In addition,
7 there is a growing body of evidence suggesting that the
8 North Atlantic Oscillation ("NAO") and the El Niño or
9 Southern Oscillation ("ENSO") are important climate
10 variables in modulating hurricane return periods. If
11 you accept this growing body of evidence that changes in
12 the ENSO and NAO variables indicate we have entered a
13 more active period for hurricane formation, such as the
14 1920s and 1940s, you should conclude that Tampa Electric
15 may expect to experience higher than the long term
16 average damage to its transmission and distribution
17 ("T&D") system over the next several years.

18
19 While the 2004 hurricane season was unusual because
20 three hurricanes affected Tampa Electric, none of the
21 hurricanes made landfall in Tampa Electric's service
22 territory. In fact, all three of these storms had wind
23 speeds in Tampa Electric's service territory that were
24 near or below the threshold of hurricane strength. If
25 any of these storms had either made landfall in or

1 tracked directly through Tampa Electric's territory, the
2 storm losses would have been significantly greater. For
3 example, Hurricane Charley made landfall near Punta
4 Gorda, Florida, close to milepost 1280 as shown in
5 Figure 4-1 of Document No.1 of Exhibit No.____ (SPH-1) of
6 my direct testimony, which is about 50 miles south of
7 Tampa Electric's service territory. It tracked North-
8 East through Orlando. The National Oceanic and
9 Atmospheric Administration reported peak gust wind
10 speeds in Tampa of 30 mph, Lakeland of 58 mph, and Plant
11 City of 62 mph, all well below the threshold of Category
12 1 hurricane wind sustained speeds of 74 mph. Had
13 Hurricane Charley made landfall closer to the mouth of
14 Tampa Bay, the damage to Tampa Electric's T&D system
15 could have been in the hundreds of millions of dollars.
16 Reliance on this fortuitous outcome of the 2004 and
17 earlier seasons for Tampa Electric and the Tampa Bay
18 area does not provide a reliable basis for estimating
19 hurricane losses.

20
21 **Q.** What approach would you consider preferable to that
22 suggested by Messrs. Larkin and Stewart to estimate
23 Tampa Electric's hurricane T&D loss exposure?
24

25 **A.** Messrs. Larkin's and Stewart's approach, which relies on

1 a short hurricane loss history, was replaced in the
2 insurance industry decades ago with the use of
3 catastrophe simulation modeling. Any reliable estimate
4 of the expected annual windstorm damage to which Tampa
5 Electric is exposed (expected annual damage) must
6 include the most complete and full damage distribution
7 that can be determined both from actual experience and
8 from simulated possible damage. In developing expected
9 annual damage estimates, the most reliable methodology
10 is to utilize the longest, most complete historical
11 record available. Since Florida's recorded hurricane
12 history is just over 105 years old, insurers rely on
13 simulation modeling to extend this "known" history into
14 thousands of simulated years for the purpose of
15 estimating likely damage. Computer modeling is the
16 current standard of care and method utilized by
17 insurance and re-insurance companies to estimate
18 hurricane loss exposures for underwriting and
19 aggregation of their business. The ABS Consulting model
20 is based on the 105 years of known hurricane history,
21 the science of meteorology, and computer models to
22 simulate thousands of storm seasons, including the
23 effects of the current period of higher frequency of
24 hurricane formation. The ABS Consulting model utilizes
25 the same methods and standard of care in estimating the

1 annual losses that an insurer would use, if affordable
2 insurance for this peril was available.

3
4 **Q.** Do you agree with the statement by Mr. Stewart, that ABS
5 Consulting's storm loss analysis is "biased" by the
6 inclusion of the 2004 storm season data since it
7 "increased the long-term hurricane hazard in the Tampa
8 area by about 60 percent over the prior modeled hazard"?

9
10 **A.** No. The Florida Commission on Hurricane Loss Projection
11 Methodology ("FCHLPM"), is an independent panel of
12 experts that evaluates computer models and actuarial
13 methodologies for projecting hurricane losses. The
14 FCHLPM goes to great lengths to ensure that all models
15 used in the State of Florida for insurance rating
16 purposes appropriately capture the full range of the
17 hurricane hazard and are not biased. This includes the
18 annual incorporation of each preceding season's
19 hurricane history and submission of models to the FCHLPM
20 for review. The ABS Consulting/EQECAT's USWIND™ model
21 used to calculate Tampa Electric's expected annual
22 damage has appropriately included the 2004 hurricane
23 season data. This model has been evaluated and
24 determined acceptable by the FCHLPM for projecting
25 hurricane loss costs. The inclusion of the 2004 season

1 hurricane data therefore is appropriate for use by the
2 Commission.

3
4 **Q.** Do you agree with Mr. Larkin who suggests that a \$16
5 million increase in the annual storm reserve accrual
6 would result in Tampa Electric collecting huge amounts
7 of reserves prior to the occurrence of a storm?

8
9 **A.** No. As shown in Document No. 1, Table 5-5(a) of Exhibit
10 No. ___ (SPH-1) of my direct testimony, the Reserve
11 Performance Analysis I performed considered a \$20
12 million annual accrual amount and concluded that the
13 likely reserve balance at the end of five years would be
14 approximately \$28 million. Figure 5-3 in Document No. 1
15 of Exhibit No. ___ (SPH-1) of my direct testimony
16 estimates there is a five percent probability (95th
17 percentile result) that the reserve balance could exceed
18 \$121 million at the end of the five years. This would be
19 a very fortuitous five years of storm seasons and the
20 five percent probability represents an unlikely outcome.
21 My analysis estimates that with an annual accrual of \$20
22 million, there is about a one in four chance of the
23 reserve having a negative balance within the next five
24 years. Said differently, while a \$16 million increase
25 in the storm reserve accrual is an improvement over the

1 company's current accrual amount, it is very unlikely
2 that even it would result in the accumulation of a large
3 reserve balance over the next five years. On the other
4 hand, Mr. Larkin's recommendation that the annual
5 accrual should remain at \$4 million would likely have a
6 one in two or 50 - 50 chance of a negative balance over
7 the next five years as shown in Figure 5-1.

8
9 If the objective of the reserve is to provide funding
10 for some, but not all of Tampa Electric's most frequent
11 hurricane T&D losses, the one in two probability of
12 inadequate funds over the next five years associated
13 with the \$4 million level of funding recommended by
14 Messrs. Larkin and Stewart could be viewed as too high a
15 likelihood to reliably moderate rate volatility.

16
17 **Q.** Does this conclude your rebuttal testimony?

18
19 **A.** Yes.
20
21
22
23
24
25