

DEF Responses to Staff's Second Set of
Interrogatories Nos. 10-11

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Fuel and purchased power cost recovery
clause with generating performance incentive
factor.

DOCKET NO. 170001-EI

DATED: April 24, 2017

**DUKE ENERGY FLORIDA, LLC'S RESPONSES TO
STAFF'S SECOND SET OF INTERROGATORIES (NOS. 10-11)**

Duke Energy Florida, LLC ("DEF"), responds to Staff's Second Set of Interrogatories to DEF (Nos. 10-11), as follows:

INTERROGATORIES

For the purpose of interrogatory numbers 10 and 11, please refer to DEF's Performance Data Report for February 2017 (February Report), and the specific page and line numbers identified below.

10. Page 8 of the February Report shows a total of 638.5 Full Forced Outage hours were recorded for the Bartow CC facility in February, yet on Page 1 of the February Report only 233.1 Forced Outage Hours were recorded for the same facility, during the same period. Please explain the discrepancy between the Page 1 and Page 8 entries, explaining in your response how each entry was calculated.

Response:

The Bartow CC facility is a "4 on 1" combined cycle generating block, meaning there are four combustion turbines (CTs) and one steam turbine (ST). The heat produced by the CTs is captured in heat recovery steam generators and the resulting steam is what is routed to the ST to produce more output from the power block. The four CTs and the ST

each have separate generators - thus five generators in total on the power block. The CTs are configured with bypass stacks that allow operation in simple cycle mode if the steam turbine is not available.

Bearing that description of technology and configuration in mind, page 1 of the DEF Performance Data Report for February 2017 contains a weighted average of full forced outage hours for the entire "4 on 1" power block. Out of the 672 hours available during the month, an equivalent of 233.1 hours were forced outage hours. Page 8 of the February Report details the unweighted full forced outage hours for each of the five generators. In this case the 4B CT experienced two instances of forced outages, one that lasted 48.02 hours and one that lasted 14.98 hours. The steam turbine experienced one forced outage event that lasted 575.50 hours. The other three CTs did not have any full forced hours during the month.

11. Page 8 of the February Report describes an outage event lasting 575.5 hours attributable to “other low pressure turbine problems.” Please specifically list the top 3 “problems” that contributed to the duration of this outage event, and describe the corrective action taken to address each.

Response:

The description "other low pressure turbine problems" is a classification code to capture issues that caused an event that aren't attributed to other classification codes. In this instance, all 575.5 hours were attributed to the same issue.

On February 5 the Bartow CC steam turbine was removed from service to investigate a source of condensate system contamination and to inspect the last rows of low pressure turbine blades. This investigation found damage to both of the last stage rows of turbine blades. It was determined the damage was significant enough that further operation without repair was high risk. The site thus began an outage to replace or repair the low pressure turbine blades. The four combustion turbines that are part of the 4 on 1 combined cycle unit remained available for dispatch during the steam turbine outage.

Rather than replace the blades in-kind or with a modified version of material from the manufacturer, which have both been tried in the past, it was recommended by the manufacturer to install pressure plates in place of blading. This is the present-term solution for the unit and will allow safe and reliable operation at near full capacity while the cause of the blading issue is determined.

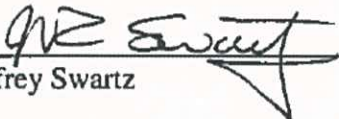
AFFIDAVIT

STATE OF FLORIDA

COUNTY OF CITRUS

I hereby certify that on this 21ST day of April, 2017, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared JEFFREY SWARTZ, who is personally known to me, and he acknowledged before me that he provided the answers to interrogatory numbers 10 and 11 from STAFF'S SECOND SET OF INTERROGATORIES TO DUKE ENERGY FLORIDA, LLC (NOS. 10-11) in Docket No. 170001-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 21ST day of April, 2017.



Jeffrey Swartz



Notary Public
State of Florida

My Commission Expires:
11/12/2020

