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STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: FUEL AND PURCHASED POWER
COST RECOVERY CLAUSE WITH GENERATING
PERFORMANCE INCENTIVE FACTOR

Case No. 19-6022
PSC Docket No. 20190001-EI

DUKE ENERGY FLORIDA, LLC'S, EXCEPTIONS TO THE RECOMMENDED ORDER

Duke Energy Florida, LLC ("DEF"), pursuant to section 120.57(1)(k), Florida Statutes, and rule 28-106.217, Florida Administrative Code, hereby submits its exceptions to the Administrative Law Judge's ("ALJ") Recommended Order dated April 27, 2020 ("RO").¹

INTRODUCTION

When considering the RO, the Public Service Commission ("PSC") may reject or modify the conclusions of law recommended by the ALJ.² When rejecting or modifying a conclusion of law, the PSC must state with particularity its reasons for doing so and must make a finding that the PSC's substituted conclusion of law is as or more reasonable than that which was rejected or modified.³ To be clear, on issues of law, the PSC is not required to defer to the ALJ,⁴ and where the issue of law under review is infused with overriding policy considerations, the PSC, not the ALJ, should decide the issue of law.⁵

The PSC may also reject or modify a finding of fact contained in the RO if the PSC determines from a review of the entire record, and states with particularity in the final order, that the findings of fact were not based upon competent substantial evidence or that the proceedings on

¹ The Hearing Transcript will be cited as "T. p.____." The Recommended Order will be cited as RO. ¶____. Joint exhibits will be cited as Jt. Ex. ____, p. _____. OPC's exhibits will be cited as "OPC Ex.____, p.____." FIPUG's exhibits will be cited as "FIPUG Ex.____, p.____." PCS Phosphate's exhibits will be cited as "PCS Phosphate Ex.____, p.____."

² Section 120.57(1)(l), Florida Statutes.

³ *Id.*

⁴ *State Contracting & Eng'g Corp. v. Dep't of Transp.*, 709 So. 2d 607, 609 (Fla. 1st DCA 1998).

⁵ *Pillsbury v. State, Dep't of Health & Rehabilitative Servs.*, 744 So. 2d 1040, 1042 (Fla. 2d DCA 1999) ("if the matter under review is susceptible of ordinary methods of proof, such as determining the credibility of witnesses or the weight to be given particular evidence, the matter should be determined by the hearing officer. If, however, the matter is infused with overriding policy considerations, the issue should be left to the discretion of the agency.") (citing *Bush v. Brogan*, 725 So. 2d 1237 (Fla. 2d DCA 1990)).

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which the findings were based did not comply with essential requirements of law.⁶

As detailed in DEF's exceptions below, the ALJ has proposed several conclusions of law that should be rejected both because they are inconsistent with the PSC's overriding policy considerations regarding public utilities in Florida and because the ALJ has improperly interpreted the facts when making those conclusions of law. While DEF takes exception to multiple findings of fact, due to the standard of review discussed above, DEF will not relitigate those points here nor ask this Commission to reweigh evidence. As discussed below, even accepting the ALJ's findings of fact, this Commission should still reject the ALJ's legal and policy conclusions.

DEF'S EXCEPTIONS TO THE CONCLUSIONS OF LAW

Exception to RO ¶ 110

DEF takes exception to the ALJ's conclusion in paragraph 110 that DEF failed to demonstrate that its actions during Period 1 were prudent. First, it is helpful to re-state the standard this Commission routinely interprets and applies to determine whether a utility's actions are prudent. The ALJ correctly stated part of the test for prudence⁷, but he left out an important factor. Namely, that hindsight cannot form the basis of a prudence determination. *Fla. Power Corp. v. Public Service Com'n*, 456 So. 2d 451, 452 (Fla. 1984). As support for the ALJ's conclusion, the ALJ relies on evidence that the steam turbine ("ST") DEF purchased for installation at the Bartow Plant had a nameplate rating of 420 MW and that DEF worked with Mitsubishi to increase the output of the turbine to 450 MW after the initial blade failure.

⁶ Section 120.57(1)(l), Florida Statutes.

⁷ The standard for determining prudence is what a reasonable utility manager would have done, in light of the conditions and circumstances that were known, or should have been known, at the time the decision was made. *S. Alliance for Clean Energy v. Graham*, 113 So. 3d 742, 750 (Fla. 2013) (RO ¶ 109).

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Before committing to purchase the ST, DEF contracted with Mitsubishi to assess whether the ST design conditions were compatible with the Bartow Plant's proposed 4x1 combined cycle design configuration. As part of this assessment, DEF informed Mitsubishi that DEF intended to operate the Bartow Plant and the ST in 4x1 configuration with a power factor exceeding .949, which would result in the generation of more than 420 MW. T. 42, 135-136, 147-148, 213-215, 234, 258, 278, 356. During Period 1, DEF operated the ST in accordance with the operating parameters specified by Mitsubishi for operation of the ST, which did not include a parameter that prohibited DEF from operating the ST in excess of 420 MW. T. 272, 284, 346, 377-378. It was only after the initial blade failure during Period 1 that Mitsubishi imposed a new operating parameter for the ST that reduced the power being generated below 420 MW. T. 260. DEF operated the ST in accordance with this new parameter, but asked Mitsubishi to determine whether anything could be done to allow the Bartow Plant to generate the same levels of power previously achieved during Period 1. In response, Mitsubishi redesigned the L-0 blades in order to enable the Bartow Plant to generate up to 450 MW. T. 152, 277. Mitsubishi did not determine it was necessary to redesign or alter any other component within the ST in order to enable the Bartow Plant to generate up to 450 MW.

Significantly, Mitsubishi did not conclude that DEF operated the ST during Period 1 in violation of the operating parameters it provided DEF for the ST. Instead, MHPS surmised that DEF's operation of the ST within the prescribed operating parameters resulted in a higher-than-anticipated foot pounds per hour per square foot of steam mass flow loading on the L-0 blades. T. 97, 386. Moreover, the fact that Mitsubishi redesigned the L-0 blades to enable the Bartow Plant to generate up to 450 MW, but made no other changes to the ST, makes plain that Mitsubishi believed the ST was capable of operating above 420 MW with properly engineered L-0 blades.

In the utility industry, the nameplate rating of a steam turbine is not regarded as an

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“operating parameter” above which the steam turbine may not be operated. T. 140-143, 281-282, 284. Instead, the general standard followed in the utility industry is to operate steam turbines within operating parameters provided by the original equipment manufacturer while also striving to achieve the most efficiency for utility customers. T. 141. Operating parameters provided by Mitsubishi for the ST included steam pressures, operating temperatures and other parameters common to steam turbines. T. 346, 377-378. Nothing in DEF’s experience operating the Bartow Plant or in Mitsubishi’s analysis of whether the ST design conditions were compatible with the Bartow Plant indicated that DEF’s operation of the ST in accordance with the operating parameters established by Mitsubishi would result in damage to the L-0 blades. Based upon DEF’s and Mitsubishi’s combined prior knowledge, DEF had appropriate operating parameters in place, and DEF properly followed these parameters. Only an after-the-fact analysis determined the specific cause of the damage to the L-0 blades.

Indeed, the ALJ’s conclusion that the 420MW nameplate rating was an operating parameter is based, at least in part, on DEF’s alleged “acceptance” of the limitation. The ALJ states that DEF accepted the limit because it (1) **complied with Mitsubishi’s newly imposed operating limitations (after the damage was first discovered)** and (2) requested that Mitsubishi **evaluate options to return the unit to 450MW of output**. This conclusion is nonsensical because it does not support that DEF accepted the 420 MW as a limitation. Rather, it shows that DEF was acting as a prudent utility would be expected to act in such a situation. As this Commission is well aware, a prudent utility operates its generating units to maximize output for the benefit of its customers. Working with the manufacturer to ensure that the unit can be operated as DEF always intended it to run is not an acceptance of a previous limitation; it is a sign that DEF was acting prudently to protect its investment. Taken to its logical conclusion, the ALJ would have preferred DEF to simply fix the blades and back down the operation to 420 MW and not make any efforts whatsoever to operate

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the unit in the most beneficial manner for its customers. What DEF learned through subsequent periods, however, is that even when operated within reduced operating parameters such that 420 MW could not be achieved, the blades still suffered damage. In sum, even though it continued to follow all OEM provided guidance, DEF is still being subjected to “Monday-morning quarterbacking” and findings of imprudence.

A preponderance of the evidence adduced at the final hearing reflects, and the PSC should conclude, that DEF prudently operated the ST during Period 1 in accordance with each of the operating parameters provided by Mitsubishi. This conclusion is as or more reasonable than the conclusion reached by the ALJ, which relied upon hindsight and would arbitrarily limit a utility’s operation of a steam turbine to the turbine’s nameplate rating regardless of whether the steam turbine has the capacity to safely operate at greater efficiency. The conclusion would also inhibit a utility’s ability to maximize output for the benefit of its customers.

Exception to RO ¶ 111

DEF takes exception to the ALJ’s conclusion in paragraph 111 that DEF’s determination that the L-0 blade failures were the result of inadequate design margins is belied by the fact that no other L-0 blades have failed at other Mitsubishi facilities. As reflected by Mitsubishi’s own root cause analysis, operation of the ST within the original operating parameters prescribed by Mitsubishi resulted in steam mass flow loading on the L-0 blades that was higher than what Mitsubishi had previously experienced at other facilities, which made the Bartow Plant configuration unique among power plants utilizing Mitsubishi steam turbines. T. 97, 386. Despite the fact that DEF contracted with Mitsubishi to assess whether the ST design conditions were compatible with the Bartow Plant’s proposed design configuration, Mitsubishi did not identify excess steam flow as a potential problem at the Bartow Plant. Under these circumstances, comparing the ST with other Mitsubishi facilities is not beneficial to the prudence analysis at hand.

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It is more constructive to compare the blade failures that occurred at the ST during Period 1 (when the ST was operated above 420 MW) with the blade failures that occurred at the ST during Periods 2 through 5 (when the ST was operated below 420 MW). This comparison reveals that the L-0 blades may have failed when DEF was operating the ST above 420 MW but unequivocally suffered damage on four separate occasions when DEF was operating the ST below 420 MW. Indeed, the RO notes that it is not possible to determine when the damage occurred in period 1, and thus it is impossible to say how the unit was being operated at the time of damage; the RO mistakenly concludes that “the exact moment of damage is beside the point”⁸ because it fails to account for cumulative wear to the machine. As a matter of law and regulatory policy, the ALJ’s conclusion must be wrong – if the damage to the unit occurred prior to any alleged imprudence,⁹ DEF cannot be held responsible for the consequences of the damage. It is as or more reasonable to conclude, therefore, that DEF’s determination that the L-0 blade failures resulted from inadequate blade design is supported by a preponderance of evidence that the blades failed during prudent operation of the ST.

DEF takes further exception to the ALJ’s conclusion in paragraph 111 that DEF operated the ST consistently beyond its capacity. As explained in DEF’s exception to paragraph 110 above, the operating parameters provided by Mitsubishi for the ST were parameters common to steam turbines, including steam pressures and operating temperatures. T. 346, 377-378. DEF complied with these operating parameters. T. 272, 284, 346, 377-378. Mitsubishi provided DEF with no other operating parameters or capacities for the ST. It is, thus, as or more reasonable to conclude

⁸ See RO, at fn. 11 (“DEF made much of the fact that it could not be said precisely when during Period 1 the damage to the blades occurred, point tout that there was a 50-50 chance that the blades were damaged when the turbine was operating below 420MW. This argument fails to consider the cumulative wear caused by running the unit in excess of its capacity half of the time. The exact moment the damage occurred is beside the point.”).

⁹ Again, DEF disputes that operation of a generation unit above nameplate capacity, but within all OEM provided operating parameters is imprudent or that the nameplate capacity is an operating parameter.

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that DEF prudently operated the ST within each of the operating parameters provided by Mitsubishi.

Exception to RO ¶ 112

DEF takes exception to the ALJ's conclusion in paragraph 112 that Mitsubishi attributed the blade failure during Period 1 to DEF's operation of the ST in excess of 420 MW. In fact, in its root cause analysis ("RCA") dated September 22, 2017, Mitsubishi determined that "all blade damage from Period 1 thru Period 5 has been identified as Dynamic Loads from Non-Synchronous Self Excited Vibration (Flutter)" (underscoring added) Jt. Ex. 82, p. 12 of 35. It is undisputed that DEF operated the ST below 420 MW during Periods 2 through 5. Jt. Ex. 80, P. 5; T. 285, 347-350, 352, 380. Because DEF always operated the ST below 420 MW during Periods 2 through 5 and the L-0 blades, nevertheless, suffered damage during each of those periods, it is more reasonable to conclude that the "flutter" that ultimately damaged the L-0 blades during Period 1 was not the result of DEF's operation of the ST above 420 MW, but was instead caused by L-0 blades that were not adequately designed to withstand the unexpected high load stimulus and high energy blending generated by the Bartow Plant. T. 97, 386; Jt. Ex. 83. If the ST's manufacturer was not able anticipate that damage to the L-0 blades would result from operating the ST in accordance with the manufacturer's operating parameters, it would be unreasonable and contrary to the established prudence standard to expect DEF to have anticipated this. It is, therefore, as or more reasonable to conclude that the damage to the L-0 blades that occurred during Period 1 was the combined result of unexpected high load stimulus/high energy blending and inadequately designed L-0 blades.

Exception to RO ¶ 113

DEF takes exception to the ALJ's conclusion in paragraph 113 that it would have been prudent for DEF to consult with Mitsubishi about the ability of the ST to operate above 420 MW

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and above steam flows anticipated in the original design for the ST. With respect to steam flows within the low pressure turbine where the L-0 blades are located, it is important to note that Mitsubishi provided DEF with no such flow limits during Period 1. T. 377-378. As such, it would be as or more reasonable to conclude that prudence did not require DEF to consult with Mitsubishi in connection with steam flow limits within the low-pressure turbine during Period 1 operation of the ST. As indicated above, the output of a steam turbine is not an “operating parameter” provided by a manufacturer; rather the output is a product that follows from operation within the manufacturer-provided parameters. T. 140-143, 281-282, 284. As also indicated above, Mitsubishi understood that DEF intended to operate the Bartow Plant in a configuration that would generate in excess of 420 MW. T. 42, 135-136, 147-148, 213-215, 234, 258, 278, 356. Due to this, it is as or more reasonable to conclude that prudence did not require DEF to consult with Mitsubishi before operating the ST within the operating parameters supplied by Mitsubishi.

Exception to RO ¶ 114

DEF takes exception to the ALJ’s conclusion in paragraph 114 that DEF failed to satisfy its burden of showing its actions in operating the ST during Period 1 did not cause or contribute significantly to the vibrations that repeatedly damaged the L-0 blades. DEF operated the ST during Periods 1 through 5 in accordance with the manufacturer’s operating parameters. T. 346, 377-378. DEF’s actions and decisions in operating the ST within Mitsubishi’s operating parameters were prudent. Consequently, it is as or more reasonable to conclude that DEF’s actions in operating the ST in Period 1 did not cause or contribute significantly to the L-0 blade damage that occurred during Periods 1 through 5. In addition, it appears that the ALJ, by stating that DEF failed its burden to show that its actions did NOT cause the damage, is imposing an impossible standard of proving a negative. A utility does not have the burden to prove that something did not occur; such a requirement would be nearly impossible to meet. Rather, DEF’s burden in this case was to show

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that it acted as a reasonable utility manager would, given the facts known or reasonably knowable at the time, and without the benefit of hindsight review. Under that standard, even assuming that nameplate capacity was some sort of operational condition (which is not the case), the more appropriate interpretation of the facts determined in the case is that, because there was damage to the blades even when operating below 420 MW in later periods, DEF's actions in operating the unit such that the output was higher than 420 MW were prudent and not the cause of the damage.

Exception to RO ¶ 119

DEF takes exception to the ALJ's conclusion in paragraph 119 that it is not speculative to state that the events of Periods 2 through 5 were precipitated by DEF's actions during Period 1. It is undisputed that DEF prudently operated the ST during Periods 2 through 5. T. 347-350. It is also not disputed that there was no residual damage to any component within the ST following Period 1. T. 103-105. In fact, the only damage that resulted from Period 1 operation of the ST was to the L-0 blades, which were changed by Mitsubishi at the conclusion of Period 1. Jt. Ex. 80, p. 5; T. 148, 150-151, 330. Consequently, there is no causal link between the Period 1 operation of the ST and the damage experienced by the L-0 blades during subsequent periods. Such a groundless contention cannot form the basis for denying a utility's fuel cost recovery. *In Re: Fuel & Purchased Power Cost Recovery Clause with Generation Performance Incentive Factor (Crystal River 3 1989 Outage)*, 91 FPSC 12:165, *12 (Dec. 9, 1991).

Since there is no dispute that DEF prudently operated the ST during Periods 2 through 5 and since it is also undisputed that there was no residual damage to the ST following Period 1 operation, it is as or more reasonable to conclude that the damage to the L-0 blades that occurred during Periods 2 through 5 was not precipitated by DEF's operation of the ST during Period 1.¹⁰

¹⁰ Even if one were to assume DEF's operation of the ST above 420 MW during Period 1 was imprudent, if such operation did not cause the Period 5 outage, then it makes no difference whether DEF was imprudent in its operation

To conclude, as the ALJ does, that DEF should be held responsible for the forced outage that occurred during Period 5 – despite any direct causal link between DEF’s operation of the ST during Period 1 and the Period 5 outage – would set a dangerous precedent that would discourage utility operators from continuing to operate a power plant that may have been imprudently operated at some point for fear that any subsequent forced outage experienced by the power plant could be attributed to the earlier imprudence, regardless of how remote in time that earlier imprudence may have been.

Exception to RO ¶ 120

DEF takes exception to the ALJ’s conclusion in paragraph 120 that it would not be appropriate to assign the cost of the February 2017 forced outage to the consumers. It is as or more reasonable to conclude that where, as here, a utility operates a power plant within the manufacturer’s express operating parameters and does not know, or have reason to know, that such operation could result in a forced outage of the power plant, the utility should not be forced to bear the resulting replacement power costs.

Exception to RO ¶ 121

For the reasons explained above in its exceptions to RO ¶ 110, 111 and 113, DEF takes exception to the ALJ’s conclusion in paragraph 121 that DEF did not exercise reasonable care in operating the ST and should have sought the cooperation of Mitsubishi prior to operating the ST above 420 MW. It is as or more reasonable to conclude that DEF was prudent in its decisions and actions leading up to, and in restoring the Bartow Plant to service after, the Bartow Plant’s February 2017 forced outage and was not required to consult with Mitsubishi prior to operating the ST above 420 MW. There is also no record evidence to demonstrate that consulting with Mitsubishi prior to

of the ST during portions of Period 1 because the replacement power costs at issue could not be said to be a result of the Company’s mismanagement. See *Fla. Power Corp. v. Cresce*, 413 So. 2d 1187, 1190-1191 (Fla. 1982).

operating the ST above 420 MW would have resulted in any change in events.

Exception to RO ¶ 122

DEF takes exception to the ALJ's conclusion in paragraph 122 that DEF must refund power costs to DEF's customers. For the reasons explained above, DEF was prudent in its decisions and actions leading up to, and in restoring the Bartow Plant to service after, the Bartow Plant's February 2017 forced outage. Consequently, it is as or more reasonable to conclude that DEF is not required to refund power costs to its customers.

Exception to RO ¶ 123

For the reasons set forth in its exception to the ALJ's conclusion in paragraph 110, DEF takes exception to the ALJ's conclusion in paragraph 123 that DEF failed to show that it operated the ST prudently during Period 1. It is as or more reasonable to conclude that DEF carried its burden to show that it prudently operated the ST during Period 1 within each of the operating parameters provided by Mitsubishi.

DEF takes further exception to the ALJ's conclusion in paragraph 123 that DEF failed to meet its burden of showing that the Period 5 blade damage and the resulting replacement power costs were not the consequence of DEF's operation of the ST during Period 1. Because DEF proved by a preponderance of evidence that its operation of the ST during Period 1 was prudent and because it is undisputed that DEF's operation of the ST during Periods 2 through 5 was also prudent, it is as or more reasonable to conclude that the Period 5 blade damage and resulting replacement power costs were not the consequence of DEF's operation of the ST during Period 1.

Exception to RO ¶ 124

DEF takes exception to the ALJ's conclusions in paragraph 124 that the purchase of replacement power for the 40 MW loss caused by installation of the pressure plate was a consequence of DEF's failure to prudently operate the ST during Period 1. Because DEF proved

by a preponderance of evidence that its operation of the ST during Period 1 was prudent and because it is undisputed that DEF's operation of the ST during Periods 2 through 5 was also prudent, it is as or more reasonable to conclude that the installation of the pressure plate was not the consequence of DEF's operation of the ST during Period 1.

DEF takes further exception to the ALJ's conclusion in paragraph 124 that DEF should be required to refund replacement power costs related to the installation of the pressure plate. For the reasons explained above, DEF was prudent in its decisions and actions leading up to, and in restoring the Bartow Plant to service after, the Bartow Plant's February 2017 forced outage. Consequently, it is as or more reasonable to conclude that DEF is not required to refund power costs to its customers.

Exception to RO ¶ 125

DEF takes exception to the ALJ's conclusions in paragraph 125 that DEF was imprudent in its operation of the ST during Period 1 and, consequently, should be required to refund \$16,116,782 to its customers. For the reasons discussed at length above, it is as or more reasonable to conclude that DEF operated the ST prudently at all times relevant to the replacement power costs and is, therefore, not required to refund any amount to its customers.

CONCLUSION

As detailed above, the above-referenced conclusions of law recommended by the Administrative Law Judge are inconsistent with the standard of prudence delineated in this Commission's precedent as well as the Commission's overriding policy considerations regarding public utilities in Florida. Adoption of the ALJ's conclusions would send negative operational signals to the state's utilities; specifically, adoption of the RO would signal that utilities should not

strive to maximize the efficient output of generating units, which, contrary to logic and economic principles, would result in limiting operations of the most efficient and economic sources of generation in favor of less efficient, less economic, and less environmentally friendly sources of generation (e.g., oil-fired peaker units). Moreover, it would send a signal to all utilities that, regardless of compliance with all industry-recognized operational parameters, they may still be found imprudent based on failure to comply with a later-established operational parameter (unrecognized at the time); this would upend the well-established prudence standard and subject all utilities to increased risk and increased costs which are eventually borne by customers. This Commission should reject these conclusions.

Respectfully submitted this 12th day of May 2020.

/s/ Matthew R. Bernier

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