

State of Florida




Public Service Commission

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-M-E-M-O-R-A-N-D-U-M-

DATE: July 7, 2022

TO: Docket File

FROM: Adam J. Teitzman, Commission Clerk, Office of Commission Clerk 

RE: Docket No. 20200001-EI - Fuel and purchased power cost recovery clause with generating performance incentive factor.

Please place the attached order, issued by the Supreme Court of Florida on July 7, 2022, in Docket No. 20200001-EI.

Supreme Court of Florida

No. SC20-1601

DUKE ENERGY FLORIDA, LLC,
Appellant,

vs.

GARY F. CLARK, etc., et al.,
Appellees.

July 7, 2022

LAWSON, J.

Duke Energy Florida, LLC (DEF), appeals a final order of the Florida Public Service Commission (Commission) denying DEF's request to recover approximately \$16 million from its customers for costs DEF incurred to meet its customers' demand for electricity when a 420-megawatt (MW) steam-powered generating unit went offline at its Bartow plant in 2017 and was placed back in service at a derated capacity of 380 MW. We have jurisdiction, *see* art. V, § 3(b)(2), Fla. Const.; § 350.128(1), Fla. Stat. (2020), and for the

reasons explained below reverse the Commission’s order and remand for entry of an order awarding the costs.

I. Background

A. Summary of Dispute Below

To prevail below and recover the \$16 million in costs, DEF had to prove by a preponderance of the evidence that its actions and decisions leading up to and in restoring the steam unit to service were “prudent.” See § 366.06(1), Fla. Stat. (2021) (requiring that costs be “prudently invested by the public utility company”); see also *Sierra Club v. Brown*, 243 So. 3d 903, 908 (Fla. 2018) (“It is from [section 366.06(1)] that the Commission derives its prudence standard, which it applies to ensure that the recovered costs result from prudent investments.”). 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. All. for Clean Energy v. Graham*, 113 So. 3d 742, 750 (Fla. 2013) (quoting *In re Nuclear Cost Recovery Clause*, Docket No. 110009-EI, Order No. PSC-11-0547-FOF-EI, 2011 WL 5904236, at 26 (Fla. Pub. Serv. Comm’n, 2011)).

The Commission referred critical factual issues to the Division of Administrative Hearings for a closed hearing before an administrative law judge (ALJ) after concluding that trying these issues would reveal confidential information that could not be disclosed and discussed in the Commission's open hearing. After the closed hearing, the ALJ entered a recommended order denying cost recovery, which the Commission adopted in the final order on appeal.

i. The plant and its operational history

The Bartow plant consists of four natural-gas-fueled combustion turbines (CT) and a much larger steam turbine. Each of the four CTs compress ambient air, mix it with natural gas, and ignite the mixture to produce a hot gas. The heated air-fuel mixture expands through the CT blades, causing each CT to rotate its shaft. The spinning shaft of each CT independently drives its own generator that produces electricity. Then, hot waste gas that exhausts from each CT is used to create steam that similarly rotates the larger steam turbine, thereby powering the larger fifth electrical generator.

When constructing the plant, DEF purchased an “after-market” steam turbine that Mitsubishi had originally designed for another plant, where it was intended to run on steam created from the exhaust of three CTs with a steam supply capable of generating 420 MW, which Mitsubishi had also listed as the nameplate capacity of the steam turbine at the time of manufacture.

When the plant was placed online in 2009, however, DEF operated the steam unit using steam produced from the waste heat from all four CTs, producing electricity from the attached generator well above the steam turbine’s nameplate capacity. Because the steam-powered generator produced electricity using waste heat, operating this portion of the plant in this manner would have been cost-effective.

However, during a routine inspection in March 2012, DEF discovered unusual wear or damage to the steam turbine’s blades, which required DEF to replace them. The parties refer to this initial period of operation, from June 2009 to March 2012, as Period 1. Although the steam turbine was not routinely operated above 420 MW after Period 1, the replacement blades suffered similar damage and had to be replaced again in 2014, twice in 2016, and again in

2017 during the forced outage at issue in this case. The parties mark the operational time between each blade replacement as a separate period: Period 2 starts in April 2012 and ends in August 2014; Period 3 starts in December 2014 and ends in April 2016; Period 4 starts in May 2016 and ends in October 2016; and, finally, Period 5 starts in December 2016 and ends in February 2017.

In 2017, at the end of Period 5, DEF decided against reinstalling any of the previous blade types—as they all experienced damage—and installed a pressure plate which derated the steam unit from 420 MW to 380 MW. This caused DEF to incur the replacement power costs that it now seeks to recover. The pressure plate remained in the steam turbine until Mitsubishi installed redesigned turbine blades in December 2019. The blades installed in 2019 have apparently been performing normally, without unusual wear or damage.

ii. Factual issues tried before the ALJ

The evidence presented to the ALJ primarily focused on whether the steam turbine's 420 MW nameplate capacity constituted an operational limit of the unit, such that DEF acted imprudently in Period 1 (from June 2009 to March 2012) by

regularly operating the steam turbine above its nameplate capacity without first consulting with Mitsubishi.

DEF offered testimony from its Vice President of Generation, Jeffrey Swartz, who testified that the nameplate capacity is an estimate of ultimate generator output and not an operational limitation on the steam turbine. He explained that the operational parameters for the steam turbine were supplied by Mitsubishi and were expressed in permissible pressure and temperature combinations, or limitations, which DEF did not exceed.¹ Mr. Swartz further testified that Mitsubishi should have designed all components of the steam turbine to operate without undue wear or damage so long as the unit was being operated within the heat and pressure parameters Mitsubishi provided to DEF when the steam unit was being placed into service. If this were true, it would have been prudent for DEF to operate its Bartow plant to regularly

1. DEF's expert explained that the utility measures the heat and pressure of the steam entering the turbine, with these factors determining the mass flow of steam entering the turbine. Increased heat and pressure mean an increased steam flow into the turbine and a higher energy output to the generator, resulting in a higher electrical output from the generator.

produce extra low-cost electricity from the generator despite the steam turbine's 420-MW nameplate capacity.²

By contrast, the Office of Public Counsel (OPC) offered testimony from a retained expert, Richard Polich, who testified that 420 MW represented the design limit of the steam turbine such that DEF acted imprudently by operating the steam turbine using enough heat and pressure to produce electricity above that limit without first consulting with Mitsubishi, which would likely have conducted tests to determine whether the steam turbine could safely operate regularly above its 420-MW operational limit. Indeed, the DEF-Mitsubishi contract identified 420 MW as the steam turbine's *maximum* electrical output.³

OPC's expert also testified that DEF damaged the blades by consistently operating the steam turbine beyond its nameplate

2. Consistent with DEF's theory, its expert explained that Mitsubishi accomplished the "derating" by reducing the heat and pressure operating parameters from those originally provided in the contract documents. Mitsubishi's lowering of the heat and pressure parameters resulted in a lower electrical output from the attached generator.

3. The 420.07 MW "MPS Net Steam Turbine Maximum Electrical Output" is listed under the heading "Liquidated Damage Performance Guarantees."

capacity in Period 1.⁴ Mr. Polich did acknowledge, however, that it was possible that the Period 1 blade damage could have occurred when the turbine was operating below its nameplate capacity; that DEF acted prudently during Periods 2 through 5 by operating the steam turbine in consultation with Mitsubishi and within its nameplate capacity; and that blade damage occurred even when DEF was prudently operating the turbine during Periods 2 through 5.

As to the issue of whether 420 MW was an operational limit of the steam turbine, the ALJ found:

The greater weight of the evidence establishes that the Mitsubishi steam turbine was designed to operate at 420 MW of output and that 420 MW was an operational limitation of the turbine.

Because it was undisputed that Mitsubishi prudently operated the steam turbine at or below its 420-MW nameplate capacity after the 2012 outage at the end of Period 1, DEF alternatively argued that it could only be denied cost recovery if its imprudent operation

4. Reports from Mitsubishi, offered into evidence by OPC, can also be read to support similar conclusions: that 420 MW represented an operational limit on the steam turbine and that DEF's operation above this limit in Period 1 caused excessive vibration that damaged the steam turbine's blades.

in Period 1 caused the 2017 forced outage and derating at the end of Period 5.⁵ As to this second critical factual issue, there was no evidence that DEF's pre-2012 operation of the unit contributed to early blade wear or damage in any period after Period 1. To the contrary, extensive testing revealed no evidence of damage to any turbine component except the blades, which were replaced.

Moreover, even OPC's witness, Mr. Polich, repeatedly confirmed during cross-examination that he did *not* contend "that the damage that occurred in the spring of 2017 . . . was caused by DEF's operation of the unit above 420 megawatts [prior to 2012]."⁶

Rather, Mr. Polich contended that DEF should be responsible for the 2017 forced outage and derating based upon his expert opinion that the original blades would have never been damaged and, therefore, would have still been in operation in 2017 but for DEF's

5. DEF also argued that its subsequent operation of the steam turbine to produce less than 420 MW of power, with similar blade damage, demonstrated that it was not its operation of the unit in Period 1 that caused the damage but that the problem was with the blades themselves.

6. Mr. Polich also confirmed that his review did not reveal any indication of damage to the turbine during Period 1 that could cause damage to the blades during Periods 2 through 5.

decision to regularly operate the turbine to produce more than 420 MW of power prior to 2012. Accordingly, he reasoned that the 2017 forced outage would not have occurred but for the blade failure in 2012 such that DEF should be denied cost recovery for its pre-2012 imprudent operation of the steam turbine irrespective of the fact that DEF operated the plant prudently after 2012. The ALJ rejected this argument as “speculative,” and instead declared as a matter of law that

[i]f the imprudent operation in Period 1 did not cause the Period 5 outage, then the imprudent operation cannot be a basis for disallowance of the replacement power costs at issue.

However, the ALJ made no designated factual finding regarding causation and instead discussed the evidence in a series of numbered “legal conclusions” that predominantly discussed the facts of the case and evidence presented. In this discussion, the ALJ concluded that DEF had “failed to satisfy its burden of showing its actions in operating the steam turbine in Period 1 did not cause or contribute significantly to the vibrations that repeatedly damaged the . . . blades”; that the operation of the steam turbine in excess of 420 MW likely “cause[d] or contribute[d] significantly” to “vibrations

that repeatedly damaged the . . . blades” after 2012; and that the derating “was a consequence of DEF’s failure to prudently operate the steam turbine [between 2009 and 2012].” Although these statements read like factual findings, they were not so designated and were apparently intended as analytical support for the ALJ’s conclusion that DEF did not meet its burden of proof.

iii. Additional Proceedings Before the Commission

As required by Florida’s Administrative Procedure Act, chapter 120, Florida Statutes (2021), the Commission allowed DEF “15 days in which to submit written exceptions to the recommended order.” § 120.57(1)(k), Fla. Stat. (2021). Section 120.57(1)(k) also required the Commission’s final order to “include an explicit ruling on each exception,” with a caveat that an agency “need not rule on an exception that does not clearly identify the disputed portion of the recommended order by page number or paragraph, that does not identify the legal basis for the exception, or that does not include appropriate and specific citations to the record.” *Id.*

DEF did timely file exceptions to the recommended order and in its filing accurately summarized section 120.57(1)(l), Florida Statutes, which authorizes an agency to reject or modify challenged

findings of fact if after review of the entire record it determines that “the findings of fact were not based upon competent substantial evidence or that the proceedings on which the findings were based did not comply with essential requirements of law.” *Id.* However, DEF did not take exception to the ALJ’s numbered paragraphs containing factual findings, instead explaining:

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.

DEF did challenge the twelve numbered paragraphs denominated as “conclusions of law,” explaining that they should be rejected “both because they are inconsistent with the [Commission’s] overriding policy considerations regarding public utilities in Florida and because the ALJ has improperly interpreted the facts when making those conclusions of law.”

iv. The Commission’s Final Order

The Commission rejected DEF’s exceptions in a final order that summarized its standard of review under section 120.57, Florida Statutes. The statute provides that an agency may only reject or modify an ALJ’s findings of fact if, after review of the entire

record, the agency determines and states with particularity that the findings of fact were not based on competent substantial evidence or that the proceedings on which the findings were based did not comply with the essential requirement of the law. *See* § 120.57(1)(l), Fla. Stat. With respect to conclusions of law, the Commission's order correctly states that an agency may only reject or modify a conclusion of law if it makes a finding that its conclusion is more reasonable than the one rejected or modified and then states with particularity its reasons for so concluding. *Id.*

Applying this standard to DEF's exceptions, the Commission correctly summarized that DEF had not "raised exceptions to any of the 102 factual findings made by the ALJ in his Recommended Order," and that "failure to file exceptions to findings of fact constitutes a waiver of the right to object to those facts on appeal." The Commission ruled that by waiving any challenge to the ALJ's factual finding that the Bartow plant steam turbine 420-MW nameplate rating constituted an operating limit for the steam turbine, DEF "waived" the ability to contest the conclusion of law that depended upon this finding. The Commission also noted that even if DEF had taken exception to the ALJ's central factual finding,

it was clear that “the ALJ considered and rejected witness Swartz’s arguments that DEF did not act imprudently by operating the steam turbine for extended periods of time at more than 420 MW.”

Ultimately, the Commission adopted the ALJ’s recommended order, concluding that DEF had “failed to show that the ALJ’s conclusions are not reasonable or that the facts from which his conclusions are drawn are not based on competent substantial evidence of record.” The Commission was also careful to point out that the case was “highly fact specific and for that reason will have limited precedential value,” explaining that “[t]here is literally no other plant in DEF’s system that has four combustion turbines connected to one steam turbine nor any other plant in [its] system that uses an after-market steam turbine designed for a 3x1 configuration in a 4x1 configuration.” The Commission further explained that nothing in the ALJ’s recommended order or in its decision “in any way establishes, indicates, implies or imputes any going-forward protocol for the operation of steam turbines in DEF’s fleet . . . [or] . . . translate[s] into a general policy decision by the Commission that under any set of circumstances it is imprudent to run a unit above its nameplate capacity.”

B. This Appeal

DEF timely appealed the Commission's final order, arguing that we should reverse and remand for entry of a final order determining that DEF is entitled to cost recovery because the Commission and ALJ erred in finding imprudence by DEF that caused the Bartow plant's February 2017 outage. We agree and reverse.

II. Analysis

The ALJ's order, adopted by the Commission, concluded that DEF had proven "by a preponderance of the evidence that its actions during Periods 2 through 5 were prudent." The ALJ did find that DEF acted imprudently during Period 1, but also concluded as a matter of law that DEF could not be denied cost recovery based on its Period 1 imprudent actions unless its Period 1 actions caused the Period 5 damage. The Commission adopted this legal conclusion.

Given this posture, we find that the resolution of this appeal only requires analysis of DEF's challenge to the Commission's adoption of the ALJ's factual discussion regarding causation. The Commission rejected DEF's challenge to the ALJ's causation

discussion, reasoning that the factual findings imbedded in and forming the basis for the ALJ's ultimate causation determination were supported by competent, substantial evidence. We disagree.

The ALJ concluded that DEF's operation of the steam turbine in excess of 420 MW during Period 1 likely "cause[d] or contribute[d] significantly" to "vibrations that repeatedly damaged the . . . blades" after 2012; that "the preponderance of the evidence pointed to DEF's operation of the steam turbine in Period 1 as the most plausible culprit" by "repeatedly damag[ing] the . . . blades" such that the derating "was a consequence of DEF's failure to prudently operate the steam turbine" between 2009 and 2012.

Although neither this Court nor the Commission is legally permitted to reweigh evidence, *see, e.g., Graham*, 113 So. 3d at 752; *Heifetz v. Dep't of Bus. Regul.*, 475 So. 2d 1277, 1281 (Fla. 1st DCA 1985), these conclusions, to which DEF filed exceptions, are factually contrary to the evidence. *See Comm'n on Ethics v. Barker*, 677 So. 2d 254, 257 (Fla. 1996) ("[c]onsider[ing] the exceptions as a whole" to determine whether an issue was "sufficiently preserved . . . for appellate review"). Not only was there no evidence that operation of the steam turbine in Period 1 created, caused, or contributed to

“vibrations” in the turbine after Period 1, DEF’s evidence shows that extensive testing revealed no damage to any turbine component during Period 1 except the blades, which were replaced. Even OPC’s expert witness confirmed that his review did not reveal any indication of damage to the turbine during Period 1 that could cause damage to the blades during Periods 2 through 5.

Given that the evidence can only support a finding that DEF’s Period 1 operation did not cause the Period 5 outage and derating, the Period 1 imprudence finding cannot serve as the basis for denying cost recovery, as held by the ALJ and the Commission. Because DEF did prove that the costs were incurred notwithstanding its prudent operation of the plant after Period 1, the cost recovery should have been allowed. *See Graham*, 113 So. 3d at 750; § 366.06(1).

III. Conclusion

Based on the forgoing, we reverse the Commission’s order and remand for entry of an order granting the cost recovery.

It is so ordered.

MUÑIZ, C.J., and CANADY, POLSTON, LABARGA, COURIEL, and GROSSHANS, JJ., concur.

NOT FINAL UNTIL TIME EXPIRES TO FILE REHEARING MOTION
AND, IF FILED, DETERMINED.

An Appeal from the Florida Public Service Commission

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