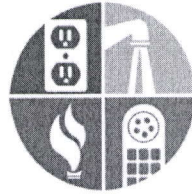


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**DOCUMENT DESCRIPTION:**

Duke Energy (Bernier) - (CONFIDENTIAL) Certain highlighted information provided in Amended Final Order PSC-2020-0368A-FOF-EI (DN 11601-2020). [Cross-reference 11564-2020 and 11656-2020].

**CONFIDENTIAL**

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evidence. The revised Comprehensive Exhibit List (CEL) was admitted into evidence by stipulation as Exhibit No. 114.

A three-volume transcript of the final hearing was filed with the Commission Clerk on February 18, 2020, and was provided to the DOAH Clerk on February 24, 2020. DEF, Commission staff, and OPC, jointly with PCS Phosphate and FIPUG, timely filed confidential proposed recommended orders on March 20, 2020. The ALJ issued his Recommended Order<sup>2</sup> on April 27, 2020. A redacted version of the Recommended Order is found in Attachment A to this Final Order.

C. Overview of the Recommended Order

This case involves the operation of DEF's Bartow Unit 4 combined cycle natural gas plant and whether DEF operated the plant prudently from the time it was brought on line in June 2009 until February 2017. Bartow Unit 4 is comprised of a steam turbine manufactured by Mitsubishi Hitachi Power Systems (Mitsubishi) with a gross output of 420 MW connected to four M501 Type F combustion turbines. The steam turbine is an "after-market" unit which was originally designed for Tenaska Power Equipment, LLC (Tenaska) to be used in a 3x1 configuration with three M501 Type F combustion turbines with a gross output of 420 MW. Prior to purchasing the steam turbine, DEF's predecessor, Progress Energy Florida, LLC contracted with Mitsubishi to **evaluate the steam turbine design conditions and to update the heat balances for a 4x1 configuration.** As required by its contract, **Mitsubishi provided revised operating parameters for the steam turbine to meet DEF's 4x1 configuration.**

The Bartow plant has experienced five outages since it was brought on line in June 2009: March 2012 (planned), August 2014 (planned), April 2016 (planned), October 2016 (forced), and February 2017 (forced).

In March 2012 during a scheduled outage, DEF discovered that the **Type 1 L-0 blades** in the low pressure section of the steam turbine were damaged. The **Type 1 L-0 blades** were replaced with **re-engineered Type 1 blades** and the plant was operated until August 2014 when the plant was taken out of service to **upgrade the L-0 blades to Type 3 blades.** The plant came back on line in December 2014 and ran until April 2016 when it was taken off line for routine valve work and **L-0 blade** inspection. The plant was placed back in service in May 2016 with a **revised Type 3 blade** and operated until October 2016, when DEF shut the plant down due to excessive vibration and loss of **L-0 blade** material. In December 2016 the plant was put back in service with the **original Type 1 blades,** and was taken out of service in February of 2017 due to a **blade fragment** projectile that traveled through the low pressure turbine rupture disk diaphragm. DEF brought the plant back on line in April 2017 with a pressure plate installed in the low pressure section of the steam turbine, which effectively decreased the output of the plant from 420 to 380 MW. DEF continued to operate the plant with the pressure plates until September 28, 2019.

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<sup>2</sup> "Recommended Order" is defined in Section 120.52(15), F.S., as the official recommendation of the ALJ assigned by DOAH or of any other duly authorized presiding officer, other than the agency head or member thereof.

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There are two amounts that are associated with the initial prudence question: 1) replacement power costs for the February 2017 outage in the amount of \$11.1 million, and 2) May 2017 through September 2019 unit derating<sup>3</sup> costs in the amount of \$5,016,782 million.

Petitioner, DEF, has the burden of proving by a preponderance of the evidence, that it acted prudently in the operation of Bartow Unit 4 up to and restoring the unit to service after the February 2017 forced outage. Additionally, DEF must prove by a preponderance of the evidence that no adjustment to replacement power costs should be made to account for the fact that after March 2017, and the installation of a pressure plate, Bartow Unit 4 could no longer produce its rated nameplate capacity of 420 MW. The standard for determining whether replacement power costs are prudent 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.”<sup>4</sup>

In his Recommended Order, the ALJ detailed the relevant facts and legal standards required to determine whether DEF acted prudently in its operation of Bartow Unit 4 from June 2009 until February 2017. In his conclusion, the ALJ recommended that this Commission find that DEF failed to demonstrate that it acted prudently in the operation of its Bartow Unit 4 plant and in restoring the unit to service after the February 2017 forced outage, and that DEF should refund a total of \$16,116,782 to its customers.

D. Post-Hearing proceedings before the Commission

On May 12, 2020, DEF submitted exceptions to the Recommended Order. OPC, jointly with PCS Phosphate and FIPUG (collectively, the Intervenor), filed a Response to DEF's Exceptions.

We have Jurisdiction over this matter under Sections 120.57, 366.04, 366.05, and 366.06, F.S. As discussed in more detail below, we deny DEF's Exceptions to the Recommended Order and adopt the Administrative Law Judge's Recommended Order as the Final Order.

II. RULINGS ON EXCEPTIONS

A. Standard of Review of Recommended Order and Exceptions

Section 120.57(1)(l), F.S., establishes the standards an agency must apply in reviewing a Recommended Order following a formal administrative proceeding. The statute provides that the agency may adopt the Recommended Order as the Final Order of the agency or may modify or reject the Recommended Order. An agency may only reject or modify an ALJ's findings of fact if, after a review of the entire record, the agency determines and states with particularity that the

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<sup>3</sup> “Derating” is the reduction in MW output due to installing pressure plates in place of the L-0 blades in the low pressure section of the steam turbine.

<sup>4</sup> *Southern Alliance for Clean Energy v. Graham*, 113 So. 3d 742, 750 (Fla. 2013).

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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 requirements of law.<sup>5</sup>

Section 120.57(1)(l), F.S., also states that an agency in its final order may reject or modify conclusions of law over which it has substantive jurisdiction and interpretations of administrative rules over which it has substantive jurisdiction. When rejecting or modifying a conclusion of law or interpretation of administrative rule, the agency must state with particularity its reasons for rejecting or modifying the conclusion of law or interpretation of administrative rule and must make a finding that its substituted conclusion of law or interpretation of administrative rule is as or more reasonable than that which was rejected or modified. Rejection or modification of conclusions of law may not form the basis for rejection or modification of findings of fact.<sup>6</sup>

In regard to parties' exceptions to the ALJ's Recommended Order, Section 120.57(1)(k), F.S., provides that the Commission does not have to rule on exceptions that fail to clearly identify the disputed portion of the Recommended Order by specific page numbers or paragraphs or that do not identify the legal basis for the exception, or those that lack appropriate and specific citations to the record.<sup>7</sup> Section 120.57(1)(l), F.S., requires our final order to include an explicit ruling on each exception and sets a high bar for rejecting an ALJ's findings.

**B. Rulings on Exceptions to the Recommended Order**

**DEF Exception to Conclusion of Law 110**

DEF takes exception with the ALJ's Conclusion of Law 110, which states:

110. DEF failed to demonstrate by a preponderance of the evidence that its actions during Period 1 were prudent. DEF purchased an aftermarket steam turbine from Mitsubishi with the knowledge that it had been manufactured to the specifications of Tenaska with a design point of 420 MW of output. Mr. Swartz's testimony regarding the irrelevance of the 420 MW limitation was unpersuasive in light of the documentation that after the initial blade failure, DEF itself accepted the limitation and worked with Mitsubishi to find a way to increase the output of the turbine to **450 MW**.

First, as a general criticism, DEF argues that when weighing the facts presented at hearing, although stating the correct legal standard of review - what a reasonable utility manager should have done based on what he knew or should have known at the time - the ALJ did not apply that standard but instead evaluated DEF's actions from the perspective of what is currently known. DEF states that this type of "hindsight" and "Monday-morning quarterbacking" prudence analysis has been found to be inappropriate under *Florida Power Corporation v. Public Service Comm. (Florida Power)*, 456 So. 2d 451, 452 (Fla. 1984).

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<sup>5</sup> Section 120.57(1)(l), F.S.

<sup>6</sup> *Id.*

<sup>7</sup> Section 120.57(1)(k), F.S.

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Second, DEF disagrees with the ALJ's conclusion that the 420 MW design point was a limitation on the steam turbine. DEF argues that the record supports the conclusion that the 420 MW design point is a fall out number based on various combinations of operating parameters provided by Mitsubishi. DEF argues that operating within the **parameters given by Mitsubishi** was prudent given what DEF knew or should have known during Period 1. At that time, DEF contends that there was no reason to believe that increasing the output above 420 MW would damage the unit **as long as the operating parameters were complied with.** Thus, DEF concludes that the fact that the **L-0 blades** failed in February 2017 does not mean that the plant operator reasonably should have known that would happen in June 2009.

Third, DEF argues that DEF's compliance with lower than 420 MW output after Period 1 and its request to Mitsubishi for modifications to operate the unit at **450 MW** do not logically support the conclusion that DEF agreed the unit originally could not be operated above 420 MW. These actions, according to DEF, allowed the unit to continue to be operated to produce the most power possible while research into the cause of the Period 1 outage was conducted. DEF argues that getting the unit back on line producing as much power as possible is implementation of long standing Commission policy that utilities operate generating units for maximum efficiency. DEF asserts that these actions are not evidence of DEF's acceptance of 420 MW as a limitation on the output of the unit.

#### Intervenors' Response

Intervenors contend that DEF, while conceding that the ALJ referenced the correct legal standard for prudence review, never explains or demonstrates exactly how the ALJ applied "Monday-morning quarterbacking" to reach any of the conclusions in Conclusions of Law 110. In the determination of what a utility knew or should have known at any past point in time, Intervenors state that there is necessarily a review of contemporaneous prior actions and documents. They contend that that review was done here. Intervenors note that DEF has not argued that there is no competent substantial evidence supporting the ALJ's conclusions in Conclusions of Law 110 and cites nine separate parts of the record that do logically support the ALJ's conclusion that DEF did not act prudently in running the unit above 420 MW in Period 1.

Intervenors further argue that the *Florida Power* case relied upon by DEF is not applicable here for several reasons. In *Florida Power*, the Commission classified "non-safety related" repair work as "safety-related" repair work and then applied the higher standard of care for "safety-related" repair work to determine if Florida Power had conducted the repairs prudently. Finding that the record indicated that the extensive repair work was not *per se* safety-related, the Court found that the Commission could not apply the higher standard of care. *Florida Power*, 456 So. 2d at 451. Intervenors argue that in this case, the facts upon which the ALJ relied regarding the repair of the unit are supported by competent substantial evidence and are not in dispute, nor does DEF argue that the inferences drawn from the facts by the ALJ are unreasonable. Intervenors state that DEF would simply draw different conclusions from the same set of facts, i.e., would have us weigh the evidence differently, an action prohibited by Chapter 120, F.S.

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were relied upon by the ALJ in reaching his conclusion of imprudence. Without identifying the facts upon which the ALJ improperly relied, it is impossible to evaluate this contention and it is rejected.

The ALJ bases his conclusion that a preponderance of the evidence established the actions of DEF in Period 1 were imprudent on three facts. First, the Mitsubishi aftermarket steam turbine was manufactured with a design point of 420 MW of output. Second, witness Swartz's testimony that the 420 MW was not an operational limitation was unpersuasive. Third, DEF accepted this limitation in Periods 2-5 and **worked with Mitsubishi to increase it to 450 MW.**

With regard to the first point, DEF does not contest that the steam turbine was aftermarket manufactured with a design point of 420 MW. This conclusion is supported by Findings of Fact Nos. 14-26. With regard to the second point, the ALJ extensively discusses the arguments presented by DEF witness Swartz that the 420 MW is not an operational limitation for this steam turbine in Findings of Fact Nos. 16-32 which culminate in Finding of Fact No. 33. Finding of Fact No. 33, a finding that DEF did not contest, states: "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." Since DEF did not take exception to the identical statement in Finding of Fact No. 33, DEF has waived its ability to contest Conclusion of Law 110 on the grounds that the design point did not act as an operational limitation. However, even if DEF had taken exception to Finding of Fact 33, it is 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.

With regard to the third point, DEF does not dispute that in Periods 2-5 it complied with the lower operating limitations placed on it by Mitsubishi and worked with Mitsubishi to increase the steam turbine's output to **450 MW**. DEF disputes the significance of having done so. DEF argues that by **working with Mitsubishi** in Periods 2-5 it was acting to maximize the steam turbine's output for the benefit of its customers. As a general matter, DEF has argued that if a conclusion of law is "infused with overriding policy considerations," the agency, not the ALJ, should decide that issue.<sup>12</sup> Although not specifically identified, apparently, DEF believes that "maximization of output" is such an "overriding policy consideration" which should be given agency deference when determining operational prudence. However, DEF has not identified any statute, rule or Commission order that identifies "maximization of output" as a Commission policy. Additionally, the idea of agency deference, even in the interpretation of an agency's own rules and statutes, is now highly questionable given the passage of Amendment 6 to the Florida Constitution.<sup>13</sup>

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<sup>12</sup> *Pillsbury v. State, Department of Health & Rehabilitative Services*, 744 So. 2d 1040, 1042 (Fla. 2d DCA 1999).

<sup>13</sup> "Section 21. Judicial interpretation of statutes and rules. – In interpreting a state statute or rule, a state court or an officer hearing an administrative action pursuant to general law may not defer to an agency's interpretation of such statute or rule, and must instead interpret such statute or rule de novo."

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Additionally, we do not find the *Florida Power* decision cited by DEF on the issue of hindsight to be relevant. In *Florida Power*, the Commission made a finding of fact that was not supported by the record - that "non- safety related" repair work was "safety-related" repair work - and then improperly applied the higher standard of care for "safety-related" repair work. The crux of the problem in *Florida Power* was this unsupported finding of fact. Here DEF is not contesting any of the ALJ's 102 findings of fact as being unsupported by competent substantial evidence. Nor is DEF arguing that the legal conclusions the ALJ has drawn from these uncontested facts are unreasonable. Here there is no mistake of fact triggering the misapplication of a legal standard. In this case all parties agree on the standard to be applied, DEF simply does not like the result reached by the ALJ.

Because DEF has failed to establish that its exception to Conclusion of Law 110 is as or more reasonable than that of the ALJ, DEF's Exception to Conclusion of Law 110 is denied.

#### DEF Exception to Conclusion of Law 111

DEF takes exception with the ALJ's Conclusion of Law 111, which states:

111. DEF's RCA [Root Cause Analysis] concluded that the blade failures were caused by the failure of Mitsubishi to design the 40" blades with adequate design margins. This conclusion is belied by the fact that the L-0 blades have failed at no other facility in the Mitsubishi fleet. Mitsubishi cannot be faulted for failing to design its blades in a way that would allow an operator to run the turbine consistently beyond its capacity.

DEF takes exception to the conclusion that the L-0 blade failures were not caused by inadequate design margins on the L-0 blades and that the turbine was consistently run above its capacity. DEF argues that Mitsubishi was contracted specifically to assess whether this particular steam turbine could handle the proposed 4x1 steam configuration. DEF states that Mitsubishi did not originally identify excess steam flow as a potential problem and it was reasonable for DEF in Period 1 to rely upon Mitsubishi's assessment. The better comparison, according to DEF, is not with other Mitsubishi facilities, but with blade failures in Periods 2-5 when the unit was run at less than 420 MW. Finally, DEF notes that the exact time that the L-0 blades were damaged in Period 1 cannot be established. DEF states that the damage could have occurred during the half of the time in Period 1 when the steam turbine was operated at less than 420 MW.

#### Intervenors' Response

Intervenors respond that the conclusions of law in Paragraph 111 are supported by competent substantial evidence of record. Further, to the extent that a finding is both a factual and legal conclusion, Intervenors state that it cannot be rejected when there is competent substantial evidence to support the conclusion and the legal conclusion necessarily follows. *Berger*, 653 So. 2d at 480; *Sirickland*, 799 So. 2d at 279; *Dunham*, 652 So. 2d at 897. Additionally, Intervenors contend that it is the ALJ, not the Commission, who is authorized to interpret the evidence presented and to decide between two contrary positions supported by

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conflicting evidence. *Heifetz v. Dept. of Business Regulation*, 475 So. 2d 1277, 1281-2 (Fla. 1st DCA 1985). With regard to DEF's reliance on the fact that it is impossible to tell when the L-0 blades were damaged in Period 1, Intervenor's find this to be irrelevant since the ALJ does not address that fact in Paragraph 111.

### Ruling

This conclusion of law constitutes the ALJ's rejection of DEF's Root Cause Analysis (RCA) conclusion that the low pressure steam turbine 40" L-0 blades were poorly designed without adequate strength to withstand operation above a prescribed operating limit without causing damage to the equipment.<sup>14</sup> The ALJ cites the fact that in Mitsubishi's fleet of 32 steam turbines with a combined 57 rows of the same 40" L-0 blades only Bartow Unit 4 has had blade failures caused by excessive blade vibration. Further, Bartow Unit 4 had the highest L-0 blade loading in the entire fleet, in excess of 15,000 lb./hr-ft<sup>2</sup> compared to the 12,000 lb./hr-ft<sup>2</sup> average for the rest of the fleet.<sup>15</sup> Additionally, the ALJ found that as late as June 2017 DEF agreed with Mitsubishi that back-end loading in excess of 15,000 lb./hr-ft<sup>2</sup> was one of "the most significant contributing factors" toward the L-0 blade failure.<sup>16</sup> Given these facts, none of which are disputed by DEF, the ALJ found DEF's exclusion of excessive steam flow from its final RCA to be troubling, as does this Commission.

The ALJ's Conclusion of Law was adequately supported by the relevant findings of fact. DEF has failed to demonstrate that its conclusion is as or more reasonable than that of the ALJ. For this reason, DEF's Exception to Conclusion of Law 111 is denied.

### DEF Exception to Conclusion of Law 112

DEF takes exception with the ALJ's Conclusion of Law 112, which states:

112. Mitsubishi's more plausible conclusion attributed that blade failure in Period 1 to DEF's operation of the steam turbine in excess of 420 MW, resulting in excessive steam flow to the LP section of the steam turbine, which in turn caused high back-end loading on the L-0 blades.

DEF states that Mitsubishi did not ultimately attribute the blade failure in Period 1 to operation in excess of 420 MW but found in September 22, 2017, that "all blade damage from Period 1 through Period 5 has been identified as dynamic loads from Non-Synchronous Self Excited Vibration (Flutter)." DEF argues that given the fact that the turbine was not operated above 420 MW in Periods 2 through 5, it is more reasonable to conclude that the damage to the blades in Period 1 was the result of unexpected high load stimulus/high energy blending coupled with inadequately designed L-0 blades.

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<sup>14</sup> Finding of Fact No. 67.

<sup>15</sup> Finding of Fact No. 83.

<sup>16</sup> Finding of Fact No. 70.

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Intervenors' Response

Intervenors contend that DEF does not contest that there are findings of fact supported by competent substantial evidence in the record to support the ALJ's conclusion of law. Thus, Intervenors conclude that, under those circumstances, we cannot reject the ALJ's conclusion of law or substitute its own judgment for that of the ALJ.

Ruling

This conclusion of law constitutes the ALJ's acceptance of Mitsubishi's RCA which concluded that the blade failure in Period 1 was attributable to the operation of the steam turbine in excess of 420 MW which created excessive steam flow in the low pressure section of the steam turbine which in turn caused high back-end loading on the L-0 blades. After telemetry testing on the steam turbine in December 2014, Mitsubishi concluded that the damage to the L-0 blades in all five Periods was attributable to excessive blade vibration, or "flutter."<sup>17</sup> Mitsubishi published its RCA findings in September of 2017. As late as June 2017 DEF agreed with Mitsubishi that back-end loading in excess of 15,000 lb./hr-ft<sup>2</sup> was one of "the most significant contributing factors" toward the L-0 blade failure.<sup>18</sup> Finally, Mitsubishi has stayed with its assessment that the blade damage was created by high load stimulus and high energy blending impacts which did not allow the 40" L-0 blades to produce 450 MW.<sup>19</sup>

DEF is simply rearguing its case that its RCA should be substituted for that of Mitsubishi. DEF has not contested the facts upon which Conclusion of Law 112 is based. Conclusion of Law 112 is the companion to Conclusion of Law 111 and it is upheld for the same reasons – that there is competent substantial evidence to support this conclusion and the conclusion is reasonable given the facts proven by a preponderance of the evidence presented. DEF has failed to demonstrate that its conclusion is as or more reasonable than that of the ALJ. Thus, DEF's Exception to Conclusion of Law 112 is denied.

DEF Exception to Conclusion of Law 113

DEF takes exception with the ALJ's Conclusion of Law 113, which states:

113. Mr. Polich persuasively argued that it would have been simple prudence for DEF to ask Mitsubishi about the ability of the turbine to operate continuously in excess of 420 MW output before actually operating it at those levels. DEF understood that the blades had been designed for the Tenaska 3x1 configuration and should have at least explored with Mitsubishi the wisdom of operating the steam turbine with steam flows in excess of those anticipated in the original design.

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<sup>17</sup> Finding of Fact Nos. 37, 63.

<sup>18</sup> Finding of Fact No. 70.

<sup>19</sup> Finding of Fact No. 78.

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DEF defends not contacting Mitsubishi by citing the following evidence in the record: 1) no limits on steam flow to the low pressure turbine section were originally provided by Mitsubishi; 2) the MW output of a steam turbine is not an “operating parameter”; and 3) Mitsubishi knew DEF would operate the plant in excess of 420 MW. For these reasons, DEF argues that it is “as or more reasonable” to conclude that DEF did not need to contact Mitsubishi.

#### Intervenors’ Response

Intervenors argue that DEF is simply rehashing the evidence presented and urging this Commission to make new findings that are “as or more reasonable” than the findings made by the ALJ. The ALJ states that he found OPC’s expert persuasive on this point and it is the exclusive prerogative of the ALJ, not the Commission, to evaluate the credibility of a witness and the weight to be given to his/her testimony. Intervenors contend that since there is competent substantial evidence supporting the conclusion that DEF should have called Mitsubishi, this conclusion cannot be modified.

#### Ruling

When viewed as a whole, the ALJ has based his analysis of this case by focusing on several areas. First, the nature of the after-market steam turbine and what limitations, if any, were inherent in its original 3x1 design. Second, the type and meaning of guarantees given by Mitsubishi for its current use in a 4x1 configuration. Third, the cause of the damage to the low pressure L-0 40” blades. Analysis of these three areas results in a finding regarding whether DEF acted prudently in the operation of the steam turbine which in turn drives the decision of whether replacement power costs for the April 2017 outage should be recovered or denied.

The ALJ’s findings of fact establish that the steam turbine was originally designed to be used in a 3x1 configuration with a design point maximum of 420 MW. The 3x1 configuration used three M501 Type F combustion turbines connected to the steam turbine.<sup>20</sup> The 4x1 design configuration used by DEF used four M501 Type F combustion turbines connected to the same steam turbine.<sup>21</sup> Section 3.2.1 of the original Purchase Agreement<sup>22</sup> clearly states that liquidated damages are available if the steam turbine could not maintain an output of 391.67 MW with a maximum guaranteed output of 420.07 MW.<sup>23</sup> These guaranteed outputs were based on Heat Balance Diagrams [Heat Cases 24 and 48] calculated using only three combustion turbines and heat recovery steam generators with duct firing. Of the 300 different heat balances run by Mitsubishi to predict how the steam turbine would operate, not one showed it producing more than 420 MW.<sup>24</sup>

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<sup>20</sup> Finding of Fact No. 14.

<sup>21</sup> Finding of Fact No. 6.

<sup>22</sup> Entitled the “Guaranteed Performance and Other Guarantees for Acceptance Test” executed between Florida Progress and Mitsubishi.

<sup>23</sup> Finding of Fact No. 26.

<sup>24</sup> Finding of Fact No. 87.

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Under these circumstances it is reasonable to believe that Mitsubishi would have instructed its consultant to run heat balances with higher output if it thought the steam turbine could handle it.<sup>25</sup> This is especially true since DEF was proposing the use of an additional 501 Type F combustion turbine and heat recovery steam generator, giving DEF's proposed configuration the ability to produce far more steam than needed to generate 420 MW of output when compared to the original 3x1 application for which the steam turbine was designed.<sup>26</sup> Additionally, neither DEF nor Mitsubishi had any experience running a 4x1 combined cycle plant prior to commencing operation of Bartow Unit 4.<sup>27</sup> In sum, for these reasons the ALJ found that Mitsubishi did not contemplate DEF's operation of the steam turbine beyond the heat balance scenarios set out in the Purchase Agreement.<sup>28</sup>

Given these extremely unique circumstances, the ALJ concluded that DEF's failure to contact Mitsubishi before pushing output beyond 420 MW was not prudent. Contacting Mitsubishi would have allowed DEF to receive written verification from Mitsubishi that the steam turbine could be safely operated above 420 MW and would have effectively updated the warranty to reflect the higher MW output.<sup>29</sup> The ALJ's conclusion of law is supported by competent substantial evidence of record. Because DEF has failed to demonstrate that its conclusion of law is as or more reasonable than the ALJ's, DEF's Exception to Conclusion of Law 113 is denied.

#### DEF Exception to Conclusion of Law 114

DEF takes exception with the ALJ's Conclusion of Law 114, which states:

114. The record evidence demonstrated an engineering consensus that vibrations associated with high energy loadings were the primary cause of the L-0 blade failures. DEF 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 L-0 blades. To the contrary, the preponderance of the evidence pointed to DEF's operation of the steam turbine in Period 1 as the most plausible culprit.

DEF argues that it is "as or more reasonable" to conclude from the evidence presented that DEF's actions did not cause or contribute significantly to the vibrations that damaged the L-0 blades. DEF contends this is true because the L-0 blades were damaged in Periods 2-5 when the unit was not run above 420 MW as well as Period 1 when it was. DEF further states that the ALJ is imposing the impossible standard of proving a negative. DEF argues that it does not have the burden to prove that damage did not occur as a result of its actions. Rather, DEF states that it is only required to show that it acted as a reasonable utility manager would have done given the facts known or reasonably knowable at the time without the benefit of hindsight review.

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<sup>25</sup> Finding of Fact No. 87.

<sup>26</sup> Finding of Fact No. 31.

<sup>27</sup> Finding of Fact No. 85.

<sup>28</sup> Finding of Fact No. 102.

<sup>29</sup> Factual Finding No. 93.

Intervenors' Response

Intervenors argue that Conclusion of Law 114 summarizes the findings of fact that support the ALJ's ultimate determination. Intervenors state that these findings of fact are supported by competent substantial evidence and we may not reject them. With regard to the contention that the ALJ required DEF to prove a negative, Intervenors argue that DEF has the burden of proof to demonstrate that it acted prudently in the operation of Bartow Unit 4 which requires it to establish a *prima facie* case that it did act prudently and to rebut evidence of its imprudence. The Intervenors assert that DEF did neither here and the ALJ's conclusion may not be disturbed.

Ruling

As discussed in the ruling on Conclusions of Law 110-113 above, the ALJ found that a preponderance of the evidence supported the finding that the **L-0 blade damage** was caused by vibrations/flutter associated with high energy loadings. Further, the ALJ found that the weight of the evidence supported the conclusion that the high energy loading on the blades was the result of **excessive steam flow through the low pressure section of the steam turbine caused by operating the steam turbine above 420 MW**. DEF does not contest that these findings of fact are supported by competent substantial evidence of record.

We agree with the ALJ that DEF has the burden of proving that it acted prudently in the operation of its steam turbine, i.e., the burden to make a *prima facie* case supported by competent substantial evidence that it acted prudently. The burden of proof also requires DEF to rebut evidence produced that it acted imprudently. Here under the unique circumstances of this case, DEF has failed to prove it acted prudently in light of the information that was available to it at the time as found by the ALJ in Conclusion of Law 110. DEF's exception to Conclusion of Law 114 reargues DEF's factual position and fails to demonstrate that its conclusion is as or more reasonable than the ALJ's. For these reasons, DEF's Exception to Conclusion of Law 114 is denied.

DEF Exception to Conclusion of Law 119

DEF takes exception with the ALJ's Conclusion of Law 119, which states:

119. It is speculative to state that the original Period L-0 blades would still be operating today had DEF observed the **design limit** of 420 MW. 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 not possible to state what would have happened from 2012 to 2017 if the excessive loading had not occurred, but it is possible to state that events would not have been the same.

Specifically, DEF disputes the ALJ's conclusion that it is not speculative to state that the events of Periods 2 through 5 were precipitated by DEF's actions during Period 1. DEF argues that there is no causal link between the operation of the unit in Period 1 and the forced outage

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that occurred in Period 5. DEF contends that the lack of a causal link is proven by the fact that there was no residual damage done to the steam turbine itself in Period 1 and all parties agreed that DEF's operation of the plant subsequent to Period 1 was prudent.

Intervenors' Response

Intervenors state that the conclusions in Paragraph 119 are based on the ALJ's findings of fact in Paragraphs 84 and 89 which are supported by competent substantial evidence and OPC's expert's credible testimony. Intervenors argue that to the extent that this conclusion is an inference from the ALJ's factual findings, the ALJ is permitted to draw reasonable inferences from competent substantial evidence in the record. *Amador v. School Board of Monroe County*, 225 So. 3d 853, 858 (Fla. 3d DCA 2017). Further, Intervenors state that the fact that more than one reasonable inference can be drawn from the same evidence of record is not grounds for setting aside the ALJ's conclusion. *Id.*

Ruling

This conclusion of law is in response to OPC witness Polich's testimony that the low pressure L-0 blades would still have been in use but for the operation of the steam turbine in excess of 420 MW.<sup>30</sup> While the ALJ rejected that conclusion as too speculative, he did accept witness Polich's testimony that the damage to the blades was most likely cumulative during Period 1, making it irrelevant exactly when during the operation of the unit in Period 1 the damage occurred.<sup>31</sup> DEF's witness Swartz testified that the damage to the blades could have occurred in Period 1 during the 50% of the time that the steam turbine was operated under 420 MW, i.e., when by Intervenors' standards, the unit was being operated prudently. Where reasonable people can differ about the facts, an agency is bound by the hearing officer's reasonable inferences based on the conflicting inferences arising from the evidence. *Amador v. School Board of Monroe County*, 225 So. 3d 853, 857-8 (Fla. 3d DCA 2017). Additionally, the hearing officer is entitled to rely on the testimony of a single witness even if the testimony contradicts the testimony of a number of other witnesses. *Stinson v. Winn*, 938 So. 2d 554, 555 (Fla. 1st DCA 2006).

DEF's exception to Conclusion of Law 119 reargues DEF's factual position and fails to demonstrate that its conclusion is as or more reasonable than the ALJ's. For these reasons, DEF's Exception to Conclusion of Law 119 is denied.

DEF Exception to Conclusion of Law 120

DEF takes exception with the ALJ's Conclusion of Law 120, which states:

120. In his closing argument, counsel for White Springs summarized the equities of the situation very well:

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<sup>30</sup> Finding of Fact No. 84.

<sup>31</sup> Finding of Fact No. 89; Footnote 4.

You can drive a four-cylinder Ford Fiesta like a V8 Ferrari, but it's not quite the same thing. At 4,000 RPMs, in second gear, the Ferrari is already doing 60 and it's just warming up. The Ford Fiesta, however, will be moaning and begging you to slow down and shift gears. And that's kind of what we're talking about here.

It's conceded as fact that the root cause of the Bartow low pressure turbine problems is excessive vibrations caused repeatedly over time. The answer to the question is was this due to the way [DEF] ran the plant or is it due to a design flaw? Well, the answer is both.

The fact is that [DEF] bought a steam turbine that was already built for a different configuration that was in storage, and then hooked it up to a configuration . . . that it knew could produce much more steam than it needed. It had a generator that could produce more megawatts, so the limiting factor was the steam turbine.

On its own initiative, it decided to push more steam through the steam turbine to get more megawatts until it broke.

\* \* \*

So from our perspective, [DEF] clearly was at fault for pushing excessive steam flow into the turbine in the first place. The repair which has been established . . . may or may not work, but the early operation clearly impeded [DEF's] ability to simply claim that Mitsubishi was entirely at fault. And under those circumstances, it's not appropriate to assign the cost to the consumers.

DEF argues that Conclusion of Law 120 is a slightly edited, verbatim recitation of PCS Phosphate counsel's final argument which the ALJ adopts, characterizing it as summarizing "the equities of the situation very well." DEF takes exception to that portion of the final argument stating that under the circumstances presented in this case, it is not appropriate to assign the cost of the February 2017 forced outage to DEF's customers. DEF argues that it is as or more reasonable to conclude that here, where DEF consistently acted prudently, DEF should not be forced to bear replacement power costs.

#### Intervenors' Response

As demonstrated in its response to Paragraphs 110-114 above, Intervenors argue that there is more than adequate competent substantial evidence to support the ALJ's ultimate determination that DEF did not act prudently and should bear replacement power costs. Intervenors state that DEF is simply rearguing the case it presented to the ALJ which the ALJ found to be unpersuasive.

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Ruling

As noted above, this conclusion of law is an edited version of PCS Phosphate counsel's final argument which the ALJ agrees has summarized the "equities of the situation very well." The ALJ agrees that excessive vibrations over time caused the steam turbine problems. Further, whether the vibration was due to the way the plant was run or due to a design flaw is that both are true. The ALJ concludes that DEF was at fault for pushing excessive steam flow into the turbine. The ALJ further agrees that by operating the unit above 420 MW, without contacting Mitsubishi, DEF impeded its ability to claim that Mitsubishi was entirely at fault. Under these circumstances, PCS Phosphate's counsel, and the ALJ, conclude that consumers should not bear replacement power costs.

Upon review of this material, it is clear that it is a summary of Conclusions of Law 110-114 above. These conclusions are supported by competent substantial evidence of record. Again, DEF reargues the factual underpinnings of the ALJ's Conclusion of Law without adequately demonstrating that DEF's conclusion is as or more reasonable. Therefore, DEF's Exception to Conclusion of Law 120 is denied.

DEF Exception to Conclusion of Law 121

DEF takes exception with the ALJ's Conclusion of Law 121, which states:

121. The greater weight of the evidence supports the conclusion that DEF did not exercise reasonable care in operating the steam turbine in a configuration for which it was not designed and under circumstances which DEF knew, or should have known, that it should have proceeded with caution, seeking the cooperation of Mitsubishi to devise a means to operate the steam turbine above 420 MW.

Specifically, DEF takes exception with the ALJ's conclusion that it did not exercise reasonable care in operating the steam turbine and should have sought the cooperation of Mitsubishi prior to operating the steam turbine above 420 MW. DEF again argues that it is as or more reasonable to conclude that operation within the express parameters given by Mitsubishi was prudent and did not require further consultation with the manufacturer.

Intervenors' Response

As demonstrated in their response to Paragraphs 110-114 above, Intervenors argue that there is more than adequate competent substantial evidence to support the ALJ's ultimate determination that DEF did not exercise reasonable care operating the plant in excess of 420 MW without consulting Mitsubishi first. Intervenors assert that the Commission is not free to reject or modify conclusions of law that are supported by competent substantial evidence and logically flow from that evidence.

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123. DEF failed to carry its burden to show that the Period 5 blade damage and the required replacement power costs were not consequences of DEF's imprudent operation of the steam turbine in Period 1.

For the reasons stated in its exception to Paragraph 110, DEF argues that it did demonstrate by a preponderance of the evidence that it operated the steam turbine prudently in Period 1. Thus, DEF contends that it is as or more reasonable to conclude that DEF carried its burden of proof that the steam turbine was operated prudently in Period 1.

## Intervenors' Response

Intervenors contend that the ALJ's conclusion is supported by competent substantial evidence of record as detailed in Intervenors' responses to DEF's exceptions to Paragraphs 110-114 and 119, and is consistent with applicable law. Therefore, Intervenors argue that we cannot, under these circumstances, reject the ALJ's conclusion of law by reweighing the evidence and substituting new and directly contrary findings that are favorable to DEF.

## Ruling

A review of DEF's exception reveals that it is simply re-argument of its position taken in Conclusion of Law No. 110 discussed above. For the reasons stated therein, DEF's Exception to Conclusion of Law 123 is denied because DEF has failed to demonstrate that its conclusion is as or more reasonable than the ALJ's.

## DEF Exception to Conclusion of Law 124

DEF takes exception with the ALJ's Conclusion of Law 124, which states:

124. The de-rating of the steam turbine that required the purchase of replacement power for the 40 MW loss caused by the installation of the pressure plate was a consequence of DEF's failure to prudently operate the steam turbine during Period 1. Because it was ultimately responsible for the de-rating, DEF should refund replacement costs incurred from the point the steam turbine came back on line in May 2017 until the start of the planned fall 2019 outage that allowed the replacement of the pressure plate with the redesigned Type 5 40" L-0 blades in December 2019. Based on the record evidence, the amount to be refunded due to the de-rating is \$5,016,782.

DEF argues that the operation of the steam turbine in Period 1 was proven by DEF by a preponderance of the evidence to be prudent. DEF contends that this fact, coupled with the undisputed evidence that DEF also operated the steam turbine prudently in Periods 2-5, demonstrates that it is as or more reasonable to conclude that the Period 5 blade damage and resulting replacement power costs were not a consequence of DEF's operation of the steam turbine during Period 1.