

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF DELAWARE**

IN THE MATTER OF THE INVESTIGATION )  
INTO THE JULY, 1999 OUTAGES AND )  
GENERAL SERVICE RELIABILITY OF ) PSC DOCKET NO. 99-328  
DELMARVA POWER & LIGHT COMPANY, )  
D/B/A CONECTIV POWER DELIVERY )  
(OPENED JULY 27, 1999) )

**FINDINGS, OPINION AND ORDER NO. 5480**

**BEFORE COMMISSIONERS: DR. ROBERT J. McMAHON, Chairman**

**JOHN R. McCLELLAND, Commissioner**

**DR. DONALD J. PUGLISI, Commissioner**

**ARNETTA McRAE, Commissioner**

**APPEARANCES:**

For the Complainant, Staff of the Delaware Public Service Commission:

ASHBY & GEDDES, Rate Counsel

JAMES McC. GEDDES

REGINA A. IORII

For the Division of the Public Advocate:

BRIAN P. GALLAGHER

For the Respondent, Delmarva Power & Light Company, d/b/a Conectiv Power Delivery:

PETER F. CLARK, General Counsel

**I. BACKGROUND**

1. At 10:35 a.m. on July 6, 1999, Delmarva Power & Light Company, d/b/a Conectiv Power Delivery ("Delmarva"), experienced an outage at its 91 MW Indian River Unit No. 2 in Sussex County, Delaware. As a result of this outage, voltages dropped precipitously, and Delmarva was forced to shed load, which resulted in the implementation of rolling blackouts in parts of its service territory. The rolling blackouts generated many customer complaints to the Public Service Commission ("Commission") and considerable comment in the public press.

2. On July 27, 1999, the Commission initiated this proceeding pursuant to 26 Del.C. §§ 201(a), 308 and 1002 and the Commission Regulations Governing Service Supplied By Electrical Utilities seeking to ascertain: (a) the cause(s) of the outages; (b) Delmarva's decision to implement rolling blackouts; (c) Delmarva's ability (if any) to avoid or mitigate the outages and subsequent rolling blackouts; (d) whether the rolling blackouts were implemented in an appropriate, reasonable, and nondiscriminatory manner; and (e) whether there were any threats to the continued reliability of electric service in Delaware as the supply of electricity is deregulated. (Order No. 5183 at ¶4). The Commission directed Staff to submit a preliminary report regarding its investigation by September 24, 1999, upon review of which the Commission would determine whether additional proceedings were necessary "to ensure that Delaware citizens continue to have reliable electric service." Id.

3. Staff and the Division of Public Advocate ("DPA") submitted its preliminary report on September 24, 1999. On October 12, 1999, after consideration of that report, the Commission issued Order No. 5244, in which it initiated a formal proceeding to determine whether Delmarva was presently fulfilling its obligations to provide adequate, safe, and proper service over a reliable transmission and distribution network. The Commission designated G. Arthur Padmore as Hearing Examiner and directed him to conduct the necessary evidentiary hearings and submit proposed findings and recommendations to the Commission. (Order No. 5244 at ¶4).

4. Staff, DPA, and Delmarva all submitted prefiled testimony and/or final reports. Hearings were held on March 1-3, 2000, after which the record was closed. The Hearing Examiner issued his findings and recommendations on May 12, 2000. Delmarva was the only party to file exceptions to any of the Hearing Examiner's proposed findings and recommendations.

5. On June 6, 2000, at its regularly scheduled meeting, the Commission conducted deliberations in open session on the Hearing Examiner's findings and recommendations. This is the Commission's Findings, Opinion and Order in this docket.

## **II. THE ORDER NO. 5183 ISSUES; THE HEARING EXAMINER'S FINDINGS AND RECOMMENDATIONS; AND THE COMMISSION'S DISCUSSION**

6. In Order No. 5183, the Commission raised the following issues:

- Identify the service outages of July 3-6, 1999 and their causes.
  - Identify the events preceding Delmarva's rolling blackouts, as well as the factors that caused Delmarva to implement rolling blackouts.
  - What caused the outage at Indian River Unit No. 2 on July 6, 1999 and what was the status of Delmarva's other generating units at Indian River from July 3-6, 1999? Did Indian River Unit No. 2 fail because of inadequate maintenance? Why were other Indian River Units either fully or partially unavailable?
  - What was the causal connection between the status of the Indian River generating units and Delmarva's decision to implement rolling blackouts? Could the rolling blackouts have been avoided if the Indian River plants had been operating at full or planned capacity?
  - Were there constraints in Delmarva's transmission and distribution system that prevented the purchase and distribution of alternative energy supplies to Delmarva customers after the outage at Indian River Unit No. 2? If so, what is the nature of any such constraints and when do they threaten the ability to distribute supply from outside sources at any particular time?
  - Did Delmarva respond to the Indian River Unit No. 2 outage in a reasonable manner?
  - Did Delmarva implement rolling blackouts in a reasonable, appropriate and nondiscriminatory manner?

**7. Service Outages.** It was undisputed, and the Hearing Examiner found, that in Delmarva's Bay Region, approximately 128,051 customers experienced outages of varying duration and frequency on July 6, 1999, beginning shortly after the loss of Indian River Unit No. 2 at 10:35 a.m. Although no New Castle Region customers experienced service interruptions in the morning, approximately 7,725 New Castle Region customers were interrupted in the afternoon. Sixty MW of load was shed in the morning and the amount of load shed varied from 40 – 140 MW over the course of July 6 until 6:32 p.m., when it was reduced to 30 MW. Load shedding ended altogether at 7:25 p.m. (Hearing Examiner's Findings and Recommendations at 9, citing Ex. 2 §3.6 at 11-12) (hereafter "HER at \_\_\_"). We adopt the Hearing Examiner's findings on this issue. (4-0).

**8. Causes of the Outages.** It was also undisputed, and the Hearing Examiner found, that there were several causes of the outages: (a) the unprecedented sustained heat and humidity over the July 3-6, 1999 period, which greatly increased demand for electricity (especially reactive power); (b) the unexpected outages of Edge Moor Unit No. 3 and Indian River Unit No. 2; (c) the pre-existing outage of Indian River Unit No. 3; (d) the lack of reactive power support from the 500 kV PJM transmission system; and (e) the effect of the sustained heat and humidity on both the real and reactive outputs of electric generating units on the Delmarva Peninsula and throughout PJM. (HER at 9-10, citing Ex. 2, §2.6 at 11-13; Ex. 11 at 27). The Hearing Examiner further found that load shedding was precipitated by the loss of the 91 MW Indian River Unit No. 2 during a period of steadily increasing demand for reactive power and reduced voltages on the Delmarva and PJM systems. (HER at 10). We adopt the Hearing Examiner's findings on this issue. (4-0).

**9. What Caused The Outage at Indian River Unit No. 2/Status of Other Indian River Generating Units.** No party disputed that Indian River Unit No. 2 was taken off line at 10:35 a.m. due to a weather-related equipment failure. Delmarva witnesses testified that moisture from an un-air conditioned space had infiltrated an air conditioned area housing control panels, causing a short circuit. (HER at 10, citing Ex. 2, §3.3 at 9, §3.6 at 11). Indian River Unit No. 3 was unavailable from July 3-6, 1999 as a result of damage sustained in June 1999. (*Id.*, citing Ex. 2 §3.3 at 9). Although Indian River Units Nos. 1 and 4 were in service on July 6, they could not run at their full rated MW capability or their full MVAR output capability due to the high heat and humidity. (*Id.* at 10, citing Ex. 2, §3.3 at 9). The Hearing Examiner found no evidence that any Indian River unit failed because of inadequate maintenance. (*Id.* at 11). We adopt the Hearing Examiner's findings on this issue. (4-0).

**10. Causal Connection Between Status of Indian River Generating Plants and Delmarva's Decision to Implement Load Shedding.** The Hearing Examiner found that the failure of Indian River Unit No. 2, coupled with the pre-existing unavailability of Indian River Unit No. 3, contributed (along with the other factors previously identified) to the voltage declines that led to the decision to shed load. (HER at 11, citing Ex. 2, §3.6 at 11-12; Ex. 11 at 27.)

**11. Were There Constraints in Delmarva's Transmission and Distribution Systems That Prevented The Purchase and Distribution of Alternative Electricity Supply to Delmarva Customers? If So, What Is The Nature of Such Constraints And When Do They Threaten The Ability To Distribute Supply From Outside Sources At Any Particular Time?** The Hearing Examiner addressed this issue in greater detail in connection with his discussion of the issues raised in Order No. 5244. He concluded, however, that it was unclear whether Delmarva had satisfied the Mid Atlantic Area Council's ("MAAC") criteria for transmission reliability planning for the 1999-2000 planning period, and that had the Company heeded the warnings of its own planners and advanced the installations of recommended improvements to its transmission system, load shedding could have been avoided on July 6. (HER at 12).

12. We will not address this issue separately, but rather will address it in the context of whether load shedding could have been avoided on July 6 had the Company heeded the warnings of its transmission planners and advanced the installation of a 150 MVAR static var compensator ("SVC") prior to the summer of 1999.

**13. Did Delmarva Respond to the Loss of Generation From Indian River Unit No. 2 In a Reasonable Manner?** The Hearing Examiner found that the damage to Indian River Unit No. 3 was too great to permit repair in time for the summer of 1999. He further found that the Company responded quickly to the loss of Indian River Unit No. 2 on July 6, 1999, and returned the unit to service within a reasonable amount of time. (HER at 12). Finally, he found that Delmarva's implementation of load shedding on July 6 was necessary in order to avert a system collapse that would have resulted in more widespread and longer-term outages, and that the parties did not dispute that Delmarva's operating strategy on July 6 was proper. (HER at 12-13, 15). We agree with the Hearing Examiner's findings with one exception: we believe that the evidence demonstrates that Delmarva's operating strategy on July 6 was "reasonable," rather than "proper." (4-0).

**14. Did Delmarva Implement Rolling Blackouts In a Reasonable, Appropriate and Nondiscriminatory Manner?**

The Hearing Examiner found that there was no evidence that Delmarva exercised undue discrimination in selecting the circuits for load shedding. (HER at 13, citing Tr. at 313-14).

15. We believe that there was discrimination in Delmarva's selection of the circuits for load shedding: the record indicates (and Delmarva does not dispute) that some circuits were selected repeatedly for load shedding while other circuits were never selected for load shedding. Some customers experienced repeated outages while other customers experienced no outages at all, and Delmarva curtailed service to its firm customers before curtailing service to its interruptible customers (who pay lower rates for electricity in exchange for their agreement that their service may be interrupted when necessary). We understand that the tariff provisions for interruptible service require a certain amount of notice be given to interruptible customers before their service is curtailed, and we also understand that interruptible customers' service was curtailed on July 6. Nevertheless, it is clear that there was some discrimination in the selection of circuits for load shedding. That having been said, however, there is no evidence that Delmarva exercised undue discrimination in the selection of circuits for load shedding. Moreover, Delmarva has represented that it has modified the manner in which circuits are selected for load shedding (should an emergency situation arise in the future) so that outages are more evenly distributed among customers, and that the same customers are not bearing the brunt of load shedding. (4-0).

**III. THE ORDER NO. 5244 ISSUES; THE HEARING EXAMINER'S FINDINGS AND RECOMMENDATIONS; AND THE COMMISSION'S DISCUSSION**

16. In Order No. 5244, the Commission stated that its purpose in moving forward with its investigation was to determine whether Delmarva was presently fulfilling its obligations to provide adequate, safe, and proper service over a reliable transmission and distribution network, and whether it would do so in the future. (Order No. 5244 at ¶4). The Commission sought to address operational issues regarding whether Delmarva had "reasonable, adequate, and nondiscriminatory plans, procedures and guidelines" in place to guard against and/or respond to a repetition of the July 6, 1999 events, as well as longer-term issues of maintaining a reliable electric network capable of serving a growing population as the supply of electricity is deregulated. (*Id.*). The primary purpose of the proceeding going forward, however, was to ensure that Delaware customers had and would continue to have reliable and adequate electric service. (*Id.* at ¶7).

17. The Hearing Examiner found that before he could address the issue of whether Delmarva had in place "reasonable, adequate, and nondiscriminatory plans, procedures, and guidelines" to guard against or respond to a repetition of the events of July 6, 1999, it was necessary to determine the status of Delmarva's system on July 6, 1999 and whether that system had been modified as necessary to avoid such a repetition. Thus, the Hearing Examiner framed the first issue as whether load shedding could have been avoided on July 6 if Delmarva had heeded the warnings of its transmission system planners and advanced the installation of a 150 MVAR SVC so that it was operational on July 6.

**18. Could Load Shedding Have Been Avoided If Delmarva Had Heeded the Warnings of Its Transmission System Planners And Advanced The Installation of a 150 MVAR SVC in the Bay Region To Be In Service for the Summer of 1999?** Delmarva claimed that it met the MAAC criteria for transmission and generation for the 1999-2000 planning period without the installation of a 150 MVAR SVC in the Bay Region. Delmarva contended that the evidence showed that it did plan for generator outages as part of passing the MAAC deliverability test, which assumes outages of generating units. It further argued that budget constraints had not postponed the installation of an SVC in the Bay Region because Delmarva had never planned to install an SVC in the Bay Region before the summer of 2000. Rather, Delmarva claimed that it was aware of the increased demand for reactive power, and began addressing that demand in 1994 by adding 30-50 MVAR of capacitors annually. That annual increment in capacitors matched the observed rate of growth in demand for reactive power which had been about 5% annually before 1999. Although conceding that a 150 MVAR SVC would have helped on July 6, Delmarva argued that it would not have prevented all of the outages because the demand for reactive power on July 6 was 32% higher than the peak demand for reactive power in 1998, and Delmarva could not have been expected to foresee such an increase in demand in a single day. Moreover, Delmarva disputed Staff's contention that Delmarva's MW load was growing faster than expected. According to Delmarva, the rate of growth of demand for reactive power had been about 5% per year between 1995 and 1998. The demand for real power had dropped between 1995 and 1996. The average rates of growth of weather-normalized peak demand for real power was 0.65% for 1995 to 1997 and 2.5% per year from 1993 to 1997. Delmarva argued that its planning projections, cited by the Hearing Examiner of between 1.25% and 2.7% were consistent with these rates of growth.

19. Delmarva further contended that the study on which Staff's witness relied (prepared by Professor Thomas Overbye) contained incorrect assumptions regarding the linearity of the increase in demand for MWs and MVARs. According to Delmarva, Professor Overbye assumed a linear increase in demand for both MWs and MVARs, but in actuality demand for MVARs on July 6 increased disproportionately to the demand for MWs. Moreover, Staff ignored that at 10:35 a.m. a 150 MVAR SVC would have already been loaded at 39 MVARs, so the full 150 MVARs would not have been available and that voltages on the PJM system had dropped from 525 kV to 506 kV at noon on July 6. Finally, the Company argued, even if an SVC had been operational on July 6, it would not have prevented the need for any load shedding because the total increase in demand for MVARs was greater than the additional MVARs that the SVC would have provided.

20. Pointing to Delmarva's annual Transmission and Distribution Studies from 1993 through 1997 (collectively, the "T&D Studies" and individually, the "(Year) T&D Study"), Staff contended that Delmarva's planners had warned since 1993 that without new generation on the Delmarva Peninsula, additional reactive power sources would be necessary in order to "improve reactive/voltage problems," reduce north-south tie line flows, and increase system import capability, and other transmission system improvements (including an SVC) would be required by the late 1990s or 2000. (Ex. 18 at Sch. WCM-2 (T&D Studies)). No new generation was added on the peninsula. In addition, the Company accelerated other projects that were originally not scheduled to be installed before 2000, and those projects had the effect of permitting Delmarva to import more power onto the Peninsula (which would increase the need for additional reactive power sources above and beyond the capacitors). By 1997, Staff contended, Delmarva's planners were telling Delmarva that by 2000 its existing generators would not have sufficient reactive power capability "to provide the system with the necessary dynamic response needed to avoid dropping significant load for a major outage." (Ex. 18 at Sch. WCM-2 (1997 T&D Study)). Meanwhile, Staff contended that the demand for both real and reactive power was increasing at a greater rate than Delmarva had assumed for planning purposes. Thus, Staff concluded, Delmarva should have installed the SVC before the summer of 1999.

21. Staff further argued that Professor Overbye's study showed that if an SVC had been operational on July 6, the point of system voltage collapse would have been extended; voltages would have been stabilized; and no load shedding would have been necessary when Indian River Unit No. 2 went down. Furthermore, if the SVC had been operational on July 6, Delmarva could have brought Indian River Unit No. 2 back on line around noon instead of at 4:30 p.m., which would have further stabilized voltages, and other generating units that went off line in the afternoon of July 6 because of low voltages probably would not have gone off line. Staff went through an hour-by-hour comparison of the load that was shed and the other events of July 6 to demonstrate that load shedding could have been avoided on July 6 if a 150 MVAR SVC had been installed and operating on that date.

22. Finally, Staff argued that the high MVAR demand was a "red herring." First, the "cold load pickup" phenomenon (which is when a motor or air conditioner is first turned on it draws more power) could have resulted in higher MVAR levels on July 6 than would have occurred had the equipment simply been turned on once at the beginning of that day and left running, due to the cycling on and off of motors and air conditioners during rotating load shedding. Second, Staff argued that the highest MVAR demand occurred at 6:45 p.m., when Delmarva was only shedding approximately 30-35 MW of load and an associated 12 MVARs. Third, even at the highest level of load shed (143.5 MW), only 48 MVARs of reactive power were being shed along with those MWs, which was many fewer MVARs than the 150 MVAR SVC would have provided.

23. The DPA contended that between July 3-6, 1999, Delmarva was the only utility that appeared to suffer from a lack of resources and systemic failures, and that it failed to plan a reliable electric system to meet expected summer weather excursions. Although Delmarva's system appeared to be reliable under weather-normalized summer weather, it was unable to provide reliable service in above-average summer weather excursions. The DPA argued that its assessment of historical weather-normalized and actual peak demands demonstrated that the peak demand experienced by Delmarva on July 6 was not unusual, and had Delmarva properly evaluated the impact of expected summer weather, it would have foreseen the load shedding that occurred on July 6. Thus, the DPA concluded that the July 6 load shedding was a result of improper planning by Delmarva.

24. The Hearing Examiner concluded that the record evidence was "compelling" that Delmarva was unable to meet a tremendous demand for reactive power in the Bay Region on July 6. (HER at 23). However, he disagreed with Delmarva that it could not have been expected to foresee such growth in demand for reactive power over a single year. He found that over the course of several years Delmarva's planners had warned that major new generation in the Bay Region was "critical" to reduce increasing north-south tie line flows, improve reactive/voltage problems, and increase

[ ] system import capability," and that without the addition of such new generation, other transmission improvements, including an SVC, would be necessary by the late 1990s or 2000. (Id. at 24, citing Ex. 22 (T&D Studies).) He further found that in 1997, Delmarva's planners were warning that by 2000 its existing generators would not have sufficient reactive power capability "to provide the system with the necessary dynamic response needed to avoid dropping significant load for a major outage." (HER at 24, citing Ex. 18 at Sch. WCM-2 (1997 T&D Study).) There was no dispute that Delmarva did not add any new generation in the Bay Region, and the Hearing Examiner found "ample evidence" that the growth in demand for real and reactive power "far exceeded " Delmarva's planning estimates. (HER at 24, citing Ex. 18 at 7-8, Sch. WCM-2; Ex. 3 at JDG-2, Table III). In light of this evidence, the Hearing Examiner concluded that the answer to Staff's query regarding what would happen before the year 2000 if some of the existing generators were out of service and thus not providing any reactive power capability was clear: rolling blackouts. (HER at 25).

25. The Hearing Examiner further observed that Delmarva witness Wakefield had testified that the critical variable for when capacitors and SVCs should be added is the load forecast and the demand for reactive power, and that if load grew faster than expected or other problems were observed, such projects could be pursued sooner. (HER at 25, citing Ex. 13 at 16). He found that it was "evident" by the time of the 1997 T&D Study that Delmarva was (or should have been) aware that demand for reactive power was increasing faster than it historically had; that load was growing faster than expected; and that "in just a few years its existing generators would not have sufficient reactive power capability to provide its system with the dynamic response needed to prevent a major outage." (HER at 25-26.) Finally, he concluded that the Overbye study "illustrates vividly" that the July 6 outages were the result of insufficient reactive power resources to support the demand for reactive power. In reaching these findings, the Hearing Examiner stated that he was persuaded by Staff witness Glover's testimony and the Overbye study, and rejected Delmarva's attempts to discredit either Dr. Glover's testimony or the Overbye study. (HER at 26.)

26. Thus, the Hearing Examiner was convinced that had Delmarva paid attention to the warnings of its transmission planners and installed a 150 MVAR SVC in the Bay Region prior to the summer of 1999, the load shedding that occurred on July 6 could have been avoided. He recommended that the Commission adopt Staff's position on this issue.

27. We believe that the evidence demonstrated that Delmarva's planners had warned that new generation on the Delmarva Peninsula was necessary to reduce increasing north-south tie line flows, improve reactive/voltage problems, and increase system import capability, and that without the addition of such new generation other transmission system improvements (including a 150 MVAR SVC in the Bay Region) would be needed by the late 1990s or 2000. It is undisputed that no new generation was added on the Delmarva Peninsula. We also believe that the evidence showed that in 1997 Delmarva's planners had warned that by 2000 the existing generators would not have sufficient reactive capability to provide the system with the necessary dynamic response needed to avoid dropping significant load for a major outage. We also believe that the evidence showed that the demand for both real and reactive power exceeded the Company's planning estimates. We recognize that Delmarva has disputed Staff's interpretation of this evidence – an interpretation which the Hearing Examiner accepted. However, we believe that there is substantial evidence to support that interpretation.

28. Having recognized this, however, we are uncomfortable with the Hearing Examiner's conclusion that the rolling blackouts "could" have been avoided even if a 150 MVAR SVC was installed and operating on July 6. It appears that the Hearing Examiner is saying that the rolling blackouts would have been avoided if an SVC had been installed and operating prior to the summer of 1999. We cannot conclude that rolling blackouts would have been avoided if an SVC had been installed and operating prior to the summer of 1999. To say that Delmarva would not have had to shed any load on that day if the SVC had been installed and operating is speculative. However, we do believe that the evidence demonstrates that had the Company heeded the warnings of its planners and installed a 150 MVAR SVC in the Bay Region prior to the summer of 1999, the load shedding on July 6 might have been avoided. That is to say, the degree of load shedding that occurred might have been reduced if the SVC had been installed and operating on July 6. (4-0).

29. **Did Delmarva Satisfy The MAAC Criteria For The 1999-2000 Planning Period?** Delmarva contended that it had satisfied the MAAC criteria for the 1999-2000 planning period. Staff's witness originally thought so too, although later information regarding the transmission system that was actually modeled by PJM caused him to modify his position and testify that it was "unclear" whether Delmarva had satisfied the criteria. In its initial brief to the Hearing Examiner, Delmarva sought permission to reopen the record to introduce a March 14, 2000 e-mail from Steven Herling of PJM which, Delmarva asserted, would resolve this issue. The Hearing Examiner denied Delmarva's request to

reopen the record to admit the e-mail, and further declined to make any recommendation regarding whether Delmarva satisfied the MAAC criteria for the 1999-2000 planning period based on the uncertainty regarding what system configuration was actually modeled by PJM. (HER at 27-29.)

30. We, too, decline to make any finding on whether Delmarva satisfied the MAAC criteria, although for different reasons than the Hearing Examiner. PJM sets forth the criteria and performs the simulations. This Commission is not consulted by PJM in this process, and we are in no position to add anything to what PJM decided with respect to whether Delmarva satisfied those criteria for the 1999-2000 planning period. (4-0.)

31. Since we have declined to make any finding on whether Delmarva met the MAAC criteria for the 1999-2000 planning period, the question of whether the Hearing Examiner erred in refusing to reopen the record to admit the March 14, 2000 e-mail from Mr. Herling is moot. (4-0.)

32. The next general issue raised in Order No. 5244 was whether the Company has reasonable, adequate, and nondiscriminatory guidelines in place to guard against and/or respond to a repeat of the July 6 outages, and the longer-term questions of maintaining a reliable electric network capable of serving a growing population as the supply of electricity is deregulated.

33. **Will Delmarva Be Able To Meet Its Transmission and Distribution Obligations In The Future?** The evidence showed that after the July 6 events, Delmarva accelerated planned improvements to its transmission system, including the installation of SVCs in the Bay Region. Staff's witness testified that as a result of these improvements, Delmarva should be able to meet its transmission and distribution obligations, at least for the upcoming summer months. The Hearing Examiner concurred, noting that these improvements would increase the voltage support available on the transmission system (particularly in the Bay Region) and, therefore, help to maintain adequate voltage levels on the peninsula. (HER at 30.)

34. Accepting the Hearing Examiner's recommendation on this issue would be tantamount to telling customers that Delmarva will be able to meet its transmission and distribution obligations in the future. We are not comfortable, however, that we have adequate information from which we can predict what will occur with respect to Delmarva's transmission and distribution system in the future. Therefore, we decline to make a finding on this issue.

(4-0.)

35. **Reliability Issues Associated With Delmarva's Divestiture of Power Plants.** Staff's witness testified that based on his review of the pertinent agreements, Delmarva was taking a prudent approach regarding reliability issues associated with the divestiture of its Indian River and Vienna power plants. However, he recommended that the Commission review the final version of the Interconnection Agreement to verify that it contained all of the reliability-related provisions included in the draft that was reviewed, and that the Commission ensure that NRG will be committed to maintaining the units as PJM Capacity resources. The Hearing Examiner recommended that the Commission find that Delmarva was taking a prudent approach with respect to the divestiture of its power plants, and that Staff's recommendations regarding review of the final Interconnection Agreement and ensuring that NRG was committed to maintaining the units as PJM Capacity Resources be adopted. (HER at 31-33.)

36. We find that Delmarva is taking a reasonable approach to the divestiture of its power plants. We are hesitant to use the word "prudent," since that is a concept that the Delaware Supreme Court has rejected in connection with public utility regulation. However, we adopt the Hearing Examiner's recommendations that the Commission review the final Interconnection Agreement and that we ensure that NRG is committed to maintaining the units as PJM Capacity Resources. (4-0.) Thus, we shall direct Delmarva to make available to Staff : (a) the final version of the Interconnection Agreement as soon as it has been executed; and (b) any documents verifying that NRG is committed to maintaining the Indian River and Vienna units as PJM Capacity Resources (subject to the normal and usual confidentiality provisions).

37. **Should the Commission Request PJM To Investigate Whether The Sale of Delmarva's Generating Units Will Create Market Power and Reliability Problems?** Staff recommended that the Commission request PJM to investigate whether the sale of Delmarva's generating units would create market power and reliability problems. (Staff's witness observed in his prefiled testimony, filed on February 2, 2000, that on January 31 the Commission had authorized Staff to make such a request of PJM. (Ex. 2 at 5 n.1).) Delmarva did not object to PJM's performance of a

reliability analysis, but did object to the market power aspect of such an investigation. Delmarva argued that as a result of the Restructuring Act, the generation, sale, and supply of electricity was deregulated and the Commission no longer had jurisdiction over those activities.

38. The Hearing Examiner was not certain why Delmarva was objecting to the market analysis portion of the requested study (other than Delmarva's contention that the Commission no longer regulated the generation, supply, or sale of electricity). He observed that even under the Restructuring Act, the Commission continued to have jurisdiction over reliability issues, and reliability issues were implicated by the sale of generating units on the peninsula. He further observed that the Restructuring Act allowed the Commission to conduct an investigation concerning market power issues for good cause shown. He was persuaded by Staff's contention that market power and reliability issues are inextricably linked because it is easier to exercise market power in circumstances where reliability risks are highest, such as a transmission load pocket (which the Delmarva Peninsula is), and noted that the issue of long-term reliability on the peninsula was still unresolved. He found that "[t]he Commission would be shirking its responsibility if, after all is said and done, it did nothing to ascertain that all elements that could affect reliability and the development of a healthy and robust competitive market in all of Delaware had been addressed." Thus, he concluded that there was good cause for the Commission to conduct such an investigation, and recommended adoption of Staff's proposal. (HER at 33-35).

39. At the deliberations, the Executive Director of the Commission reminded us that we had already authorized Staff to request PJM to address this issue, and reported that PJM's response was due shortly. In light of this, we do not believe that any further action needs to be taken at this time.

**40. Should the Commission Initiate a Generic Docket to Consider Implementing Transmission and Distribution Standards At The State Level?** Staff's witness recommended that the Commission initiate a generic docket to consider the implementation of transmission and distribution reliability standards at the state level. The DPA supported this proposal, and stated that it should be expanded to include participants such as municipalities and the Delaware Electric Cooperative, Inc.. Delmarva objected on the ground that Staff had not established the need for such standards or for a proceeding that would develop them, and there was no current reliability problem that would warrant implementation of such standards. Rather, Delmarva urged the creation of a working group to consider reliability performance standards and make recommendations to the Commission regarding such standards.

41. The Hearing Examiner found that historic performance is not a guarantee of future performance, and that the Commission should take a proactive rather than reactive approach. He was persuaded that performance standards are preventive measures, and observed that Delmarva had agreed that more consumer-oriented measures should be considered. Thus, he recommended that the Commission "seriously consider" initiating a generic docket to consider what performance standards should be implemented for electric utilities under its jurisdiction. (HER at 35-37.)

42. We are concerned about reliability of the transmission and distribution system, and believe that performance standards should be considered. We also believe that it would be appropriate to examine the way in which the probability that the distribution company will have sufficient energy to deliver to its customers is measured. In this regard, we note that certain assumptions are made in the planning process with respect to the capability of plants to generate electricity, and that decisions regarding projects that improve or maintain reliability are made based on those assumptions. It may be, however, that additional contingencies should be modeled. In any event, the issue of a reliable distribution system is of utmost importance to the citizens of this State.

43. Having said that, however, we do not believe that a generic proceeding involving a host of participants is the most appropriate manner in which to proceed at this point, even though the issues on a general level might be similar for all distribution companies subject to our jurisdiction. Rather, we believe that it is preferable for Staff to consider what would be the most appropriate way of proceeding and present us with a specific proposal on how these important issues can be addressed most expeditiously, and instruct Staff to do so. (4-0.)

#### **IV. PROCEDURAL ISSUES; THE HEARING EXAMINER'S FINDINGS AND RECOMMENDATIONS; AND THE COMMISSION'S DELIBERATIONS**

**44. Did the Hearing Examiner Err In Refusing to Admit Delmarva Witness Casazza's Prefiled Testimony Into the Record Or Refusing to Modify the Procedural Schedule to Accommodate Mr. Casazza's Schedule?** The

Hearing Examiner established the procedural schedule for this docket, including the dates of the evidentiary hearings, in November 1999, before any party filed testimony in the continuation of the investigation. By letter dated February 16, 2000, Delmarva's outside counsel notified Staff and the DPA that one of its expert witnesses, Mr. Casazza, would be unavailable during the March 1-3, 2000 hearings because he would be out of the country and sought the parties' agreement to accommodate Mr. Casazza so that his testimony could become part of the record. Neither Staff nor the DPA responded to Delmarva's counsel's inquiry. However, Delmarva did not bring that matter to the Hearing Examiner's attention at this time. On February 23, 2000, Delmarva submitted its rebuttal testimony, which included the prefiled testimony of Mr. Casazza.

45. On March 1, the first day of the evidentiary hearings, Delmarva informed the Hearing Examiner for the first time of Mr. Casazza's unavailability for the hearings, and requested that some accommodation be made so that his testimony could become part of the record. Staff and the DPA objected. The Hearing Examiner denied Delmarva's request and refused to allow Mr. Casazza's prefiled testimony to become part of the record. Delmarva excepted to the Hearing Examiner's refusal to accommodate Mr. Casazza.

46. We find that the Hearing Examiner did not err in refusing to admit Mr. Casazza's prefiled testimony or to make any other accommodation so that his testimony would be part of the record. The procedural schedule was established on November 23, 1999, and Delmarva agreed to that procedural schedule. Delmarva did not file its rebuttal testimony until February 23, 2000, at which time it was aware that Mr. Casazza would not be available for the evidentiary hearings. The Hearing Examiner has discretion to determine the conduct of the proceedings before him, and we do not believe that he abused that discretion under the circumstances presented here. (3-0, Commissioner McRae not voting.)

47. **Did the Commission Abuse Its Discretion In Proceeding With This Matter After The September 1999 Preliminary Report?** Delmarva contended that the Commission abused its discretion in proceeding with this matter after the submission of Staff's Preliminary Report in September 1999. Delmarva contended that Staff did not proffer the Preliminary Report or its authors at the evidentiary hearings. Consequently, there was no record evidence to support the criticisms set forth in that preliminary report, and the Commission must reject each criticism not sponsored by Staff witnesses Glover and Woolf as unsupported. The Hearing Examiner deemed the Company's allegation "devoid of merit," but declined to make a recommendation on the matter. (HER at 29-30.)

48. The basis for our decision in October 1999 to continue with this investigation was that this matter was generating a great deal of press coverage, and we thought it clear that Delmarva believed it was being treated improperly. We thought that the best way to address the matter was to assign it to a Hearing Examiner and start the process of holding hearings. We believe that we made the correct decision, and so reject Delmarva's contention. (4-0.)

49. **Whether Delmarva Can Be Given a "Clean Bill of Health."** Delmarva asserted that it should be given a "clean bill of health" because there was no basis for proceeding with this investigation after the issuance of the preliminary report in September 1999. The Hearing Examiner found that there was no evidentiary basis for providing Delmarva with a "clean bill of health." (HER at 29.) At the deliberations, Delmarva explained that it was referring to criticisms that were contained in the preliminary report but which were not supported by Staff's witnesses in either their final report or at the evidentiary hearings. We decline to make any finding one way or the other on this issue, as we believe that this Order speaks for itself.

## **V. ORDER**

AND NOW, this 20<sup>th</sup> day of June, 2000, **IT IS HEREBY ORDERED:**

1. That on the morning of July 6, 1999, Delmarva was experiencing very high demand for real and reactive power, as businesses and offices that had been closed for the July 4 holiday weekend returned to operation.
2. That on July 6, 1999 at approximately 10:35 a.m., Indian River Unit No. 2 was forced out of service due to a weather-related equipment failure.
3. Indian River Unit No. 3 was unavailable from July 3-6, 1999 as a result of damage sustained in June 1999, which damage was too great to have been repaired in time for the summer of 1999. Although Indian River Units Nos. 1 and 4 were available on July 6, they could not run at their full rated MW capability or their full MVAR output capability due

to the high heat and humidity.

4. That in order to avoid a system collapse that would have resulted in more widespread and longer-term outages, Delmarva implemented rolling blackouts in its service territory, beginning in its Bay Region and extending to its New Castle Region.

5. That the causes of the rolling blackouts were: (a) the unprecedented sustained heat and humidity over the July 3-6, 1999 period; (b) the unexpected outages of Indian River Unit No. 2 and Edge Moor Unit No. 3; (c) the pre-existing outage of Indian River Unit No. 3; (d) the lack of reactive power support from the 500 kV PJM transmission system; and (e) the effect of the sustained heat and humidity on both the real and reactive outputs of electric generating units on the Delmarva Peninsula and the entire PJM system.

6. That Delmarva responded to the loss of Indian River Unit No. 2 in a reasonable manner and its operating strategy on July 6, 1999 was reasonable.

7. That there was no evidence of inadequate maintenance at the Indian River power plant.

8. That although there was discrimination in the selection of circuits for load shedding, there is no evidence that such discrimination was undue.

9. That the load shedding that occurred on July 6, 1999 after Indian River Unit No. 2 was forced out of service might have been avoided had Delmarva heeded the warnings of its transmission planners and advanced the installation of a 150 MVAR static var compensator prior to the summer of 1999.

10. That the Commission makes no finding regarding whether Delmarva satisfied the Mid Atlantic Area Council transmission and generation criteria for the 1999-2000 planning period.

11. That the question of whether the Hearing Examiner erred in refusing to reopen the record to admit the March 14, 2000 e-mail from Steven Herling of PJM is moot.

12. That the Commission declines to make a finding on whether Delmarva will be able to meet its transmission and distribution obligations in the future.

13. That Delmarva is taking a reasonable approach with respect to reliability issues associated with the divestiture of its Indian River and Vienna power plants.

14. That Delmarva shall make the final version of the Interconnection Agreement available for the Commission's review so that the Commission can ensure that the reliability provisions that were in the draft Interconnection Agreement reviewed by Staff are present in the final version of the Interconnection Agreement.

15. That Delmarva shall make available to the Commission any documents verifying that NRG is committed to maintaining the Indian River and Vienna power plants as PJM Capacity Resources.

16. That no further action needs to be taken with respect to requesting PJM to conduct a market power and reliability investigation.

17. That, although reliability of the transmission and distribution system is of great importance to Delaware citizens, the Commission should not initiate a generic docket to consider implementation of state level reliability standards at this time, but that Staff shall consider the most appropriate manner in which to proceed and shall present the Commission with a specific proposal on how this issue can be addressed most expeditiously.

18. That the Hearing Examiner did not err in refusing to admit Delmarva witness Casazza's prefiled testimony into the record or refusing to otherwise accommodate Mr. Casazza's schedule when Mr. Casazza was unavailable for the hearings.

19. That the Commission did not abuse its discretion in proceeding with this matter after the issuance of the September

1999 preliminary report.

20. That the Commission declines to make any findings on whether Delmarva can be given a "clean bill of health."

21. That the Commission reserves the jurisdiction and authority to enter such further Orders in this matter as may be deemed necessary or proper.

BY ORDER OF THE COMMISSION:

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Chairman

/s/ Joshua M. Twilley (NOT PARTICIPATING)

Vice Chairman

/s/ Arnetta McRae

Commissioner

/s/ Donald J. Puglisi

Commissioner

/s/ John R. McClelland

Commissioner

ATTEST:

/s/ Karen J. Nickerson

Secretary

