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**BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION**

FILED

**IN THE MATTER OF ENTERGY)
ARKANSAS, INC.'S REQUEST FOR)
APPROVAL OF THE ACQUISITION OF) DOCKET NO. 06-152-U
NEW CAPACITY TO SERVE ITS RETAIL)
CUSTOMERS)**

REDACTED

**Phase II (A) Direct Testimony of
J. Richard Hornby
Synapse Energy Economics, Inc.**

**On behalf of the
General Staff of the
Arkansas Public Service Commission**

October 24, 2007

**Entergy Arkansas, Inc.
Docket No. 06-152-U
REDACTED Phase II (A) Direct Testimony of J. Richard Hornby**

1 **Q. Please state your name, position and business address.**

2 A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy
3 Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

4 **Q. On whose behalf are you testifying in this case?**

5 A. I am testifying on behalf of the General Staff of the Arkansas Public Service
6 Commission (Staff).

7 **Q. Are you the same J. Richard Hornby who filed Direct Testimony in Phase I**
8 **of this proceeding?**

9 A. Yes.

10 **Q. What is the purpose of your testimony in this sub-phase of the proceeding?**

11 A. In Phase II of this proceeding Entergy Arkansas Inc. (EAI or the Company) has
12 requested approval of its acquisition of the 789 MW Ouachita Power Facility
13 (Ouachita), an Interim Tolling Agreement (ITA) with current owner Quachita
14 Power LLC (Quachita) from January 2008 until the effective date of the
15 acquisition, and a new rate mechanism to recover the additional revenue
16 requirements associated with the transaction. Staff retained Synapse and Larkin
17 and Associates PLLC to assist in their review of EAI's request.

18 The Commission has bifurcated Phase II into two sub-phases. Phase II
19 (A) will consider the ITA and recovery of the costs incurred under the ITA.
20 Phase II (B) will consider all remaining issues.

1 The purpose of my testimony in this sub-phase is to address the
2 reasonableness of EAI's proposed ITA and its proposed allocation of Ouachita
3 capacity between retail and non-retail. Staff Witness Ralph C. Smith will address
4 the Company's proposal to recover capacity costs through a Capacity Acquisition
5 Rider and to modify Rider ECR to include costs for a Long-Term Service
6 Agreement.

7 **Q. What data sources did you rely upon to prepare your review of EAI's**
8 **request?**

9 **A. I relied primarily on the Phase II Direct Testimony and Exhibits of EAI witnesses**
10 **Hugh T. McDonald, Kurtis W. Castleberry, and William M. Mohl well as the**
11 **Company's responses to information requests. In addition, I reviewed the**
12 **Commission's Order in Phase I of this proceeding and various relevant materials**
13 **filed in that phase.**

14 **Q. Please summarize the major conclusions from your review of the Company's**
15 **proposals.**

16 **A. The major conclusions from my review of the Company's proposals are**
17 **summarized below.**

18 • the Company's proposal to increase the quantity of load-following
19 capacity under its long-term control by acquiring a CCGT resource is
20 consistent with good resource planning principles;

21 • the terms of the proposed ITA with Quachita are reasonable; and

- 1 • the Company's proposal to designate one-third of the capacity it acquires
2 from Ouachita under the ITA as non-retail is not reasonable.

3 **Q. Please summarize your recommendations based upon those conclusions.**

4 **A. I recommend that the Commission issue an order approving the proposed ITA and**
5 **rejecting the Company's proposal to designate one-third of the capacity it**
6 **acquires from Ouachita under the ITA as non-retail.**

7 **Phase I Background**

8 **Q. Please summarize the background to this phase of the proceeding.**

9 **A. In Phase I of this proceeding EAI presented evidence demonstrating a shortfall in**
10 **the quantity of capacity under its long-term control. The Company calculated the**
11 **shortfall as the difference between the quantity of capacity it must have available**
12 **in order to ensure reliable service to firm retail customers, "firm requirements,"**
13 **and the capacity that it either owns, or controls under purchased power**
14 **agreements (PPAs) with terms longer than three years. Based upon its projected**
15 **levels of firm requirements and capability, EAI forecasted a shortfall of 1,462**
16 **MW in 2007, of which 670 MW was a shortfall in capacity that would provide a**
17 **"load-following" function. EAI indicated that the magnitude of its forecast**
18 **shortfall would increase over time.**

1 Q. How has EAI been ensuring reliable service in light of this shortfall?

2 A. EAI has been, and is currently, meeting those shortfalls through purchases from
3 other Operating Companies under the System Agreement and through short-term
4 PPAs, with contract durations ranging between one and three years.

5 Q. Please summarize the Commission's findings regarding EAI's need to
6 acquire new load-following capacity in Order No. 6 in this proceeding.

7 A. In Order No. 6 the Commission found that EAI had demonstrated:

- 8 • a shortage of capacity under its long-term control;
- 9 • the shortage occurs as load following and peaking capacity; and
- 10 • combined cycle gas turbine (CCGT) capacity appears to have the most
11 appropriate operational characteristics for load-following.

12 The Commission also directed the Company to aggressively pursue cost-effective
13 demand response and energy efficiency resources to meet anticipated loads.

14 Q. Did the Commission find that EAI had justified the acquisition of a specific
15 quantity of CCGT capacity in that phase?

16 A. No. The Commission's Order was limited to a finding of need. It specifically
17 stated that its Order did not represent a finding regarding any specific proposal
18 that EAI may proffer to address that need.

1 Phase II Background

2 Q. Please summarize the proposal that the Company has submitted in this phase
3 of the proceeding.

4 A. In this phase of the proceeding EAI is requesting approval to purchase the 789
5 MW Ouachita Power Facility. EAI has proposed to execute this transaction in
6 two steps. In step one EAI proposes to begin purchasing power from the
7 Ouachita Power Facility on January 1, 2008 under an ITA that would continue
8 until the earlier of completion of the second step or December 31, 2010. In step
9 two EAI proposes to obtain the necessary regulatory approvals for the acquisition
10 of the plant in 2008, but in any event no later than 2010.

11 During the effective period of the ITA, EAI is proposing to purchase the
12 entire capacity and associated energy available from Ouachita. EAI is proposing
13 to designate two-thirds of that capacity and associated energy as retail and to sell
14 the remaining one-third to Entergy Gulf States (EGSI) pursuant to the provisions
15 of Service Schedule MSS-4 Unit Power Purchase of the Entergy System
16 Agreement. Upon approval of EAI's acquisition of the plant, EAI is again
17 proposing to designate two-thirds of that capacity and associated energy as retail
18 and to sell the remaining one-third to EGSI on a long-term basis.

19 Under the terms of EAI's offer to EGSI, the sale offers to EGSI under
20 both the ITA and the acquisition will be void if, by March 31, 2008, the Louisiana
21 Public Service Commission (LPSC) does not approve EGSI's purchase and cost
22 recovery of one-third of the output from Ouachita from EAI for the term of the

1 ITA. In this event, EAI is requesting approval and cost recovery for this
2 remaining one-third under the same conditions as for the other two-thirds of the
3 plant. In other words, if the LPSC does not approve the sale of one-third to EGSI,
4 EAI wants to designate one hundred percent of the Ouachita capacity and
5 associated energy as retail.

6 **Proposed ITA with Ouachita**

7 **Q. Please summarize the process through which the Ouachita Power Facility**
8 **was selected.**

9 A. Entergy Services Incorporated (ESI) selected Ouachita as the most attractive long
10 term load-following CCGT resource from the perspective of the entire Entergy
11 system. This selection was accomplished through ESI's 2006 Request for
12 Proposals (RFP) for Long-Term Supply Side Resources. Mr. Mohl presents a
13 detailed description of this selection process in his Phase II Direct Testimony.

14 Ouachita has been operating for approximately 5 years. It has three
15 natural gas-fired combined-cycle gas turbines with a total nominal rating of 789
16 MW. (The capacity specified in EAI's ITA is somewhat lower in the summer and
17 somewhat higher in the winter). The plant is very efficient, with a heat rate of
18 approximately 7,100 Btu/kwh. (Heat rate is a measure of the efficiency at which
19 the plant produces electricity from natural gas. For example, EAI's existing,
20 older gas-fired generation units have heat rates of 10,000 Btu/kwh and above,

1 indicating that they require substantially more natural gas to produce the same 1
2 kwh of electricity as Ouachita.)

3 **Q. Please summarize the key provisions of the proposed ITA.**

4 **A. Mr. Mohl describes the proposed ITA in his Phase II Direct Testimony. Its key**
5 **provisions are as follows:**

6 • EAI has the right, but not the obligation, to schedule and dispatch [REDACTED]
7 MW during the Summer Capacity Season and [REDACTED] MW during the
8 Winter Capacity Season;

9 • EAI will pay Quachita capacity payments of \$[REDACTED] per kilowatt-year
10 for the first year of the delivery term, increasing to \$[REDACTED] per kilowatt-
11 year and \$[REDACTED] per kilowatt-year in the second and third years
12 respectively. (The capacity payment will be discounted by 2 percent for
13 each 1 percent that actual availability of the units is below the level
14 specified in the ITA);

15 • ESI, as agent for EAI, will have the responsibility to provide the natural
16 gas required for the facility and the right to dispatch the Ouachita units;

17 • Quachita will guarantee the plant's heat rate within a bandwidth of plus
18 and minus 4 percent.

19 **Q. Are the terms of the ITA competitive with comparable resources available to**
20 **EAI?**

1 A. Yes. First, as noted above, ESI selected Ouachita as the most attractive long term
2 load-following CCGT resource after evaluating all of the proposals it received in
3 response to its 2006 Request for Proposals (RFP) for Long-Term Supply Side
4 Resources. Second, Mr. Mohl notes that the results of ESI's Fall 2006 Limited-
5 Term RFP indicate that the ITA is competitive with market proposals for *limited-*
6 *term* load-following products available in this time frame. (Phase II Mohl Direct
7 Testimony, p.42; HSPI EAI Exhibit WWM-12).

8 Q. What is your conclusion regarding EAI's proposed ITA?

9 A. The terms of EAI's proposed ITA are reasonable.

10 Q. What do you recommend based upon this conclusion?

11 A. I recommend that the Commission approve the proposed ITA.

12 **Proposed Allocation of Ouachita capacity between retail and non-retail**

13 Q. Please address EAI's proposals regarding allocation of the Ouachita capacity
14 between retail and non-retail.

15 A. As noted earlier, EAI effectively has two alternative proposals for allocation of
16 Ouachita capacity between retail and non-retail. Its primary proposal is to
17 designate sixty-six percent of the capacity and associated energy from Ouachita,
18 (two-thirds or 526 MW of nominal capacity¹) as retail and to sell one-third (263

¹ 789 MW of nominal capacity * 66% = 526 MW.

1 MW) to EGSI. Its secondary proposal, in the event the LPSC does not approve
2 EGSI's acquisition of this capacity from EAI, is to designate one hundred percent
3 (789 MW of nominal capacity) as retail.

4 **Q. Has EAI provided an economic analysis of the impact of each alternative**
5 **allocation on its retail customers?**

6 A. No. The economic analyses underlying ESI's selection of Ouachita were
7 prepared from the perspective of the entire Entergy system. EAI maintains that it
8 was not necessary to prepare a separate economic evaluation of the resources to
9 meet the supply objectives of its retail customers at the lowest reasonable cost
10 consistent with the provision of reliable service. Instead, EAI states in response
11 to Staff Data Request APSC 8-4:

12 EAI management's decision that the acquisition of the Ouachita
13 Plant was appropriate for EAI's resource needs was based upon the
14 fact that the Ouachita Plant was the lowest cost resource identified
15 in a competitive solicitation, is the type of technology needed to
16 meet EAI's load-following capacity need, and the acquisition price
17 is approximately 50 percent of replacement cost for the
18 construction of a new CCGT facility, as discussed in the Phase II
19 Direct Testimony of Kurtis W. Castleberry.

20 **Q. Do any of the Company witnesses state that designating sixty-six percent of**
21 **Ouachita as retail would be the lowest cost option for EAI retail customers?**

22 A. No.

23 **Q. Do any of the Company witnesses indicate that designating one hundred**
24 **percent of Ouachita as retail would be the lowest cost option for EAI retail**
25 **customers?**

1 A. Yes. Mr. McDonald indicates that designating one hundred percent of the
2 Ouachita capacity and associated energy as retail would represent the lowest cost
3 option to meet EAI's additional load-following generation requirement. (Phase II
4 McDonald Direct Testimony, p.13, lines 10 to 16).

5 Q. Has EAI provided evidence indicating that it has the ability to use one
6 hundred percent of the Ouachita capacity to meet the requirements of retail
7 customers?

8 A. Yes. EAI has presented evidence in both Phases of this proceeding indicating that
9 it has the ability to use 789 MW of efficient CCGT capacity to meet its load
10 following requirements.

11 Q. Please summarize the evidence provided in Phase I regarding EAI's need for
12 load following capacity.

13 A. In Phase I EAI provided the following facts regarding its load following
14 requirements and resources in 2007:

- 15 • Total load following requirements, core plus seasonal, of approximately
16 1141 MW;
- 17 • Approximately 471 MW of existing load following capacity, which is over
18 30 years old and relatively inefficient, e.g., heat rate of 10,000 BTU/kwh
19 or higher; and
- 20 • A shortfall in load following capacity of approximately 670 MW, i.e.,
21 1141 MW minus 471 MW.

1 Thus, in 2007 EAI could have could have used 789 MW of new, efficient load-
2 following capacity – in part to meet the need for 670 MW and in part to displace
3 119 MW of existing older, less efficient capacity. The displaced 119 MW of
4 existing capacity could in turn have been relegated to “peaking” service thereby
5 reducing the quantity of peaking capacity EAI had to acquire.

6 **Q. Please summarize the evidence provided in this Phase regarding EAI’s need**
7 **for load following capacity.**

8 **A. In this Phase the following facts have been presented regarding EAI’s load**
9 **following requirements and resources in 2008²:**

- 10 • Total load following requirements, core plus seasonal, of approximately
11 ██████ MW;
- 12 • Approximately ██████ MW of existing load following capacity, which is
13 over 30 years old and relatively inefficient, e.g., heat rate of 10,000
14 BTU/kwh or higher
- 15 • Shortfall in load following capacity of approximately ██████ MW.

16 Thus, in 2008 EAI again could have used 789 MW of new, efficient load-
17 following capacity – in part to meet the need for additional load following
18 capacity and in part to displace a portion of the existing older, less efficient
19 capacity.

² Entergy System Resource Discussion Packet, page 7, HSPi EAI Exhibit WMM-8.

1 Q. Is there additional evidence supporting the designation of one hundred
2 percent of Ouachita as retail?

3 A. Yes. First, EAI is acquiring Ouachita at a capital cost significantly lower than the
4 capital cost of constructing a similar new facility. (Phase II Castleberry Direct
5 Testimony, p. 11, line 5.) It appears that the market for this type of existing
6 capacity is beginning to tighten. Thus, it is likely that it will cost more to acquire
7 such capacity in the future. Second, any increases in EAI's average production
8 cost relative to other Entergy companies resulting from the acquisition of this
9 capacity will be partially offset by a reduction in EAI payments under the System
10 Agreement. Third, by acquiring one hundred percent of Ouachita EAI will have
11 more generation under its control when it exits the System Agreement.

12 Q. Will the acquisition of all of the Ouachita capacity reduce the potential for
13 EAI to reduce its production costs in the future through demand response
14 and energy efficiency?

15 A. No. The data that EAI has provided indicates that it needs to acquire this capacity
16 to meet its requirements in 2008. After acquiring this capacity EAI will still have
17 ample potential to reduce future production costs through demand response and
18 energy efficiency. Demand response can reduce the growth in EAI's peak
19 requirements in 2009 and beyond, and thereby enable it to reduce the quantity of
20 additional new capacity acquired in the future. Energy efficiency can reduce the
21 quantity of energy required by customers, and thereby enable EAI to reduce the
22 quantity of energy produced from this capacity.

1 **Q. What is your conclusion regarding EAI's proposed allocation of Ouachita**
2 **capacity between retail and non-retail?**

3 **A. The Company's proposal to designate one-third of Ouachita as non-retail is not**
4 **reasonable.**

5 **Q. Please summarize your recommendation based upon those conclusions.**


6 **A. I recommend that the Commission reject the Company's proposal to designate**
7 **one-third of the capacity it acquires from Ouachita under the ITA as non-retail.**

8 **Q. Does this complete your Direct Testimony in this phase of the Docket?**

9 **A. Yes.**

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been served on all parties of record by forwarding the same by first class mail, postage prepaid, this 24th day of October, 2007.


Valerie F. Boyce