

Exhibit No.: _____
Issue: In-Service Criteria
Witness: David W. Elliott
Sponsoring Party: MoPSC
Type of Exhibit: Rebuttal
Case No.: EM-2000-369

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

DAVID W. ELLIOTT

CASE NO. EM-2000-369

**Jefferson City, Missouri
June, 2000**

****Denotes Highly Confidential Information****

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REBUTTAL TESTIMONY
OF
DAVID W. ELLIOTT
UTILICORP UNITED INC.
AND
THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. EM-2000-369

Q. Please state your name and business address.

A. David W. Elliott, P.O. Box 360, Jefferson City, Missouri, 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission (Commission) as an engineer in the Electric Department of the Utility Operations Division.

Q. Please describe your educational and work background.

A. I graduated from Iowa State University with a Bachelor of Science degree in Mechanical Engineering in May 1975. I was employed by Iowa-Illinois Gas and Electric Company (IIGE) as an engineer from July 1975 to May 1993. While at IIGE, I worked at Riverside Generating Station, first as an assistant to the maintenance engineer, and then as an engineer responsible for monitoring station performance.

Rebuttal Testimony of
David W. Elliott

1 In 1982, I transferred to the Mechanical Design Division of the Engineering Department
2 where I was an engineer responsible for various projects at IIGE's power plants. In
3 September 1993, I began my employment with the Commission.

4 Q. Have you filed testimony previously before the Commission?

5 A. Yes, I filed testimony in Case Nos. ER-94-163 (St. Joseph Light &
6 Power Co.), HR-94-177 (St. Joseph Light & Power Co.), ER-94-174 (The Empire
7 District Electric Co.), ER-95-279 (The Empire District Electric Co.), EM-96-149 (Union
8 Electric Co.), and ER-99-247 (St. Joseph Light & Power Co.).

9 Q. What is your responsibility in the Utilicorp United Inc. (Utilicorp)
10 and The Empire District Electric Company (Empire) merger, Case No. EM-2000-369?

11 A. My responsibility is to address the issue of the in-service test
12 criteria for the new combined cycle unit at Empire's State Line Station (SLCC).

13 Q. Did the Staff submit any testimony in Case No. EM-2000-292, the
14 Utilicorp/St. Joseph Light & Power Company merger application, concerning in-service
15 criteria issues?

16 A. No. In-service criteria was not an issue in that case.

17 Q. What is an in-service test criteria?

18 A. An in-service test criteria is a set of operational tests to be
19 performed by a particular generating unit to determine if it is "fully operational and
20 used for service".

21 Q. Who develops in-service test criteria?

Rebuttal Testimony of
David W. Elliott

1 A. The Staff develops the criteria usually after discussions with the
2 Company.

3 Q. Where does the phrase "fully operational and used for service"
4 come from?

5 A. The phrase comes from Section 393.135, RSMo, a statute that
6 was adopted by Initiative, Proposition No. 1, November 2, 1976. Section 393.135,
7 RSMo, provides as follows:

8 "Any charge made or demanded by an electrical corporation for service,
9 or in connection therewith, which is based on the costs of construction in progress
10 upon any existing or new facility of the electrical corporation, or any other cost
11 associated with owning, operating, maintaining, or financing any property before it is
12 fully operational and used for service, is unjust and unreasonable, and is prohibited."

13 (Emphasis added)

14 Q. Has the Staff developed in-service criteria for any units since
15 393.135 RSMo went into effect?

16 A. Yes. The Staff developed in-service criteria for at least the
17 following units: the Wolf Creek nuclear unit and the Callaway nuclear unit; the Jeffery
18 Energy Center Units No. 1 and No. 2, Iatan, and Sibley Unit No. 3, which are coal fired
19 units; and the State Line Units No. 1 and No. 2 which are natural gas peaking units.
20 Please reference Schedule 1 for a summary of the criteria developed for each of these
21 units.

Rebuttal Testimony of
David W. Elliott

1 Q. Why is it necessary for the Staff to address the issue of in-service
2 criteria in the merger case?

3 A. Empire witness Robert B. Fancher has filed supplemental direct
4 testimony in this case requesting the in-service test criteria for the new SLCC Unit be
5 set by the Commission in this merger case.

6 Q. Do you believe this is an issue related to the merger?

7 A. No

8 Q. Please explain.

9 A. The in-service test criteria is an issue more appropriately
10 addressed in the rate case where Empire seeks to reflect the unit in rates set by this
11 Commission. At the time Empire wishes to recover the cost of this unit in rates, the
12 Commission should determine if the new SLCC Unit has met the in-service criteria and
13 should be allowed into Empire's rate base. This merger case should not be the
14 proceeding where the Commission determines if the new SLCC Unit should be allowed
15 into Empire's rate base. Therefore, the issue of an in-service criteria should not be
16 part of the merger case. Please refer to the rebuttal testimony of Staff witness Mark L.
17 Oligschlaeger of the Accounting Department for a further explanation of why the Staff
18 does not believe the in-service criteria should be an issue in this merger case.

19 Q. From a technical standpoint, is there any reason not to set the in-
20 service test criteria for the new SLCC Unit at this time.

21 A. Yes. The final design or construction of the unit could change and
22 affect the operation of the unit. Thus, the Staff believes that from a technical

Rebuttal Testimony of
David W. Elliott

1 standpoint, the in-service criteria should be set as close as reasonably practicable to
2 the actual startup of the unit.

3 Q. When is the new SLCC Unit expected to be on line?

4 A. Empire estimates the new SLCC Unit will be on line by June 2001.

5 Q. Please describe the new SLCC Unit.

6 A. The new SLCC Unit is a nominal 500 MW combined cycle unit,
7 which is a combination of two combustion turbines and a steam driven turbine. A
8 typical combustion turbine burns natural gas or oil and creates combustion gases,
9 which under pressure are used to turn a turbine, which turns the generator and
10 generates electricity. After the combustion gas has passed through the turbine it is
11 usually exhausted to the atmosphere. In a combined cycle unit, the combustion gases
12 pass through a waste heat boiler to create steam before exhausting to the atmosphere.
13 This steam is then used to turn a steam turbine, which turns a generator and
14 generates electricity. The combined cycle unit has been developed as a more efficient
15 way to generate electricity burning natural gas or oil.

16 Q. In the past, has Empire performed any in-service testing on new
17 units as recommended by the Staff?

18 A. Yes. The Staff required State Line Unit No. 1 and Unit No. 2 to
19 meet certain in-service test criteria before agreeing that these units were fully
20 operational and used for service. Unit No. 1 was tested in 1995, and Unit No. 2 was
21 tested in 1997.

Rebuttal Testimony of
David W. Elliott

1 Q. Did Empire agree to the Staff's recommended in-service test
2 criteria for Unit No. 1 and Unit No. 2?

3 A. Yes, prior to the start of the testing for each unit, Empire agreed to
4 use the Staff's proposed criteria.

5 Q. Are the proposed criteria for the new SLCC Unit similar to what
6 was used for State Line Units No. 1 and No. 2?

7 A. Yes. The criteria are similar, but somewhat different due to the
8 new SLCC Unit being a combined cycle unit, and the State Line Units No. 1 and No. 2
9 are combustion turbines. I have also eliminated the bonus/penalty section of the
10 criteria used for State Line Unit No. 1 and No. 2.

11 Q. Why did you eliminate this section?

12 A. I do not believe they are a factor in the determination of whether
13 the unit is fully operational and used for service. The bonus/penalty section is nothing
14 more than adjustments that could be made to the unit guarantees. If test results of
15 one particular item of the performance guarantee was better than the contract
16 requirements, it could be used to offset a test result of a performance guarantee that
17 was less than the contract requirements. The Staff added this bonus/penalty section
18 to the in-service criteria for State Line Units No. 1 and No. 2. Upon further review by
19 the Staff, this particular section is not relevant to the "fully operational and used for
20 service" status of the new SLCC Unit, and has been removed from the Staff's in-
21 service criteria.

Rebuttal Testimony of
David W. Elliott

1 Q. Is there a bonus/penalty section in Empire witness Robert B.
2 Fancher's recommended in-service criteria?

3 A. No.

4 Q. Why can't past in-service test criteria developed by the Staff for
5 Iatan, Wolf Creek, Callway, Jeffery Energy Center, Sibley or State Line units be used
6 'as is' for the SLCC Unit?

7 A. None of these other units are a combined cycle unit like the new
8 SLCC Unit.

9 Q. What does a utility typically require from the manufacturer before
10 final payment is made on a new unit?

11 A. Usually there are certain operating parameters or conditions in the
12 contract between the utility and the manufacturer, which the unit has been guaranteed
13 to meet by the manufacturer. The utility usually requires the manufacturer to prove the
14 new unit meets these contract guarantees or requirements. Some of these contract
15 guarantees could be heat rate, capacity, nitrogen oxide (NOx) emissions, or noise.

16 Q. What is "heat rate"?

17 A. Heat rate is an engineering term defined as the amount of energy
18 needed to generate a kilowatt-hour (kWh) of electricity. It is usually expressed as
19 British Thermal Units per kWh, or as BTU/kWh. The lower the heat rate is, the less
20 energy is required to generate a kWh, and therefore the greater the efficiency. Heat
21 rate is determined by performing tests on a turbine-generator.

Rebuttal Testimony of
David W. Elliott

1 Q. What are the in-service criteria you are supporting in this case if
2 the Commission believes criteria should be set in this proceeding?

3 A. My recommended in-service criteria are set forth in Schedule 2.

4 Q. What is the basis of the in-service criteria supported by Empire in
5 this case?

6 A. Empire's proposed in-service criteria appear to be based upon the
7 Southwest Power Pool (SPP) Criteria Manual. Specifically, there are two tests in this
8 manual, one is called the Capability Test, and the other test is called the Operational
9 Test.

10 Q. Is Empire a member of the SPP?

11 A. Yes.

12 Q. What is the purpose of these two SPP tests?

13 A. In section 12.1 of the SPP Criteria Manual (revised May 2000) on
14 page 12-1, the first sentence states: "To provide a basis for comparing operating
15 margin of various entities and to assure reasonable distribution of the margin,
16 generating equipment shall be uniformly and consistently rated to permit accurate
17 planning". Section 12.1.1 of the SPP Criteria Manual on page 12-1 states: "Capability
18 tests are required to demonstrate the claimed capability of all generating units. During
19 a Capability Test, a unit shall generate its rated net capability for a specified Test
20 Period following a specified Settling Period". Section 12.1.1 of the SPP Criteria
21 Manual on page 12-2 states: "An Operational Test is used to demonstrate the ability of
22 a generating unit to be loaded to its nominal rating".

Rebuttal Testimony of
David W. Elliott

1 Q. Why are these SPP criteria not acceptable for the Staff as the
2 only criteria?

3 A. All of these SPP tests are used to determine the capability, or
4 capacity output, of the unit only. The SPP tests are not the result of the Missouri
5 statute requiring that a unit be "fully operational and used for service" before it can be
6 reflected in rates. The SPP test criteria requires a four hour test period for steam units
7 over 100 MW. Items No. 8 and No. 9 of the criteria contained in Empire's witness
8 Robert B. Fancher's testimony indicate that the test period will be for a total of four
9 hours, two hours for settling and two hours in a steady operating condition. The Staff
10 has no problem with this as a part of the Empire proposed criteria. In fact, item No. 6
11 of my criteria mirrors this requirement. A capacity test is only used to determine the
12 capacity that would be available at any one time, and the results of such test are used
13 for annual planning purposes by the SPP. A capacity test is done every year or so to
14 determine the unit's available capacity.

15 However, the tests the Staff requires for in-service status are for a
16 different purpose. The tests that the Staff requires to be met are more stringent, as
17 they are used to determine "fully operational and used for service" status before the
18 unit is allowed in rate base. A capacity test by itself does not give a clear picture of
19 how the unit is likely to operate when required to operate for an extended period of
20 time. Because of its short duration, in this case four hours, a capacity test does not
21 prove fully operational and used for service status.

Rebuttal Testimony of
David W. Elliott

1 Q. Is it possible that a unit could meet the SPP test criteria and not
2 meet the Staff's proposed criteria?

3 A. Yes.

4 Q. Does the SPP have any specific in-service test criteria for a unit to
5 meet to be declared fully operational and used for service and be allowed into rate
6 base?

7 A. I have reviewed the SPP Criteria Manual and have not found any
8 reference to this specific type of test criteria.

9 Q. Are there other reasons why only a capacity test is not acceptable
10 to the Staff?

11 A. I believe that the operation of the unit over an extended period of
12 time is an indication that the unit can operate as needed. Also, the unit needs to prove
13 it can meet the contract guarantees specified in the purchase contract with the
14 manufacturer. The new SLCC Unit should be tested to determine if it is able to meet
15 these guarantees in order for it to be "fully operational".

16 Q. What did you use for the length of the required consecutive hour
17 run criteria in your proposed in-service criteria for the new SLCC Unit?

18 A. I used 168 consecutive hours, which is similar to the Staff
19 requirement of hours used for the in-service criteria for latan, and for the in-service
20 criteria for Jeffery Energy Center Unit No. 2.

21 Q. Why did you select the number of hours used in criteria for coal
22 fired latan and Jeffrey Energy Center Unit No. 2?

Rebuttal Testimony of
David W. Elliott

1 A. Because of the low heat rate of the combined cycle unit at State
2 Line, this unit may operate or be dispatched more like a base loaded unit than a
3 peaking unit. Therefore, I used the hours from the Iatan and Jeffery Energy Center
4 Unit No. 2 criteria.

5 Q. Do you believe this is an excessive amount of time to require for
6 the test?

7 A. No. I reviewed the 1999 monthly operational data of State Line
8 Unit No. 2 furnished by Empire under 4 CSR 240-20.080. State Line Unit No. 2 will
9 become part of the new SLCC Unit. During the months of May 1999 through
10 September 1999, the unit produced kW's every hour for a period of at least ** ____ **
11 consecutive hours in each of the five months, and the five month average was ** ____ **
12 consecutive hours. In August of 1999, the unit produced kW's for ** ____ ** consecutive
13 hours. I do not believe that testing the new SLCC Unit for less than ** ____ ** of the
14 ** ____ ** consecutive hours in August 1999 that State Line Unit No. 2 produced kW's is
15 excessive.

16 Q. Would it make any difference if State Line Unit No. 2 produced
17 kW's for those ** ____ ** hours in August 1999 due to a unique set of circumstances?

18 A. No. No one can predict the future operating conditions of a unit or
19 how many consecutive hours a unit may run during its lifetime. With capacity tight in
20 the electrical industry today, the new SLCC Unit will likely be called upon to run more
21 than just four hours at a time. I have used 168 hours as a minimum requirement for
22 the in-service criteria because although it is not known exactly how the new SLCC Unit

Rebuttal Testimony of
David W. Elliott

1 may be utilized in the future, 168 hours of continuous operation is not requesting any
2 extraordinary performance for that unit.

3 Q. Why have you recommended a capacity factor of ** _____ ** to be
4 used in your proposed in-service criteria?

5 A. In response to Staff Data Request No. 4129, Empire referenced a
6 document prepared by Empire's strategic planning group which was titled "State Line
7 Combined Cycle". In this document's attachment 2.2, there is a graph indicating the
8 predicted capacity factor of the new combine cycle unit in 2002 would be ** _____ **.

9 Q. How does your proposed criteria compare to the Staff criteria
10 proposed for other units?

11 A. As stated earlier, the proposed criteria for the new SLCC Unit has
12 features similar to those for the units at State Line, Iatan, and Jeffrey Energy Center. A
13 more detailed comparison of the new SLCC Unit criteria to the other units is presented
14 in Schedule 3.

15 Q. What happens if the unit does not meet all of the in-service
16 criteria?

17 A. I have included in my recommended criteria a statement that the
18 Staff may review the operational data of the unit to date and may waive application of
19 any criteria for which failure to meet the criteria is not deemed to be material to the fully
20 operational and used for service status of the new SLCC Unit. If the Staff determines
21 after this review that the unit is still not fully operational and used for service, the

Rebuttal Testimony of
David W. Elliott

1 revenue impact of that finding will be determined in the next rate case, in which the in-
2 service status is at issue.

3 Q. Please summarize the recommendations of your testimony.

4 A. I recommend that the Commission should not set the in-service
5 criteria for SLCC Unit as part of this merger case. If the Commission determines that
6 the in-service criteria should be set as part of this case, I would propose the criteria
7 outlined in Schedule 2.

8 Q. Does this conclude your rebuttal testimony?

9 A. Yes, it does.

10

In the Matter of the Joint Application of)
 UtiliCorp United Inc. and The Empire)
 District Electric Company for Authority to)
 Merge The Empire District Electric Company) CASE NO. EM-2000-369
 with and into UtiliCorp United Inc., and,)
 in Connection Therewith, Certain Other)
 Related Transactions.)

[illegible]

David W. Elliott

My commission expires:
Joyce C. Neuner

Joyce C. Neuner

Summary of in-service test criteria
developed by the
Missouri Public Service Commission Staff

Callaway

Union Electric

Nuclear unit, new installation

Case No. ER-84-168/EO-85-17

Seven Criteria

1. Startup testing program successfully completed.
2. Pre-operational test program successfully completed.
3. Plant and transmission facilities tested for capability of supplying Missouri customer's full share of rated power with most critical transmission line out of service.
4. All licenses, which are needed to operate at full power, have been issued or acceptable commitments obtained.
5. Plant is operating and the NRC compliance history shows evidence of Company competence.
6. Exemptions from criteria #5 may be granted or the plant is "fully operational" at power level less than the rated full power for good cause.
7. Plant is supplying electricity to the company's system with output scheduled by the system load dispatcher.

Wolf Creek

Kansas City Power & Light Co.

Nuclear unit, new installation

Case No. EO-85-185/ER-85-128

Seven Criteria

1. Startup test program successfully completed
2. Pre-operational test program successfully completed
3. Plant and transmission facilities tested for full capability with one critical line out of service.
4. All licenses required to operate at full power have been issued or acceptable commitments obtained.
5. The plant is operating and the NRC compliance history shows evidence of competence.
6. For good cause exemptions from criteria #5 may be granted at some power level less than rated power originally proposed.
7. The plant output is supplying electricity to KCPL Missouri customers with output scheduled by the KCPL load dispatcher, subject to plant availability.

Iatan

Kansas City Power & Light Co., St. Joseph Light & Power Co., The Empire District Electric Co.

Coal unit, new installation

Case No. ER-81-42

Six Criteria

1. Unit must demonstrate that it can operate at its design minimum power or above, continuously for at least 80% of 400 hours.
2. Unit must be able to operate at or above its design capacity factor for a period of time of 168 continuous hours.
3. Unit must operate at a capacity equal to 95% of its nameplate rating for 4 hours.
4. Unit must be operated for 30 days so as to show a clear and obvious trend toward the predominate use of coal as its primary fuel.
5. Unit must have finished the startup test program with all startup test procedures necessary for operation satisfactorily completed.
6. Sufficient transmission facilities shall exist to carry the total design net electrical capacity from the completed generating station into the system at the time the unit is declared fully operational and used for service.

Jeffrey Energy Center Unit #1

Missouri Public Service Co.

Coal unit, new installation

Case No. ER-79-60

Five Criteria

1. Operating at its minimum level consistently.
2. Operation at expected load factor.
3. Operation at nameplate capacity.
4. Reliance upon its designed energy input.
5. Completion of testing.

Jeffrey Energy Center Unit #2

Missouri Public Service Co.

Coal unit, new installation

Case No. ER-80-231

Five Criteria

1. Unit must demonstrate that it can operate at its design minimum power or above, equal to 80% of 400 hours.
2. Unit must be able to operate at or above its design capacity factor for a period of 168 hours. (capacity factor = 0.6 unless Company offers evidence otherwise)
3. Unit must operated at a capacity equal to 95% of its nameplate rating for 4 hours.

4. Unit must be operated so as to show a clear and obvious trend toward the predominate use of coal as its primary fuel.
5. Unit must have finished the startup test program with all startup test procedures necessary for operation satisfactorily completed.

The foregoing five criteria are interdependent and all must be satisfied before JEC-2 can be declared fully operational and used for service and thus a proper rate base addition.

Sibley

Missouri Public Service Co.

Coal unit, fuel switch

Case No. ER-93-37

Five Criteria

1. Compliance with environmental regulations.
2. Blending, and burning a blend, of two low sulfur western coals.
3. Showing consistency in carrying minimum load while burning the blend.
4. Showing the ability to operate at nameplate capacity while burning the blend.
5. Showing ability to operate at historical capacity factors while burning the blend.

State Line No. 1

The Empire District Electric Co.

Natural gas and oil unit, new installation

Case No. ER-95-279

State Line No. 2

The Empire District Electric Co.

Natural gas and oil unit, new installation

Case No. ER-97-81

Ten Criteria

1. All construction and pre-operational testing shall have been completed. This shall be determined through:
 - a) Physical inspection conducted by a member or members of the Missouri Public Service Commission Staff,
 - b) The Company's plant manager attesting to the fact that all pre-operational testing has been successfully completed in accordance with written test procedures, and

- c) Establishment that all liability for final payment of equipment and construction contracts is recorded on the books.
2. The generating unit shall demonstrate its ability to start when prompted only by a signal from a remotely located control center. Once burning natural gas and once while burning distillate oil.
 3. The generating unit shall demonstrate its ability to smoothly and successfully shutdown when prompted only by a signal from a remotely located control center.
 4. The generating unit shall demonstrate its ability to accept load increase from zero MW to 40 MW within ten minutes, starting from the cold, zero rpm condition.
 5. The generating unit shall demonstrate its ability to accept load increase from zero megawatts to Base Capacity within twenty-two minutes, starting from the zero rpm condition. This twenty-two minute test period may include the ten minute ascension test to 40 MW, if the Company elects to integrate the two tests, or alternately the twenty-two minute test can be run as a separate test.
 6. While burning natural gas, the generating unit shall run continuously for one hour at or above Peak Capacity to demonstrate maximum capability.
 7. While burning natural gas, the generating unit shall run continuously for four hours at or above Base Capacity. (Bonus-penalty correction factor is calculated if unit exceeds or fails to meet Base Capacity for four hours.)
 8. While burning natural gas and operating at the Base Capacity condition, the generating unit shall achieve the warranted heat rate. (Bonus-penalty correction factor is calculated if unit exceeds or fails to meet warranted heat rate.)
 9. While burning natural gas and operating at the Base Capacity condition with an exhaust gas flow of a determined actual cubic feet per minute, the generating unit shall achieve the warranted NOx emission level. (Bonus-penalty correction factor is calculated if unit exceeds or fails to meet warranted NOx emission level.)
 10. The generating unit shall demonstrate consistency in its ability to operate at or above a pre-defined minimum load by running for three days (72 hours) at or above 20 MW while under control of the system dispatcher. This test shall be conducted while burning natural gas, except that a transition to distillate oil shall be made sometime during the three-day period, after which, for an eight (8) hour period, only distillate oil shall be burned. A transition back to natural gas shall be made following the eight-hour oil burn and stabilization shall be achieved on natural gas before shutdown.

The transition from natural gas to distillate oil fueling shall be made while the unit is in operation. If the unit drops below 20 MW when the fuel transition is made, then credit will be given for successfully testing on natural gas, if successfully completed previously, and an extended rerun on natural gas will not be necessary before attempting the transfer to oil.

However, the rerun must be started on gas, followed by a successful transition to distillate oil, an 8 hour run on oil, and transfer back to natural gas. If the Company elects, The four hour Base Capacity and the one hour run at Peak Capacity can be included in this 72 hour run to demonstrate consistency in holding minimum load.

The Base Capacity and Peak Capacity were defined.

Total cumulative bonus factors used to offset any cumulative penalty factors.

STAFF IN-SERVICE TEST CRITERIA

State Line combined cycle unit

1. All construction work, and pre-operational tests have been successfully completed.
2. Unit will demonstrate its ability to meet the contract guarantees made by manufacturer.
3. Unit will demonstrate its ability to initiate the proper startup sequence resulting in the unit operating from zero rpm to base load on natural gas fuel when prompted locally, or remotely.
4. Unit will demonstrate its ability to initiate the proper shut down sequence from base load resulting in zero rpm on the unit when prompted locally, or remotely.
5. Unit will demonstrate its ability to operate at minimum load for one hour on natural gas fuel.
6. Unit will demonstrate its ability to operate at or above 95% of base load for four continuous hours on natural gas fuel.
7. Unit will demonstrate its ability to operate at a capacity factor of ** _____ ** over a period of 168 continuous hours on natural gas fuel.
8. Sufficient transmission facilities shall exist to carry the total design net electrical capacity of the combined cycle unit into the system.

NOTES:

1. If the unit cannot demonstrate its ability to meet any of the criteria for which failure to meet the proposed criteria is judged to be immaterial to the overall in-service status of the unit, the Staff for good cause may waive that particular criteria. The Staff may review the completed testing documentation, and any additional unit operating data, to determine if the unit should be considered in-service, without further testing.
2. It is the Staff's intention, when possible, to witness the unit's ability to meet the criteria items. Regardless, Empire will provide to Staff all necessary documentation, including operating data logs, clearly demonstrating the capability of the unit to meet each of the criteria items.
3. Several generic terms ("base load" and "minimum load") have been used because these actual loads of the unit are dependent upon ambient conditions. It is the Staff's intention to use the loads determined as part of the guarantee testing as base load and minimum load.
4. Capacity Factor of ** _____ ** = (Mwhs generated in the 168 hour continuous period) / ((base load) x (168 hours)).

COMPARISON OF CRITERIA

ITEM NO.	State Line No. 1 and No. 2 CRITERIA	NEW SLCC STAFF CRITERIA	NEW SLCC EMPIRE CRITERIA	Iatan STAFF CRITERIA	Jeffery Energy Center Unit No. 2 STAFF CRITERIA
1	All construction completed	Same as SL 1& 2	Same as SL 1& 2	NO	NO
2	All preoperational tests completed	Same as SL 1& 2	Same as SL 1& 2	Same as SL 1& 2	Same as SL 1& 2
3	Ability to start on natural gas	Similar; start and run to full load	Same as SL 1& 2	NO	NO
4	Ability to start on oil	Not Applicable	Not Applicable	NO	NO
5	Ability to stop	Similar; full load to stop	Same as SL 1& 2	NO	NO
6	Ability to fast start	Not Applicable	Not Applicable	Not Applicable	Not Applicable
7	Ability to fast load	Not applicable	Not applicable	Not applicable	Not applicable
8	One hour peak load	Not applicable	Not applicable	Not applicable	Not applicable
9	Four hour base load	Same as SL 1& 2	Same as SL 1& 2	Same as SL 1& 2	Same as SL 1& 2
10	Guaranteed heat rate	Similar; all guarantees	NO	NO	NO
11	Guaranteed NOx	NO	NO	NO	NO
12	72 hours continuous operation above minimum load	168 hours with ** ____ ** capacity factor	NO	168 hours with 60% capacity factor	168 hours with 60% capacity factor
13	8 hours operation on back up fuel	Not applicable	Not applicable	Not applicable	Not applicable
14	NO	One hour at minimum load	NO	NO	NO
15	NO	Transmission system capable of unit output	NO	Same as Staff SLCC	NO
16	NO	NO	Final payment recorded on Empire's books	NO	NO
17	NO	NO	NO	Operate for 80% of 400 hours at or above minimum load	Same as Iatan
18	Not applicable	Not applicable	Not applicable	Operate to show coal is primary fuel	Same as Iatan