

Exhibit No.: 024
Issue: Transmission System Operations
Witness: Richard A. Spring
Type of Exhibit: Direct Testimony
Sponsoring Party: Great Plains Energy Incorporated and
Kansas City Power & Light Company
Case No.: EM-2007-____
Date Testimony Prepared: April 2, 2007

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: EM-2007-____

DIRECT TESTIMONY

OF

RICHARD A. SPRING

ON BEHALF OF

GREAT PLAINS ENERGY INCORPORATED

AND

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
April 2007

KCP&L Exhibit No. 24
Case No(s). EM-2007-0374
Date 4-23-08 Rptr KF

DIRECT TESTIMONY

OF

RICHARD A. SPRING

Case No. EM-2007-_____

1 **Q: Please state your name and business address.**

2 A: My name is Richard A. Spring. My business address is 1201 Walnut, Kansas City,
3 Missouri 64106.

4 **Q: By whom and in what capacity are you employed?**

5 A: I am employed by Kansas City Power & Light Company ("KCPL") as Vice President,
6 Transmission Services.

7 **Q: What are your responsibilities?**

8 A: My responsibilities include overseeing KCPL's transmission planning, transmission
9 system operations, transmission energy accounting, Energy Management System
10 ("EMS"), distribution outage management system ("OMS"), substation & transmission
11 engineering, transmission construction & maintenance, substation construction &
12 maintenance, and system protection.

13 **Q: Please describe your education, experience and employment history.**

14 A: I hold a Master of Business Administration from Rockhurst College, a Bachelor of
15 Science in Mechanical Engineering from Wichita State University and an Associates of
16 Arts degree from Butler County Community College. I began my career at KCPL in
17 1978 as a Staff Maintenance Engineer, promoted to Operations Supervisor in 1979 and
18 Maintenance Superintendent 1982, all at the La Cygne Generating Station. I then moved

1 to the Iatan Generating Station as Maintenance Superintendent where I was promoted to
2 Plant Manager in 1984. I returned to the La Cygne Generating Station in 1991 as Plant
3 Manager. In 1993, I joined Northern Indiana Public Service Company as Director of
4 Electric Production. I returned to KCPL in 1994 as Vice President, Production. I shifted
5 responsibilities and was named Vice President Transmission and Environmental Services
6 in 1999. In 2003, I was named to my current position of Vice President Transmission
7 Services.

8 **Q: Please describe your involvement with the Southwest Power Pool.**

9 A: I am currently the Chair of the Southwest Power Pool ("SPP") Strategic Planning
10 Committee, a member of the SPP Members Committee, and a member of the SPP Human
11 Resources Committee. Previously, I served as a Director on the SPP Board of Directors
12 prior to the evolution to the current independent Board of Directors.

13 **Q: Have you previously testified in a proceeding at the Missouri Public Service
14 Commission or before any other utility regulatory agency?**

15 A: I have previously testified before both the Missouri Public Service Commission
16 ("MPSC") and the Kansas Corporation Commission ("KCC").

17 **Q: What is the purpose of your testimony?**

18 A: The purpose of my testimony is to provide an overview of both Aquila, Inc.'s ("Aquila")
19 and KCPL's current electric transmission system configuration, operations, and Regional
20 Transmission Organization ("RTO") membership and to describe the plans for the
21 combined transmission systems of KCPL and Aquila after the proposed merger is
22 completed.

1 Q: Please describe the various Schedules associated with your testimony.

2 A: Schedules RAS-1 through RAS-6 are transmission maps and system one-line diagrams
3 illustrating the KCPL and Aquila transmission systems.

4 Q: Please provide an overview of the Aquila transmission system serving Missouri load.

5 A: Aquila owns and operates transmission facilities in the northwestern, north central and
6 western areas of Missouri serving approximately 300,000 electric customers in Missouri.

7 Within its transmission system, Aquila has direct interconnections with AmerenUE,
8 Associated Electric Power Cooperative ("AEC"), the City of Independence ("IND"),
9 Mid-American Energy Company ("MEC"), KCPL and Westar Energy Inc. ("WR").

10 Aquila operates two non-synchronous, normally open interconnections with Empire
11 District Electric Company ("EDE") and KAMO Electric Cooperative ("KAMO").

12 Aquila has joint transmission ownership and interconnection agreements for the
13 following facilities:

14 a) St. Joseph to Fairport, Missouri to Cooper Station at Brownville, Nebraska
15 345kV transmission line; known as the Cooper-Fairport-St. Joseph 345kV
16 Interconnection ("CFSI"); and administered with a joint agreement between
17 AEC, KCPL, Lincoln Electric System ("LES"), MEC, Nebraska Public Power
18 District ("NPPD"), and Omaha Public Power District ("OPPD").
19 Aquila and OPPD jointly own the Cooper to St. Joseph 345kV transmission
20 line with ownership changing at the point where the line crosses the Missouri
21 river.

22 b) Aquila owns an 8 percent share of the Jeffrey Energy Center located in the
23 WR territory. Transmission service is reserved, using a Jeffrey Transmission

1 Agreement with WR, to deliver Aquila this capacity and energy via the
2 Jeffrey (WR) to Stranger Creek line; and known as the Aquila-WR
3 Interconnection.

4 c) Swissvale to Stilwell to Peculiar to Pleasant Hill to Sibley 345kV transmission
5 line; known as the "MOKAN Interconnection"; and joint owners are KCPL,
6 Aquila and WR.

7 d) Hawthorn to Sibley to Overton 345kV transmission line; known as the
8 "Missouri Interconnection"; and joint owners are KCPL, Aquila and
9 AmerenUE.

10 e) Aquila owns an 18 percent share of the Iatan Generating Station located near
11 Weston, MO and has a 345kV transmission line directly connected at the
12 station facilities for transfer of this capacity and energy.

13 Aquila currently operates its transmission system from its Operations Center in Lee's
14 Summit, Missouri using an EMS with Supervisory Control and Data Acquisition
15 ("SCADA"). The Operations Center is manned 24 hours per day providing both normal
16 and emergency operations for transmission and substation facilities.

17 Schedule RAS-1 illustrates the Aquila 69kV transmission system.

18 Schedule RAS-2 illustrates the Aquila 345kV and 161kV transmission system.

19 Schedule RAS-3 illustrates the Aquila (St. Joseph area) transmission system

20 Schedule RAS-4 illustrates the entire Aquila transmission configuration with land-based
21 geography.

1 Q: Please provide an overview of the Kansas City Power & Light transmission system.

2 A: KCPL owns and operates transmission facilities in the west central and central areas of
3 Missouri and east central areas of Kansas serving approximately 500,000 electric
4 customers in Missouri and Kansas. Within its transmission system, KCPL has direct
5 interconnections with AmerenUE, Aquila, AEC, Board of Public Utilities of Kansas City,
6 Kansas ("BPU"), IND, and WR.

7 KCPL has joint ownership in the following transmission facilities:

- 8 a) The CFSI line, which is administered with a joint agreement with
9 AEC, KCPL, LES, MEC, NPPD, and OPPD.
10 b) The MOKAN Interconnection line, which is jointly owned by KCPL,
11 Aquila and WR.
12 c) The Missouri Interconnection line, which is jointly owned by KCPL,
13 Aquila and AmerenUE.

14 KCPL operates its transmission system from its Transmission Control Center in Kansas
15 City, Missouri using an EMS with SCADA. The Transmission Control Center is manned
16 24 hours per day providing both normal and emergency operations for transmission and
17 substation facilities.

18 Schedule RAS-5 illustrates the entire KCPL transmission system with land-based
19 geography.

20 Schedule RAS-6 illustrates the KCPL Kansas City metropolitan area transmission system
21 with land-based geography.

1 Q: Please describe the proposed plan for integrating Aquila's transmission operations
2 after the merger is completed.

3 A: The following are proposed action plans for combining the Aquila transmission
4 operations and facilities into KCPL once the merger is completed:

- 5 1. Integrate Aquila's Operations Center into KCPL's Transmission Control
6 Center. Combining the Aquila transmission operation into the KCPL
7 Transmission Control Center should provide a more cost effective,
8 integrated real-time and planned transmission operation of the combined
9 transmission system. By operating from a single point of transmission
10 system authority, KCPL can maintain consistent communication,
11 coordinated field operations and integrated training and manpower
12 schedules.
- 13 2. Incorporate Aquila's transmission planning functions into KCPL's
14 transmission planning functions. Merging these areas should provide
15 coordinated transmission planning over the combined service territories
16 for: improved synergies in system modeling capabilities; reductions in
17 transmission facility additions; improved tie-line coordination with the
18 region; and a larger, more regional system planning scope.
- 19 3. Incorporate Aquila's transmission and substation field functions into
20 KCPL's transmission and substation field functions. This should provide
21 synergies in field operating practices where specific operation and
22 maintenance practices can be engaged. KCPL is a recognized leader in

1 these practices and is in a position to apply specific industry best practices
2 that will provide improvements in these critical operating areas.

- 3 4. Integrate Aquila's transmission and substation engineering functions into
4 KCPL's transmission and substation engineering functions. Combining
5 these groups will leverage the collaborative engineering talent and execute
6 standardized design and construction methods, which should result in
7 increased savings in transmission and substation asset investments.
- 8 5. KCPL plans to incorporate all Aquila transmission assets into its
9 comprehensive transmission asset management plan. The asset
10 management plan sets forth strategic investments in new transmission and
11 substation facilities while also providing crucial maintenance, inspection,
12 testing and replacement plans for aging infrastructure. KCPL provides
13 Tier 1 service reliability levels to its customers and will move forward
14 with plans to maintain the same level of service for the Aquila customers.

15 **Q: Does KCPL have membership with a Regional Transmission Organization?**

16 A: Yes. KCPL is a member of SPP and has turned over functional control of its transmission
17 facilities to SPP as an RTO.

18 **Q: Please describe KCPL's participation in the SPP RTO.**

19 A: RTOs were promoted and established, among other reasons, in order to provide benefits
20 and improvements in electric transmission services and in the operation of the bulk power
21 system. These benefits include open and non-discriminatory electric transmission access
22 and pricing, regional Open Access Transmission Tariff ("OATT") administration,
23 regional transmission planning and coordinated regional reliability operations.

1 **Q: Please describe the benefits associated with an OATT.**

2 A: KCPL currently serves its native load under the SPP OATT. Additionally, most service
3 provided on KCPL's transmission system to parties other than KCPL is administered
4 through the SPP OATT. The SPP OATT provides several benefits including one-stop
5 pricing and reservations for transmission customers across the entire SPP region, non-
6 discriminatory transmission service, consistent terms and conditions of service and
7 equitable revenue recovery. KCPL continues to maintain a small number of
8 grandfathered point-to-point transmission reservations under the KCPL OATT but the
9 KCPL OATT is closed except for network service and rollover extensions of existing
10 reservations.

11 **Q: Please describe the benefits associated with regional transmission planning.**

12 A: SPP acts as a regional Planning Coordinator and creates plans for future transmission grid
13 additions through its annual SPP Transmission Expansion Plan and four-month
14 Aggregate Study process (together referred to as the "Plan"). This Plan incorporates
15 OATT transmission service requests, generation interconnection requests, transmission
16 owner additions and proposed economic projects. As a result of the Plan, SPP directs
17 member transmission owners to build all necessary transmission expansions, additions
18 and upgrades in order to provide sufficient and reliable transmission service within the
19 region.
20 SPP also implements certain cost allocation methods for transmission expansion plans
21 that allocate a portion of the investment costs to all members for those transmission
22 additions that provide regional benefits.

1 **Q: Please describe the benefits associated with coordinated regional reliability**
2 **operations.**

3 **A:** SPP serves as KCPL's Reliability Coordinator in order to meet specific reliability
4 requirements set forth in North American Electric Reliability Corporation ("NERC")
5 reliability standards. KCPL submits real-time and planned transmission operations
6 information to the SPP for review and approval on a coordinated regional basis. SPP also
7 provides critical emergency operations and black-start coordination for the region. As
8 the Reliability Coordinator, SPP has the authority to give reliability directives to member
9 owners in order to ensure stable and reliable bulk power grid operations.

10 **Q: Please describe Aquila's RTO membership status.**

11 **A:** Aquila is a conditional member of the Midwest Independent Transmission System
12 Operator ("MISO") RTO. Certain regulatory approvals are still pending for continued
13 participation. Due to the potential of KCPL and Aquila having membership in separate
14 RTOs, KCPL will evaluate the strategy of RTO membership when the merger is
15 completed. It is anticipated that certain specific conditions Aquila currently has in
16 process for approvals, including interconnection agreements and the release of functional
17 control to an RTO, will be considered within a plan for RTO participation. Also,
18 consideration will be given to the results of a pending consulting study evaluating the
19 benefits of Aquila's full participation in various RTO options including SPP and MISO.
20 There are significant benefits for operating the resulting combined organization within a
21 single RTO structure. The following are benefits KCPL would expect to derive from a
22 single RTO membership:

1. Membership in a single RTO will avoid transmission seam issues between KCPL and Aquila. Establishing the SPP-MISO seam outside the companies' areas may reduce the number of flowgates on the companies' transmission facilities that will have transmission capacity allocated between the two RTOs. In general, keeping the RTO seam outside KCPL's and Aquila's area will simplify the management of transmission capacity and increase the flexibility of power transactions.
2. Maintaining a single RTO structure will reduce costs related to support and participation in stakeholder activities such as governance, market development, transmission planning and expansion, reliability standards development and tariff administration. Furthermore, participating in one RTO will achieve additional savings by allowing one regional transmission tariff, which simplifies administration and minimizes revenue recovery applications and tariff filings to the Federal Energy Regulatory Commission.
3. Cost allocation methods with a single RTO structure for future transmission upgrades will maintain consistency across both companies, thereby ensuring coordinated transmission cost sharing, lower administrative costs, and more congruent investment structures. It also will facilitate consistent retail rate structures for that portion of retail rates associated with transmission expenditures and investments.
4. Transmission planning and expansion will be more effective from one RTO due to inclusion of both companies' facilities in one planning

1 process that develops regional solutions. KCPL and Aquila being in
2 separate RTO transmission expansion plans could result in solutions that
3 are not only inefficient or redundant for the companies, but also possibly
4 conflicting.

- 5 5. Finally, a single structure for reliability coordination ensures the consistent
6 development and adherence to bulk power reliability standards and
7 criteria. While all owners, operators and users of transmission facilities
8 must meet grid-wide NERC reliability criteria, specific reliability criteria
9 also exist for each region. Attempting to meet two separate sets of
10 regional reliability criteria adds unnecessary additional burdens and can
11 have the potential for conflicting criteria. Therefore, effectively managing
12 operations, planning and other critical functions related to the reliability of
13 the transmission grid will be best facilitated with one set of regional
14 criteria, which will be provided if both companies operate entirely within
15 the control of only one regional reliability entity.

16 **Q: Does that conclude your testimony?**

17 **A:** Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Joint Application of)
Great Plains Energy Incorporated, Kansas)
City Power & Light Company, and Aquila,) Case No. EM-2007-____
Inc. for Approval of the Merger of Aquila,)
Inc. with a Subsidiary of Great Plains)
Energy Incorporated and for Other)
Requester Relief)

AFFIDAVIT OF RICHARD A. SPRING

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

Richard A. Spring, being first duly sworn on his oath, states:

1. My name is Richard A. Spring. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Vice President, Transmission Services.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Great Plains Energy Incorporated and Kansas City Power & Light Company consisting of eleven (11) pages and Schedules RAS-1 through RAS-6, all of which having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Richard A. Spring

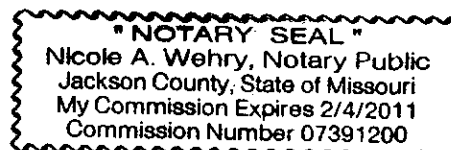
RICHARD A. SPRING

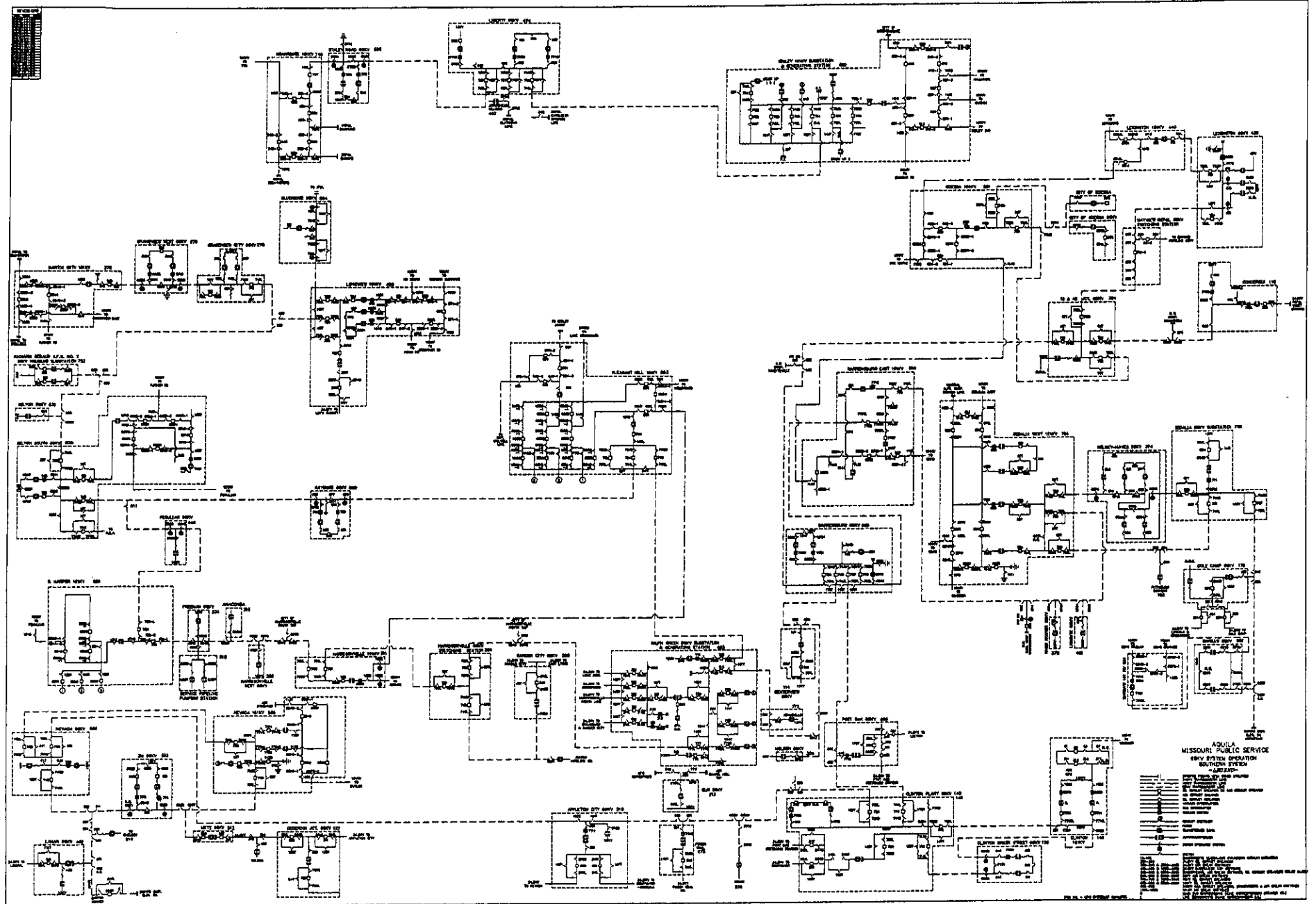
Subscribed and sworn before me this 2nd day of April 2007.

Nicole A. Wehry

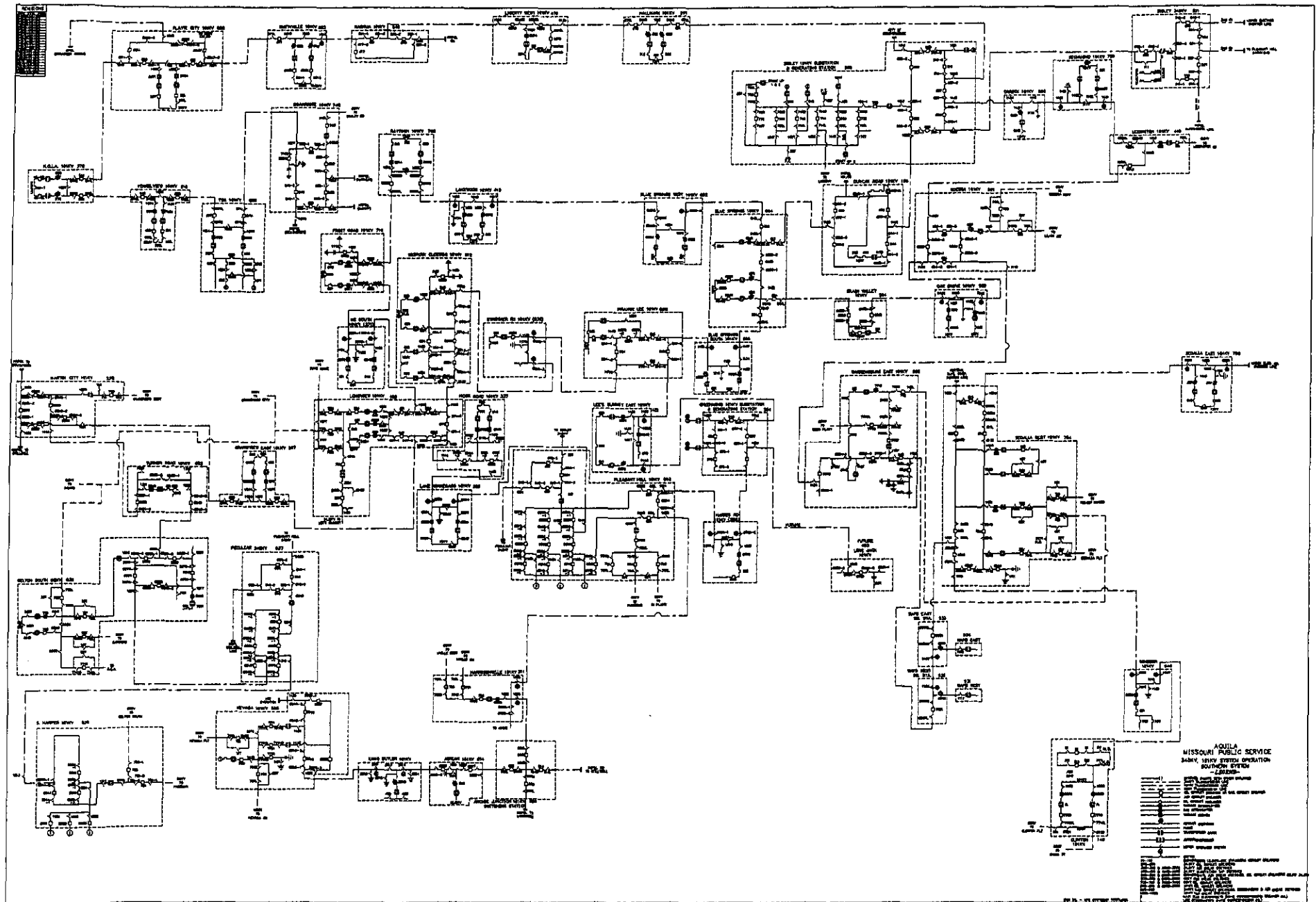
Notary Public

My commission expires: Feb. 4, 2011

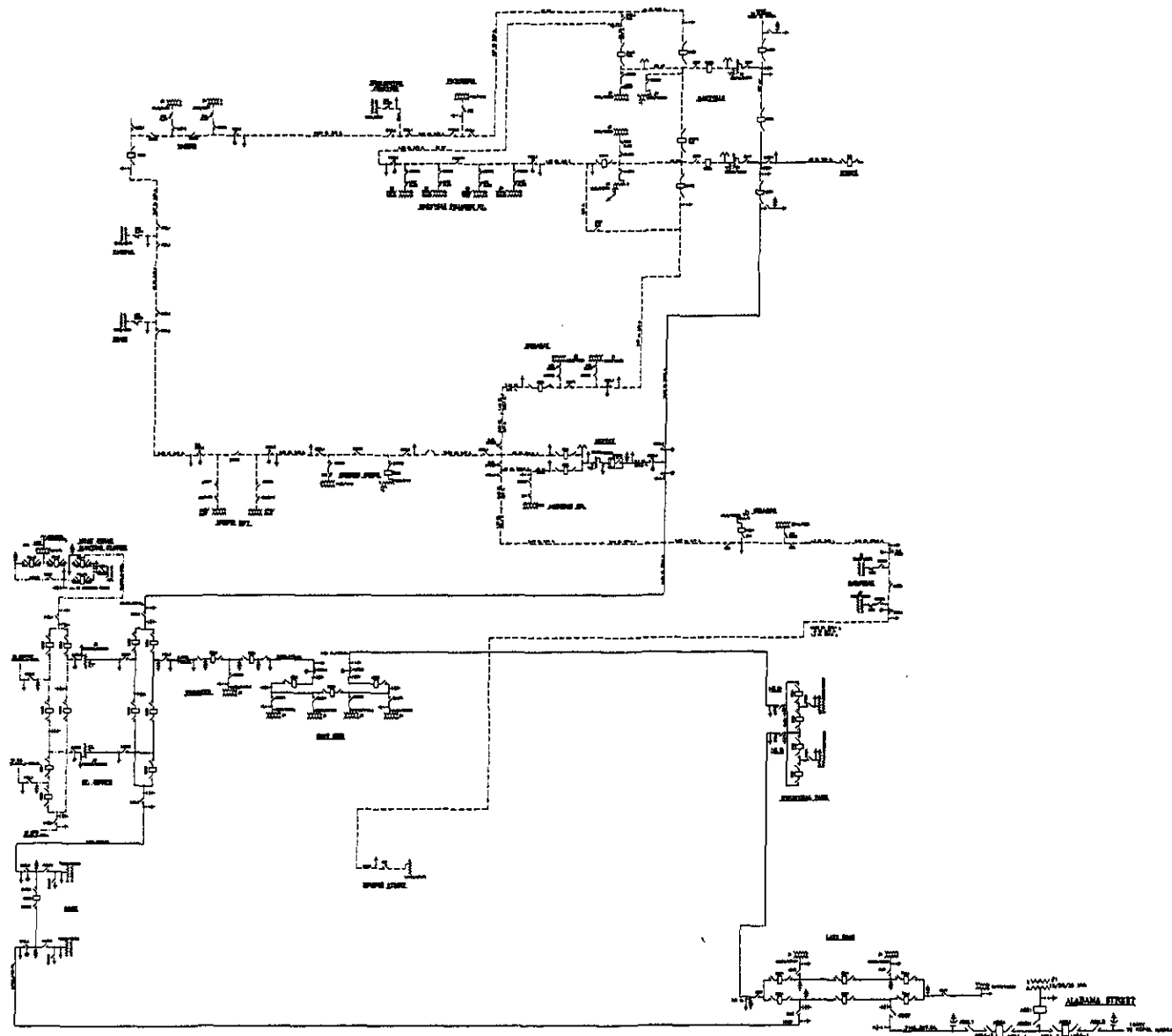




Schedule RAS-1



Schedule RAS-2



Schedule RAS-3

THE ST. JOSEPH LIGHT & POWER CO.
ST. JOSEPH, MISSOURI

DESIGNED BY
DRAWN BY
CHECKED BY
SCALE 1"=100'

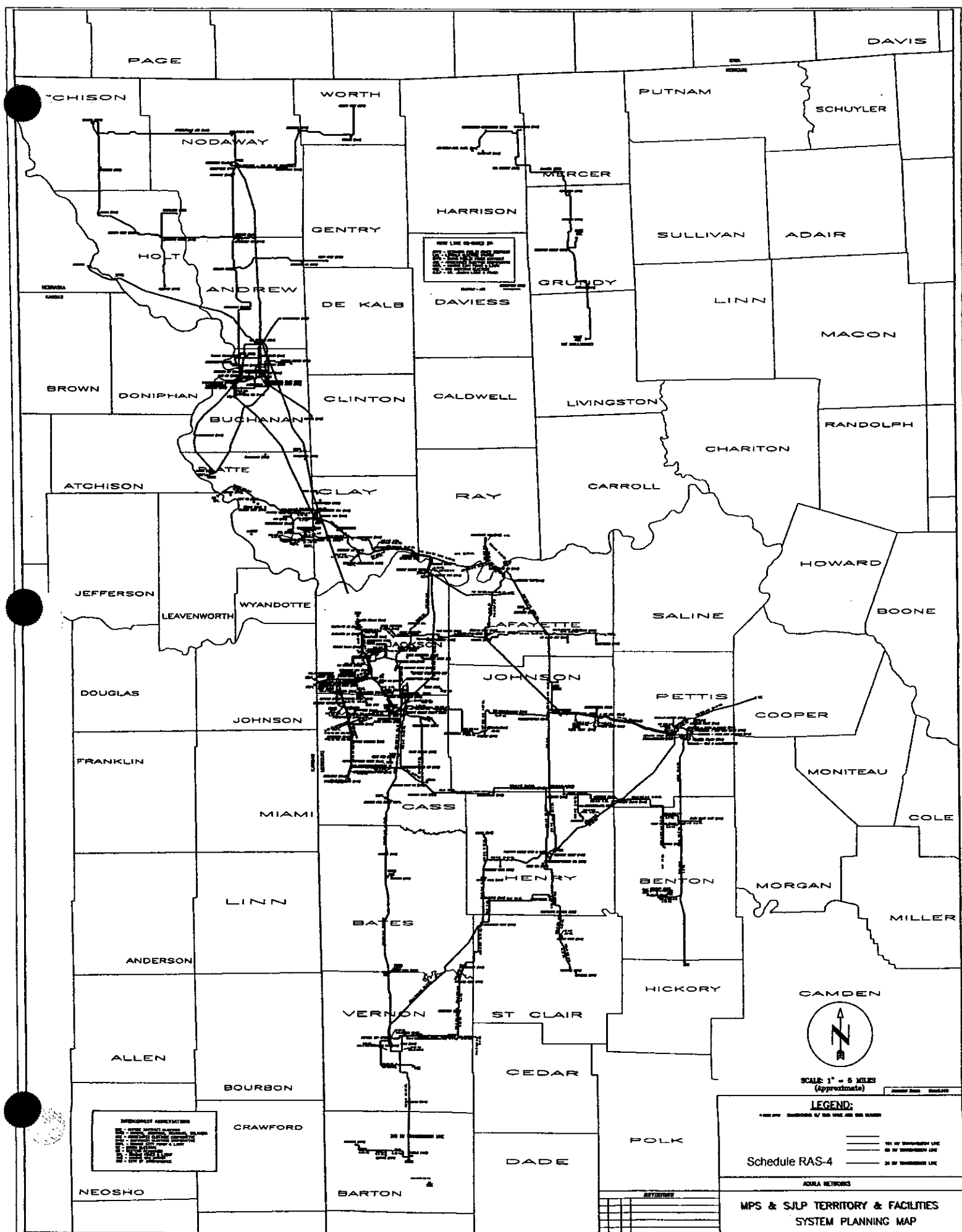
APPROXIMATE DATE

TITLE

ST. JOSEPH LIGHT & POWER CO.
TRANSMISSION SYSTEM
ONE LINE DIAGRAM

S.D.

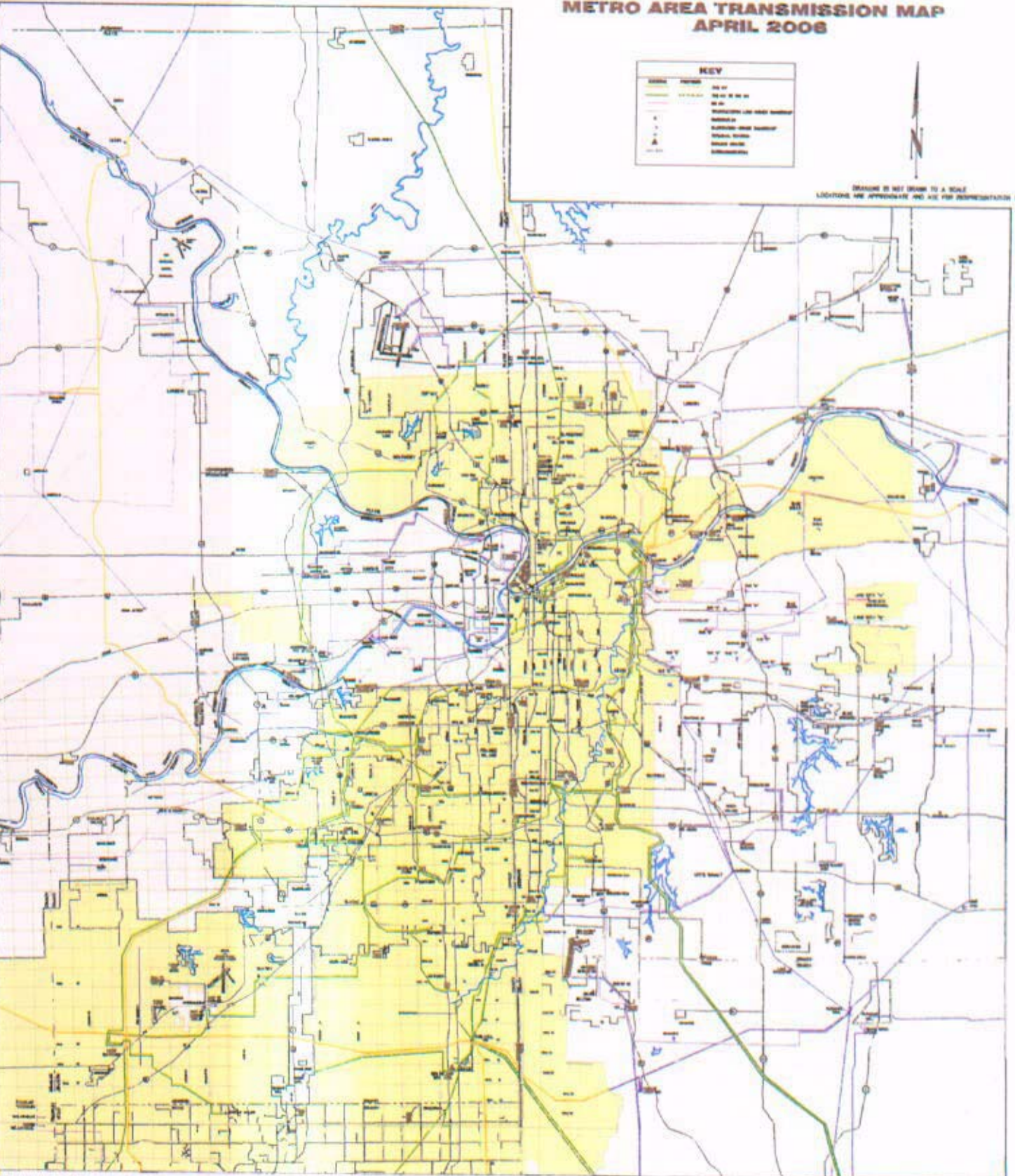
FIG. NO. SHEET
S.J.L.P. SYSTEM MAP OF



METRO AREA TRANSMISSION MAP APRIL 2008

KEY		
LINE	TYPE	NO. OF
1	115 KV	100-150 MW
2	138 KV	150-200 MW
3	230 KV	200-300 MW
4	500 KV	300-400 MW
5	765 KV	400-500 MW
6	115 KV	100-150 MW
7	138 KV	150-200 MW
8	230 KV	200-300 MW
9	500 KV	300-400 MW
10	765 KV	400-500 MW

DESIGN IS NOT DRAWN TO A SCALE
LOCATIONS ARE APPROXIMATE AND ARE FOR REPRESENTATION ONLY



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Schedule RAS-6