Exhibit No.:	
Issue:	*Depreciation of Plant*
Witness:	*Jolie L. Mathis*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Direct Testimony*
Case No.:	*GR-2007-0003*
Date Testimony Prepared:	*December 15, 2006*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

JOLIE L. MATHIS

UNION ELECTRIC COMPANY
d/b/a AMERENUE

CASE NO. GR-2007-0003

Jefferson City, Missouri
December 2006

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter on Union Electric d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Gas Service Provided to Customers in the Company's Missouri Service Area.	))))	Case No. GR-2007-0003

AFFIDAVIT OF JOLIE L. MATHIS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Jolie L. Mathis, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 9 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

Jolie L. Mathis

Subscribed and sworn to before me this 14th day of December 2006.

Notary Public

TONI M. CHARLTON
Notary Public - State of Missouri
My Commission Expires December 28, 2006
Cole County
Commission #04474301

TONI M. CHARLTON NOTARY SEAL NOTARY PUBLIC STATE OF MISSOURI

DIRECT TESTIMONY

OF

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UNION ELECTRIC COMPANY

d/b/a AMEREN UE

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UNION ELECTRIC COMPANY

d/b/a AMEREN UE

CASE NO. GR-2007-0003

Q. Please state your name and business address.

A. Jolie L. Mathis, 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 a Utility Engineering Specialist III in the Engineering and Management Services Department.

Q. What are your duties as a Utility Engineering Specialist III in the Engineering and Management Services Department?

A. I am responsible for depreciation calculations and studies of companies regulated by the Commission.

Q. Would you please state briefly your qualifications, educational background and experience?

A. I graduated from Prairie View A&M University of Texas in August of 1993, with a Bachelor of Science degree in Electrical Engineering. During my college years I was employed as an engineering intern with Allied Signal Aerospace Company, Missouri Public Service Company (now Aquila) and Sprint United Telephone Co. – Midwest Division (now Embarq). In 1994 I accepted my current position. I have received formal training from Depreciation Programs, Inc. and the Society of Depreciation Professionals. I have completed

the NARUC Annual Regulatory Studies Program, and attended numerous industry seminars in the electric, natural gas, water, and sewer and telecommunications areas.

EXECUTIVE SUMMARY

Q. Would you please summarize your direct testimony?

A. I conducted Staff's depreciation study of Ameren UE gas plant at December 31, 2005. Based on that study the Staff is recommending to the Commission depreciation rates which, when applied to the test year plant-in-service ending June 30, 2006, decrease the currently ordered annual depreciation expense from $7,897,335 to $7,516,584, a difference of $380,751.

I used the straight line method, broad group procedure and whole life technique in performing the Staff depreciation study. The straight line method is a depreciation method by which the service value of plant is charged to depreciation expense and credited to the accumulated depreciation account through equal annual charges over its service life. Under the broad group procedure, all units of plant within a particular depreciation category are considered to be one group, usually a plant account or sub-account. The whole life technique bases the depreciation rate on the estimated average service life of the plant. The Staff used the following formula to determine the depreciation rate to be applied to the original cost of plant:

Depreciation Rate = (100% - Net Salvage %) / Average Service Life

I also did a theoretical reserve study where I compared the actual accumulated reserve for depreciation to the reserve I calculated using the newly proposed life and salvage estimates I employed in the Staff's depreciation study. This comparison was based on December 31, 2005 plant balances.

DEPRECIATION STUDY

A. Have you previously testified before the Commission?

Q. Yes, I have. Attached as JMS 1 to my direct testimony is a list of cases in which I have previously filed testimony.

Q. When was the last time the Staff performed a depreciation study of AmerenUE's gas plant?

A. Staff last performed a depreciation study in Case No. GR-2000-512.

Q. When was the last time the Commission ordered depreciation rates for AmerenUE's gas plant?

A. The Commission last ordered depreciation rates for AmerenUE's gas plant in Case No. GR-2000-512 in an Order Approving Unanimous Stipulation and Agreement, that became effective November 1, 2000.

Q. Did the Staff perform a depreciation study of AmerenUE's gas utility property for purposes of this rate case?

A. Yes. I performed a depreciation study based on Company records reflecting data up to December 31, 2005.

Q. You have used the term "depreciation study." What is the "depreciation" you are studying?

A. The National Association of Railroad and Utilities Commissioners in 1958 approved this definition:

> "Depreciation," as applied to depreciable utility plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the cause to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes

in the art, changes in demand, and requirements of public authorities. [Source: Public Utility Depreciation Practices, August 1996, Published by the National Association of Regulatory Utility Commissioners]

Q. What ramifications does this definition have on the customer rates the Commission sets?

A. This definition means that depreciation is a cost of providing service and that a public utility should recover the capital invested in equipment needed to provide the required service over the property's used and useful life. Since customer rates are based on a 12-month "test year," it is necessary to determine the depreciation that accrues during that same 12-month "test year."

Q. How did you determine the annual accrual in this case?

A. I used the formula:

Depreciation Rate = (100% - Net Salvage %) / Average Service Life

Q. What is "average service life"?

A. The average service life (ASL), in years, is the average expected life of all units of a group of property regardless of the placement date. The ASL is determined by actuarial analysis of records of annual additions, retirements by vintage and balances, as well as information provided by engineering and operations personnel. Survivor curve estimates from other gas companies are also considered.

Q. How did you determine the average service lives you used in Staff's depreciation study?

A. I used the retirement rate method.

Q. What is the retirement rate method?

A. The retirement rate method of life analysis is an actuarial method of developing survivor curves using the average rate at which property is retired from each

experienced age group. Using the Gannett Fleming Software, AmerenUE historical mortality data for an account is plotted and the stub curve (curve representing dollars surviving that does not reach 0%) is compared to the known shape of a set of Iowa curves. Survivor curve models, such as the Iowa curves, are widely used to simplify life analysis and forecasting. These curves were developed at the Iowa State College's Iowa Engineering Experiment Station 65 years ago. Three of the four families of curves include a base group of 176 industrial property mortality curves, and 18 types, published in Bulletin 125 of Iowa State University's Engineering Research Institute, entitled "Statistical Analysis of Industrial Property Retirements".

The classification of the survivor curves was made according to whether the mode (highest point) of the frequency curves was to the left, to the right, or comparable with average service life. The result included six left modal (L0,L1,L2,L3,L4,L5); five right modal (R1,R2,R3,R4,R5); and seven symmetrical curves (S0,S1,S2,S3,S4, S5,S6). In 1957, a fourth family was presented, consisting of the four O type survivor curves (O1,O2,O3,O4). Today, these survivor curve types are used extensively in public utility depreciation studies.

Q. Sometimes a picture is worth a thousand words. Do you have an example of a plotted stub curve and of an Iowa curve that might aid someone in understanding what you just said?

A. Yes. Attached as Schedule JMS 4 is one of the survivor stub curves I plotted and, with it, a fitted Iowa curve.

Q. How are stub curves matched to Iowa curves?

A. Informed analyst judgment of which Iowa curve makes the best fit to the plotted stub curve.

Q. How do the Iowa curves provide you with the average service life?

A. The area under the chosen Iowa curve represents the average service life.

Q. What information is useful to the analyst in evaluating which type of Iowa curve, with its life parameter, most nearly matches the stub survivor curve.

A. The most useful criterion used in determining a good fit is the square root of the average difference squared between the percents surviving on the fitted smooth curve and the stub curve. The lower this number, the better the match.

A. What is "net salvage"?

A. Net salvage is the gross salvage for the property retired less its cost of removal. Gross salvage is the amount recorded for the property retired due to the sale, reimbursement, or reuse of the property.

Q. What is "gross salvage"?

A. Gross salvage is the amount a utility records for the property when it is retired. Property is retired when it is sold, the utility is repaid for it by a third party, or it is reused.

Q. Is net salvage always a positive amount?

A. No. Negative net salvage occurs when the cost of removal exceeds gross salvage; this is also referred to as net cost of removal or net salvage expense.

Q. What is "net salvage percent" as used in the deprecation rate formula you stated earlier?

A. The ratio of net salvage to original cost multiplied by 100%.

Q. How did you determine net salvage percentages in the Staff's depreciation study?

A. For each account, I took the actual net salvage for the past 5 years and divided it by the original cost of plant retired during those same 5 years. For a few accounts, an unusually high or low net salvage amount was excluded to eliminate a percentage amount that may cause the average to become skewed.

Q. Did the Staff determine net salvage for in this case consistent with the Commission's statements regarding net salvage in its Third Report and Order issued January 11, 2005, in Case No. GR-99-315 (Laclede) and in its March 10, 2005, Report and Order in Case No. ER-2004-0570 (Empire)?

A. Yes. At page 9, of its Third Report and Order, in Case No. GR-99-315 the Commission stated:

> The Commission finds that the fundamental goal of depreciation accounting is to allocate the full cost of an asset, including its net salvage cost, over its economic or service life so that utility customers will be charged for the cost of the asset in proportion to the benefit they receive from its consumption.

Here, the Staff determined the net salvage by using the traditional accrual method, where both gross salvage and cost of removal are reflected in the depreciation rates.

Q. Did the Staff develop depreciation rates for any gas plant assets on a basis other than by using a broad group-average service life depreciation study?

A. No.

Q. What depreciation rates does the Staff recommend to the Commission?

A. Based on its depreciation study, the Staff recommends the Commission order the depreciation rates shown in attached Schedule JMS 2.

Q. What impact do these depreciation rates have on AmerenUE's test year depreciation expense?

A. Based on the test year ended June 30, 2006, AmerenUE's currently ordered annual depreciation expense should be decreased from $7,897,335 to $7,516,584, a reduction of $380,751.

THEORETICAL RESERVE

Q. What is "theoretical reserve"?

A. Theoretical reserve is the calculated balance that would be in the accumulated depreciation account if recommended, rather than current, depreciation parameters are used in calculating accrued depreciation

Q. Why is the theoretical reserve important?

A. The theoretical reserve is a deduction from rate base. It has to be as accurate as possible.

Q. How well have AmerenUE's current depreciation rates performed with respect to the theoretical reserve accrual?

A. The Staff's theoretical reserve for 2005 is $ 80,724,400 which represents 26% of the original cost of AmerenUE's actual plant-in-service. AmerenUE's actual reserve for 2005 is $99,518,975 representing 33% of the original cost of AmerenUE's actual plant-in-service. Based on the Staff's depreciation study, AmerenUE's depreciation reserve is over accrued by $ 18,794,575.

Q. What, if anything, should the Commission do because of this over accrual?

A. The Staff does not propose the Commission make any adjustment to the depreciation reserve at this time. Instead, the Commission should note the depreciation reserve imbalance and direct the Staff to continue to monitor the imbalance in future depreciation studies.

RECOMMENDATION

Q. What does the Staff recommend the Commission do based on the Staff's depreciation study?

A. The Staff recommends that the Commission order the depreciation rates proposed in Schedule JMS 2. Additionally, the Commission should note the accumulated depreciation reserve over-accrual in Schedule JMS 3 and make no adjustment at this time.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Union Electric Company, dba AmerenUE
Case No. GR-2007-0002

DEPRECIATION DETERMINATION SPREADSHEET

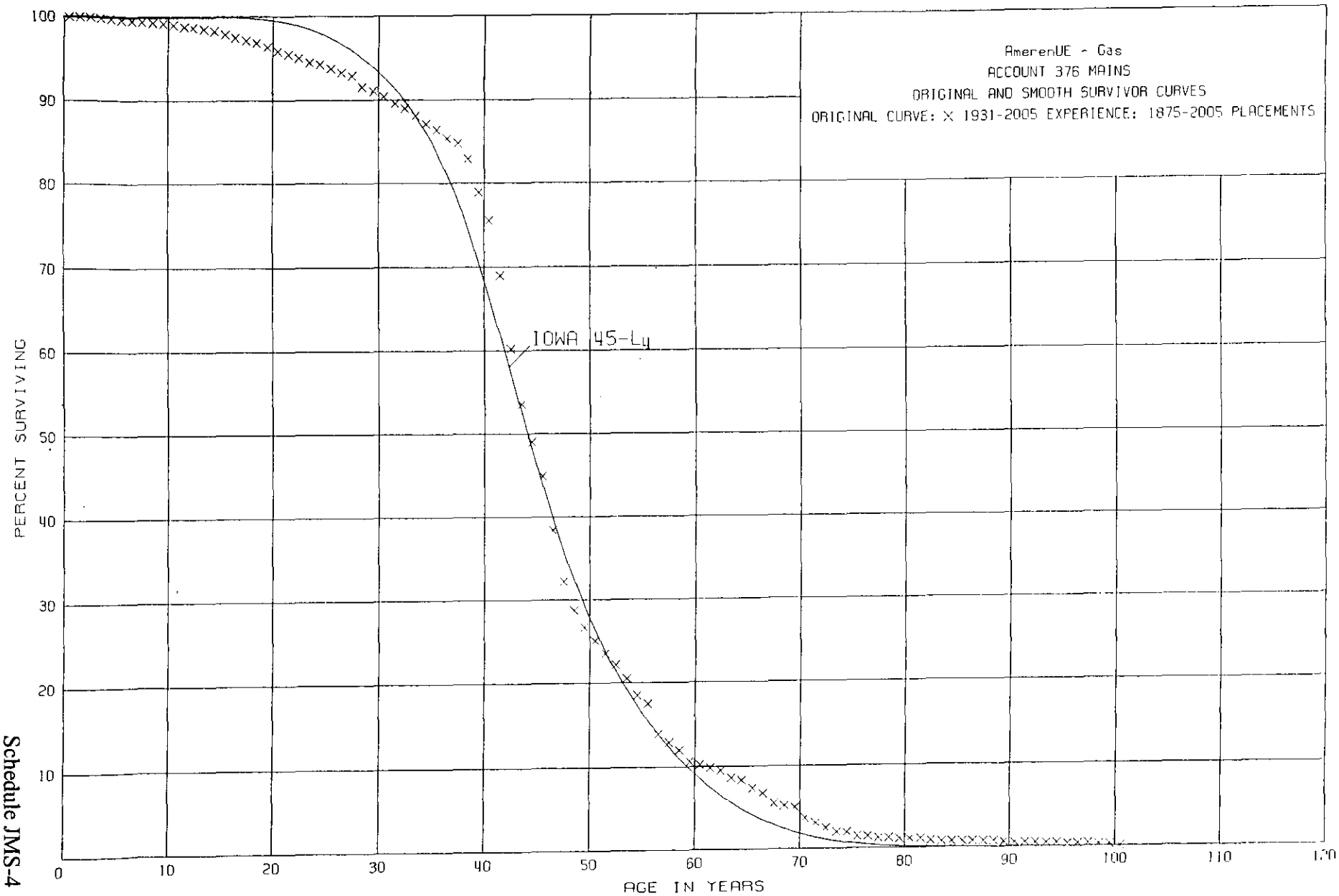
Account No.	Title	Plant Original Cost Jun-06	Ordered Deprec. Rate (%)	Staff's Proposal Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Company's Proposal Probable Retirement Year	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Ordered Annual Accrual	Staff's Annual Accrual	Increase / Decrease Accrual
	Production Plant														
305	Structures and Improvements	223,756	1.74%	60	L0.5	0	1.67%	2020	60	L0.5	0	3.16%	3,893	3,737	(157)
311	Liquid Petroleum Gas Equip	1,242,953	2.31%	55	L1	0	1.82%	2020	55	L1	0	3.25%	28,712	22,622	(6,090)
	Transmission Plant														
367	Transmission Mains	5,615,042	2.11%	50	R3	0	2.00%		50	R3	0	2.00%	118,477	112,301	(6,177)
369	Measuring & Regulating Stations	43,733	2.65%	45	O1	0	2.22%		45	O1	0	2.22%	1,159	971	(188)
	Distribution Plant														
375	Structures & Improvements	23,311	1.98%	50	R2	0	2.00%		50	R2	0	2.00%	462	466	5
376	Gas Mains	159,786,525	2.40%	45	L4	0	2.22%		50	R3	0	2.00%	3,834,877	3,547,261	(287,616)
378	Measuring & Reg. St. General	3,441,527	2.30%	47	O1	0	2.13%		45	O1	0	2.22%	79,155	73,305	(5,851)
379	Measuring & Reg. St. City Gate	421,323	2.27%	45	S0	0	2.22%		45	O1	0	2.22%	9,564	9,353	(211)
380	Gas Services	93,569,644	2.79%	40	L2.5	(3)	2.58%		35	R3	(3)	2.94%	2,610,593	2,414,097	(196,496)
381	Gas Meters	19,831,267	1.91%	40	R3	0	2.50%		40	R3	0	2.50%	378,777	495,782	117,004
383	House Regulators	9,876,829	2.21%	45	R3	(1)	2.24%		45	R3	0	2.22%	218,278	221,241	2,963
385	Industrial Measuring & Reg. Equip.	1,124,738	2.45%	20	R1	0	4.99%		26	R0.5	0	4.00%	27,556	56,124	28,568
	General Plant														
390	Structures & Improvements	1,052,323	1.27%	60	L4	0	1.67%		55	R2.5	0	1.82%	13,365	17,574	4,209
391	Office Furniture & Equipment	115,587	7.75%	12	L0	0	8.33%		15	SQ	0	6.13%	8,958	9,628	670
391.2	Personal Computers	5,656	11.11%	7	L4	0	14.29%		5	SQ	0	14.24%	628	808	180
392	Transportation Equipment	4,131,247	7.28%	14	S1.5	3	6.91%		15	S2	5	6.33%	300,755	285,469	(15,286)
393	Stores Equipment	27,268	6.67%	24	L2.5	0	4.17%		20	SQ	0	4.35%	1,819	1,137	(682)
394	Tools, Shop, & Garage Equipment	2,178,110	5.18%	22	R2	0	4.53%		20	SQ	0	4.66%	112,826	98,668	(14,158)
395	Laboratory Equipment	89,012	4.90%	20	L0.5	0	5.00%		20	SQ	0	2.33%	4,362	4,451	89
396	Power Operated Equipment	2,160,035	4.78%	18	S2	6	5.23%		18	S2	6	5.23%	103,250	112,970	9,720
397	Communications Equipment	657,923	6.06%	23	L0	0	4.35%		15	SQ	0	6.67%	39,870	28,620	(11,250)
	Analyzed Totals														
	Column Totals	**305,617,809**											**7,897,335**	**7,516,584**	**(380,751)**

Schedule JMS - 2

Union Electric Company, dba AmerenUE
Case No. GR-2007-0003

Account No.	Title	Book Reserve Balance Dec 31 2005	Theoretical Reserve Balance Dec 31 2005	Difference	(Under) or Over Accrual
	Production Plant				
305	Structures and Improvements	35,203	56,901	-21,698	(Under)
311	Liquid Petroleum Gas Equip	328,017	360,251	-32,234	(Under)
	Transmission Plant				
367	Transmission Mains	1,452,282	1,018,622	433,660	Over
369	Measuring & Regulating Stations	22,429	10,497	11,932	Over
	Distribution Plant				
375	Structures & Improvements	9,929	7,836	2,093	Over
376	Gas Mains	46,803,357	42,448,047	4,355,310	Over
378	Measuring & Reg. St. General	780,022	589,393	190,629	Over
379	Measuring & Reg. St. City Gate	61,068	69,776	-8,708	(Under)
380	Gas Services	35,285,988	24,151,993	11,133,995	Over
381	Gas Meters	6,483,125	5,116,407	1,366,718	Over
383	House Regulators	3,109,957	2,478,885	631,072	Over
385	Industrial Measuring & Reg. Equip.	273,352	305,826	-32,474	(Under)
	General Plant				
390	Structures & Improvements	266,691	260,400	6,291	Over
391	Office Furniture & Equipment	62,647	34,685	27,962	Over
391.2	Personal Computers	136522	96626	39,896	Over
392	Transportation Equipment	1,702,253	1,671,050	31,203	Over
393	Stores Equipment	22,438	14,883	7,555	Over
394	Tools, Shop, & Garage Equipment	1,185,005	848,953	336,052	Over
395	Laboratory Equipment	71,565	37,556	34,009	Over
396	Power Operated Equipment	1,061,928	1,019,753	42,175	Over
397	Communications Equipment	365,197	126,060	239,137	Over
Column Totals		**99,518,975**	**80,724,400**	**18,794,575**	**Over**

Schedule JMS - 3



Schedule JMS-4