

## Ameren Missouri 5-Year Electric Customer-Focused Capital Investment Plan

\$ - Thousands							
Category 1	2019 Actual	2020	2021	2022	2023	2024*	Grand Total
Smart, Reliable Grid Operations	398,973	461,673	529,686	574,949	674,199	663,653	2,904,160
Smart Meter Program	48,330	55,494	60,902	64,357	55,209	43,315	279,277
Non-Nuclear Generation & Environmental	183,687	149,149	219,950	200,609	114,415	141,101	825,224
Nuclear Generation	74,049	71,007	80,176	95,310	91,064	66,926	404,483
Hydro Generation	36,342	26,161	37,653	37,091	34,414	25,523	160,842
Renewable & Gas Turbine Generation	12,258	24,127	30,838	25,345	24,718	16,955	121,983
Secure & Reliable Transmission	142,183	133,447	174,196	175,220	176,245	183,561	842,669
Cyber & Technology Upgrades	96,222	101,905	105,113	101,534	96,064	88,761	493,377
Operational & Customer Support Facilities	43,875	81,705	74,228	82,926	66,635	55,069	360,563
Innovative Opportunities	8,934	7,901	12,496	5,888	3,814	2,435	32,534
<b>Grand Total - Capital</b>	<b>1,044,853</b>	<b>1,112,569</b>	<b>1,325,238</b>	<b>1,363,229</b>	<b>1,336,777</b>	<b>1,287,299</b>	<b>6,425,112</b>

Wind Asset Acquisition (Two Sites)

1,203,000

1,203,000

**Grand Total, Including Wind**

**2,315,569**

**7,628,112**

\*2024 funding level based on assumption of extension of Senate Bill 564.

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	Grid Resiliency / Operating Flexibility	Distributed Solar & Energy Storage	J0J4N - Distr Solar Facility Land-		
			J0J4P - Distr Solar Facility Land-		
			J0J4Q - Dist Solar Facility Land-		
			J0J4R - Distr Solar Facility Land-		
			J0J4S - Dist Solar Facility Land-		
			J0K9X - Distr Solar Facility -		
			J0K9Z - Distr Solar Facility -		
			J0KB0 - Solar Facility Project -		
			J0KB1 - Solar Facility Project -		
			J0KB2 - Solar Facility Project -		
			J0LNH - Solar-Distribution		
			J0LNI - Solar-Distribution		
			J0LNL - Solar-Distribution		
			J0NJI - Solar Facility Project - Project #6		
			J0NJP - Solar Facility Project - Project #7		
<b>Distributed Solar &amp; Energy Storage Total</b>				<b>66,191</b>	<b>243,425</b>
		Line Capacity Increases	J0FFS - Extension		
			J0GC5 -		
			J0KD8 -		
			J0KNC - Recond-Tie		
			J0P1B - relieve feeder		
			J0P26 - Reconductor		
			J0P2D - Reconductor		
			J0P7J - Install New Feeder		
			J0P7K -		
<b>Line Capacity Increases Total</b>				<b>8,670</b>	<b>100,492</b>
		Substation Capacity Increases	J0G4W - Customer Sub-UG-C		
			J0GDV - Customer Sub-C		
			J0JCI - Long Term Plan Line-C		
			J0JCK - C		
			J0JDM - , UPGR Sub-C		
			J0JGC - (2) 22MVA Sub-C		
			J0JMR - (2)22MVA Line-C		
			J0JN6 - UPGR Line-C		
			J0JP4 - UPGR 34.5kV Line-C		
			J0KP9 - Line-C		
			J0KS9 - 34-C		
			J0KSC - UPGR Sub-C		
			J0KSJ - Site Purchase-C		

**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year		
Smart, Reliable Grid Operations	Grid Resiliency / Operating Flexibility	Substation Capacity Increases	JOKSK - [REDACTED] Sub-C				
			JOKWQ - [REDACTED] Sub - UG-C				
			JOKZB - [REDACTED] Substation-Sub-C				
			JOLDO - [REDACTED] Long-Term Plan Sub-C				
			JOM3X - [REDACTED] New Circuit-UG-C				
			JONG3 - [REDACTED] Sub-Site Purchase-C				
		Substation Capacity Increases Total			26,716	171,751	
		Switches	JOJJB - [REDACTED] SWO				
			JOJJR - [REDACTED] SWO				
		Switches Total			1,251	10,611	
		Subtransmission Switch Upgrades	JONDS - DCD - UPGR 34kV Switches				
		Subtransmission Switch Upgrades Total			1,054	4,612	
		Grid Resiliency/Operating Flexibility Total			103,882	530,891	
		Smart Grid	Grid Resiliency/Operating Flexibility	Smart Grid	Cutout Recloser	JOJ18 - DCD - UPGR Tripsaver Reclosers	
					Cutout Recloser Total		
Distribution Automation	0A318 - DCD - DA Program						
	JOLL9 - DA [REDACTED]						
	JOM71 - 0A318 [REDACTED] Intellirupters DA						
	JOM74 - 0A318 [REDACTED] Intellirupter DA						
	JON2M - DCD - DA Controls Equipment UPGR						
Distribution Automation Total					6,413	73,018	
Fault Circuit Indicators	JOJGS - DCD - UPGR Backbone FCIs						
	JOJ16 - DCD - UPGR Terminal Pole FCIs						
Fault Circuit Indicators Total			1,198	15,667			
Fiber/Wireless	JOJ1G - Smartgrid fiber & wireless UPGR						
	JOKWZ - [REDACTED] Sub Network Equipment						
	JOL8F - [REDACTED] Sub Network Equipment						
	JOL8H - [REDACTED] Fiber Installation						
Fiber/Wireless Total			3,858	117,312			
LED Street Lighting	JO9H1 - LED Streetlight Program						
LED Street Lighting Total			7,821	35,150			
SCADA Upgrades	28660 - [REDACTED] - Add SCADA						
	JO0GQ - [REDACTED] - Add SCADA						
	JOJ14 - [REDACTED] - Add SCADA						
	JOJ1Z - [REDACTED] - Add SCADA						
	JOK07 - [REDACTED] - Add SCADA						
	JOK0C - [REDACTED] Sub - Add SCADA						
SCADA Upgrades Total			892	4,351			

**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	Smart Grid	TAC/Microgrid	JONQC - [REDACTED] Facilities-C JQQ25 - [REDACTED] Site-C		
		TAC/Microgrid Total		5,145	28,400
	Smart Grid Total			25,728	287,408
Standardize 12kV	Convert 4kV to 12kV	JOJCD - [REDACTED] , New Sub-Line-C			
		JOJD7 - [REDACTED] Sub 138-12kV-Line-C			
		JOJDN - [REDACTED] Sub - Sub-C			
		JOJDQ - [REDACTED] SubSecond Unit-Sub-C			
		JOJIDW - [REDACTED] Sub-UG-C			
		JOJF7 - [REDACTED] Sub 138-12kV-UG-C			
		JOJFC - [REDACTED] Sub-Site-C			
		JOJJD - [REDACTED] Sub 138-12kV-Sub-C			
		JOJZC - [REDACTED] Sub 138-12kV - Xmsn Tap			
	Convert 4kV to 12kV Total			16,803	182,511
Standardize 12kV Total				16,803	182,511
Substations - Condition Based Modernization	OCB Upgrades	JOGRV - OCB [REDACTED] Upgr 34kV 318			
		JOKQH - OCB Upgr 8 at [REDACTED] Sub-Sub-C			
		JOKQK - OCB [REDACTED] -138/34 XFMR 3			
		JOKQS - OCB [REDACTED] -34KV [REDACTED] LINE			
		JOKR4 - OCB [REDACTED] -34KV POS 14			
		JOKR6 - OCB [REDACTED] -34KV POS 03			
		JOKR9 - OCB [REDACTED] -34KV POS 15, 23, 25			
		JOKRD - OCB [REDACTED] -34KV CAP BANK			
		JOKRN - OCB [REDACTED] -161/34KV XFMR 1			
		JOKRR - OCB [REDACTED] POS 11,15,20,25, BT 1-2			
		JOKRZ - OCB [REDACTED] -34KV POS 710			
		JOKS1 - OCB [REDACTED] -34KV [REDACTED] LINE			
		JOKS2 - OCB [REDACTED] -138/34KV POS 04 XFMR 2			
		JOKZ1 - Incremental OCB UPGR			
		JOLLG - OCB [REDACTED] 38kV pos 5 and 6			
JONM2 - OCB [REDACTED] UPGR xfmr 9 and #9					
OCB Upgrades Total				9,418	29,431
Relay Upgrades		JOGB0 - [REDACTED] - UPGR Relaying			
		JOGCQ - [REDACTED] -UPGR Rly&BRKR			
		JOJG7 - Relay UPGR [REDACTED] - [REDACTED]			
		JOJH4 - Relay UPGR [REDACTED] Substation - XFMR 1			
		JOJJ - Relay UPGR [REDACTED] Substation - W			
		JOJWC - CBM [REDACTED] Sub Relay UPGRs			
JOK04 - [REDACTED] UPGR GE Micropoc Relay					
Relay Upgrades Total				1,368	13,826

### Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	Substations - Condition Based Modernization	Sub/Switchgear Upgrades	0A664 - SWO-Dist Sub-Con Based		
			OR000 - SWO-DIST. SUBS - T&DD - E63		
			16016 - Substation Spare EQPT UPGR		
			J08GM - CBM - Sub-OH-C		
			J08LM - CBM - Sub-C		
			J0CBL - CBM - Line-C		
			J0CGW - CBM - Sub, UPGR		
			J0CH3 - CBM - Sub-C		
			J0CH4 - CBM - Sub-C		
			J0CH9 - CBM - SUB-C		
			J0CHF - CBM - UPGR SWGR-Sub-C		
			J0CHG - CBM - Sub-C		
			J0CJ5 - CBM - LINE-C		
			J0CKH - CBM - SWGR 2-SUB-C		
			J0CKK - CBM - Unit W-SUB-C		
			J0CKN - CBM - Sub-C		
			J0CLM - CBM - UG-C		
			J0CLV - CBM - Unit W-UG-C		
			J0G26 - Sub UPGR Ctl House		
			J0HB5		
			J0JGD - CBM - Sub-C		
			J0JJ7 - UPGR XFMR #1		
			J0JJC - UPGR XFMR #1		
			J0JJF - CBM - Sub - Add SCADA		
			J0JKQ - CBM - Sub-C		
			J0JKV - CBM - Sub-C		
			J0JMK - CBM - Line-C		
			J0JMS - CBM - Sub - Line - C		
			J0JT8 - CBM - Sub-12 - Add SCADA		
			J0JTB - UPGR XFMR #2		
			J0JTD - CBM - Sub - Add SCADA		
			J0KN7 - CBM - UG-C		
			J0KSP - CBM - SUB-C		
			J0L6C - Spare XFMR Purchase (10A)		
			J0L6D - Spare XFMR Purchase (5X)		
			J0L6F - Spare XFMR Purchase (21)		
			J0LZ8 - Spare 5 UPGR 2019-2020		
			J0LZ9 - Rewind D XFMR 2019		
			J0NM9 - CBM - Sub UPGR Sub-C		
			J0NZH - CBM - Sub UPGR LINE-C		
			J0P2R - CBM - Sub UPGR UG-C		

Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	Substations - Condition Based Modernization	Sub/Switchgear Upgrades	JOP3L - CBM [REDACTED] Sub UPGR		
			JOP4X - CBM [REDACTED] UPGR XFMR 1		
			JOP4Z - CB M [REDACTED] Sub, UPGR SWGF		
		<b>Sub/Switchgear Upgrades Total</b>		<b>41,163</b>	<b>311,032</b>
	<b>Substations - Condition Based Modernization Total</b>			<b>51,949</b>	<b>354,289</b>
System Hardening	Subtransmission Upgrades	JOJCH - [REDACTED] 2nd 34kv Supply			
		JOJGP - [REDACTED] Reloc [REDACTED]			
		JOJM4 - [REDACTED] 300-075 [REDACTED]			
		JOJN5 - [REDACTED] 059-71 Improv Cirtc Reliat			
		JOJNX - [REDACTED] 898075 UPGR			
		JOM40 - [REDACTED] -41 Reconductor			
		JOM41 - [REDACTED] -72 UPGR			
		JOM45 - [REDACTED] -74 Reconductor			
		JOM4M - [REDACTED] New 34.5 kV Circuit-Sub-C			
		JON3Q - [REDACTED] -T-2, [REDACTED] -71 Recon Ph1			
		JONR7 - [REDACTED] -77, Crc UPGR			
		JONR8 - [REDACTED] -76 Reconductor			
		JONV7 - [REDACTED] -T-1 Recon			
JONV9 - [REDACTED] -T-2, [REDACTED] Recon PH 2					
	<b>Subtransmission Upgrades Total</b>		<b>19,261</b>	<b>215,021</b>	
<b>System Hardening Total</b>			<b>19,261</b>	<b>215,021</b>	
UG Cable Upgrades	OH to UG	22931 - OTU [REDACTED] 183-2, [REDACTED]			
		23727 - OTU [REDACTED] 105-1, [REDACTED]			
		24089 - OTU [REDACTED] 258-58 [REDACTED]			
		24132 - OTU [REDACTED] 648-54 [REDACTED]			
		JOJQ7 - OTU [REDACTED] 267-52, [REDACTED]			
		JOKN3 - OTU [REDACTED] 267-52, [REDACTED] Ph 2			
		JOQ2G OT U [REDACTED] 689-51 [REDACTED]			
		<b>OH to UG Total</b>		<b>3,293</b>	<b>6,490</b>
UG Cable Upgrades	UG Cable Upgrades	0A018 - C-UPGR Program-E46			
		JOJ9T C-UPGR [REDACTED] 140-06, [REDACTED]			
		JOJBD - C-UPGR [REDACTED] 256-59, [REDACTED]			
		JOJBM - C-UPGR [REDACTED] 140-06, [REDACTED]			
		JOJBN - C-UPGR [REDACTED] 103-05, [REDACTED]			
		JOJBQ - C-UPGR [REDACTED] 140-06, [REDACTED]			
		JOJCT - C-UPGR [REDACTED] 271-55, [REDACTED]			
		JOJCC - C-UPGR [REDACTED] 253-53 [REDACTED]			
		JOJCV - C-UPGR [REDACTED] 31 03 [REDACTED]			
		JOJD2 - C-UPGR [REDACTED] 134-52, [REDACTED]			
JOJK9 - C-UPGR [REDACTED] 890-53, [REDACTED]					

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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year			
Smart, Reliable Grid Operations	UG Cable Upgrades	UG Cable Upgrades	JOJKC - C-UPGR [REDACTED] 890-52, [REDACTED]					
			JOJM2 - C-UPGR [REDACTED] 563-55					
			JOJM3 - C-UPGR [REDACTED] 561-53, [REDACTED]					
			JOJM7 - C-UPGR [REDACTED] 656-55 50176					
			JOJM8 - C-UPGR [REDACTED] 656-55 50179					
			JOJMV - C-UPGR [REDACTED] 115-52, [REDACTED]					
			JOJN8 - C-UPGR [REDACTED] 504-57 [REDACTED]					
			JOJNB - C-UPGR [REDACTED] 127-55					
			JOJNH - C-UPGR [REDACTED] 587-55					
			JOJP5 - C-UPGR [REDACTED] 818-52, [REDACTED]					
			JOJPB - C-UPGR [REDACTED] 818-52, [REDACTED]					
			JOJPG - C-UPGR [REDACTED] 982-52,2663					
			JOJPH - C-UPGR [REDACTED] 982-52, 3732					
			JOJPL - C-UPGR [REDACTED] 718-51, 6094					
			JOJQ8 - C-UPGR [REDACTED] 136-51 [REDACTED] 51-52					
			JOJQ9 - C-UPGR [REDACTED] 235-55, [REDACTED] 51					
			JOJQB - C-UPGR [REDACTED] 228-55, [REDACTED] 51					
			JOJQD - C-UPGR [REDACTED] 273-52, [REDACTED] -51					
			JOJQQ - C-UPGR [REDACTED] 260-53 [REDACTED]					
			JOJRC - C-UPGR [REDACTED] 167-52 [REDACTED]					
			JOJRG - C-UPGR [REDACTED] 148-10 6936					
			JOJRH - C-UPGR [REDACTED] 208-02 [REDACTED] C1					
			JOJSC - C-UPGR [REDACTED] 573-52, 4444-5057					
			JOJ70 - C-UPGR [REDACTED] 656-55 50037					
			JOJ71 - C-UPGR [REDACTED] 633-53, 10454					
			JOJ7G - C-UPGR [REDACTED] 628-53, 50172					
			JOJ7J - C-UPGR [REDACTED] 628-56, 50046					
			JOJ9 - C-UPGR [REDACTED] 689-52 [REDACTED] P2					
			JOJ7 - C-UPGR [REDACTED] 146, PILC Exit Cab					
			JOQSR - C-UPGR [REDACTED] 71-54, L-14520					
			<b>UG Cable Upgrades Total</b>				<b>25,150</b>	<b>215,982</b>
			<b>UG Cable Upgrades Total</b>				<b>28,443</b>	<b>222,472</b>
			UG Revitalization	Indoor Rooms	Indoor Rooms	JONBT - [REDACTED] Indr Rm		
JONBS - 0A321 [REDACTED] Indr Rm								
<b>Indoor Rooms Total</b>						<b>1,062</b>	<b>2,633</b>	
UG Revitalization		0A321 - 0A321 [REDACTED] -Underground Renewal						
		0A669 - UG-MH&VLT UPGR SWO						
		J03P8 - 0A321 [REDACTED]						
		J05BJ - UG-MH UPGR [REDACTED]						
		J060C - UG-VLT (SC) UPGR [REDACTED]						

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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	UG Revitalization	UG Revitalization	J06RB - UG-MH UPGR		
			J06WP - UG-MH UPGR		
			J06WQ - UG-VLT UPGR		
			J0721 - UG-VLT UPGR		
			J08L8 - UG-MH UPGR		
			J0994 - UG-VLT UPGR		
			J09FP - UG-VLT UPGR		
			J09FQ - UG-VLT UPGR		
			J09FX - UG-VLT UPGR		
			J0CCF - 0A321		CAB-DA
			J0CCQ - 0A321		
			J0CDK -		ReRte-PILC Cab
			J0CDL -		ReRte-PILC Cab
			J0CDN -		ReRte-PILC Cab
			J0CFF - 0A321		
			J0CFJ -		,76,81 Diversify
			J0CLD - 0A321		-51 St CAB-CON
			J0D3L - UG-VLT UPGR		
			J0D3M - UG-VLT UPGR		
			J0D3Q - UG-VLT UPGR		
			J0D3R - UG-VLT UPGR		
			J0D3V - UG-VLT UPGR		
			J0D3W - UG-VLT UPGR		
			J0D43 - UG-VLT UPGR		
			J0D4Q - UG-MH UPGR		
			J0D4R - UG-MH UPGR		
			J0D4S - UG-MH UPGR		
			J0D9L - UG-MH UPGR		
			J0D9M - UG-MH UPGR		
			J0DJV - UG-MH UPGR		
			J0F24 - UG-MH UPGR		
			J0F4V - UG-MH UPGR		
			J0F9B - 0A321		
			J0FCS - 0A321		DA-SWGR
			J0FD5 - 0A321		Con
			J0FD6 - 0A321		CAB
			J0FFW -		
			J0FGT - 0A321		Con
			J0FGW -		UPGR PILC
			J0FGX -		UPGR PILC



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Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Smart, Reliable Grid Operations	UG Revitalization	UG Revitalization	J0FK1 - 0A321-██████████ Con		
			J0FK2 - 0A321-██████████ Diversify		
			J0FK4 - 0A321-██████████ Diversify		
			J0FZ7 - UG-MH UPGR ██████████		
			J0G2P - UG-MH UPGR ██████████		
			J0G2S - UG-MH UPGR ██████████		
			J0G2T - UG-MH UPGR ██████████		
			J0G2V - UG-VLT UPGR ██████████		
			J0GB8 - 0A321-██████████ Conduit		
			J0GB9 - 0A321-██████████ Diversify		
			J0GBB - 0A321-██████████ Room		
			J0GBD - 0A321-██████████ Conduit		
			J0GBF - 0A321-██████████ C-UPGR		
			J0GBH - 0A321-██████████ C-UPGR		
			J0GBK - 0A321-██████████ Conduit		
			J0GBL - 0A321-██████████ C-UPGR		
			J0GBT - 0A321-19██████████ Conduit		
			J0GBV - 0A321-20██████████ Conduit		
			J0GBW - 0A321-██████████ Conduit		
			J0H01 - UG-MH UPGR ██████████		
			J0H3T - UG-VLT UPGR ██████████ (N) (SC)		
			J0H4H - UG-MH UPGR ██████████		
			J0H54 - UG-MH UPGR ██████████		
			J0H55 - UG-MH UPGR ██████████		
			J0HB7 - UG-MH UPGR ██████████		
			J0HBQ - UG-MH ██████████		
			J0HBR - UG-MH ██████████		
			J0HC1 - UG-VLT UPGR ██████████		
			J0HCL - UG-MH UPGR ██████████		
			J0HCX - 0A321-██████████ DA ██████████		
			J0HG3 - UG-MH UPGR ██████████		
			J0HJ8 - UG-MH UPGR ██████████		
			J0HMB - 0A321-██████████		
			J0HNZ - 0A321-██████████ -NW-A4-A6 CAB UPGR		
			J0HP0 - 0A321-██████████ -NW A5 ██████████ CAB		
J0HP1 - 0A321-480V Spot-NW XFMR PTO UPGR					
J0HP2 - 0A321-██████████ Ntwk PROT Fiber					
J0HP3 - 0A321-500 ██████████ -NW 7FL-Vault					
J0HWK - UG-MH UPGR ██████████					
J0HWL - UG-MH UPGR ██████████					

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Smart, Reliable Grid Operations	UG Revitalization	UG Revitalization	J0J5Q - 0A321 - [REDACTED] Conduit		
			J0J61 - 0A321 - [REDACTED] Conduit		
			J0J62 - 0A321 - [REDACTED] 216V Grid-NW XFMR PTC		
			J0J8P - UG-MH UPGR [REDACTED]		
			J0J8S - UG-MH UPGR [REDACTED]		
			J0J8V - UG-MH UPGR [REDACTED]		
			J0JDR - 0A321 - [REDACTED] ReRoute Cab		
			J0JDS - 0A321 - [REDACTED] ReRoute Cab		
			J0JDT - 0A321 - [REDACTED] Cable UPGR		
			J0JDX - 0A321 - [REDACTED] Conduit		
			J0JDZ - 0A321 - Spot Network Vault Revitaliza		
			J0JF2 - MH Sys Monitorng & Ventilation UPGR		
			J0JFQ - 0A321 - [REDACTED] ReRoute Cab		
			J0JFS - 0A321 - [REDACTED] ReRoute Cab		
			J0JFT - 0A321 - [REDACTED] ReRoute Cab		
			J0JG6 - [REDACTED] - Reroute Conduit & Cable		
			J0JV8 - UG-MH UPGR [REDACTED]		
			J0JVF - UG-MH UPGR [REDACTED]		
			J0JVG - UG-MH UPGR [REDACTED]		
			J0LKH - [REDACTED]		
			J0LTN - 0A321 - [REDACTED] FO-TEMP CAB		
			J0LV2 - UG-MH UPGR [REDACTED]		
			J0LV3 - UG-MH UPGR [REDACTED]		
			J0M2Q - UG-MH UPGR [REDACTED]		
			J0M2R - UG-MH UPGR [REDACTED]		
			J0M4B - UG-VLT UPGR [REDACTED]		
			J0M4H - UG-VLT UPGR [REDACTED]		
			J0M7C - UG-VLT UPGR [REDACTED]		
			J0MJH - UG-VLT UPGR [REDACTED]		
			J0MP3 - UG-VLT UPGR [REDACTED]		
			J0NKS - UG-MH UPGR [REDACTED]		
			J0NKT - UG-MH UPGR [REDACTED]		
			J0NKV - UG-MH UPGR [REDACTED]		
			J0NKW - UG-MH UPGR [REDACTED]		
			J0NKX - UG-MH UPGR [REDACTED]		
			J0QQQ - UG-MH UPGR [REDACTED]		
			J0QQR - UG-MH UPGR [REDACTED]		
			J0QOS - UG-MH UPGR [REDACTED]		
			J0QOT - UG-MH UPGR [REDACTED]		
			J0QOV - UG-MH UPGR [REDACTED]		

**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year	
Smart, Reliable Grid Operations	UG Revitalization	UG Revitalization	J0Q56 - UG-MH UPGR			
			J0Q57 - UG-MH UPGR			
			J0Q58 - UG-MH UPGR			
		UG Revitalization Total		36,072	206,619	
	UG Revitalization Total			37,134	209,252	
<b>Smart, Reliable Grid Operations Total</b>				<b>283,200</b>	<b>2,001,844</b>	
Smart Meter Program	Smart Meter Program	Smart Meter Program	J0B19 - SMP Phase 2			
			J0CZR - SMP Sys Int & BPD			
			J0CZW - SMP [REDACTED] UPGR			
			J0CZZ - SMP [REDACTED] IOC			
			J0D00 - SMP [REDACTED] TestEqpt			
			J0D07 - SMP Elec Meters & Install SWO			
			J0D08 - SMP [REDACTED] Network EqptInst			
			J0D0B - SMP [REDACTED] Ntwk EqptInst			
			J0D0D - SMP [REDACTED] Ntwk EqptInst			
			J0D0G - SMP [REDACTED] Ntwk EqptInst			
			J0D0H - SMP [REDACTED] Ntwk EqptInst			
			J0DG5 - SMP [REDACTED] MkRdy			
			J0DG8 - SMP [REDACTED] MkRdy			
			J0DGP - SMP [REDACTED] MkRdy			
			J0DGW - SMP [REDACTED] MkRdy			
			J0DGX - SMP [REDACTED] MkRdy			
			J0DYZ - SMP [REDACTED] MkRdy			
		J0DWD - SMP Communications				
		J0L2P - SMP Meter Farm				
		Smart Meter Program Total		55,494	279,277	
	Smart Meter Program Total			55,494	279,277	
<b>Smart Meter Program Total</b>				<b>55,494</b>	<b>279,277</b>	
Non-Nuclear Generation & Environmental	Grid Performance	Controls Upgrades for Faster Ramp Rates/Lower Minimums	J0JQ2 - [REDACTED] Minimum Unit Load Mods			
			Controls Upgrades for Faster Ramp Rates/Lower Minimums Total		821	1,933
			Cyber Security Upgrades / New Technologies	20248 - [REDACTED] 400xA HMI LIFECYCLE UPGR		
				J05HF - [REDACTED] U1-4 HMI LIFECYCLE UPGR		
				J0JNJ - [REDACTED] Cybersecurity- Priority 1		
			Cyber Security Upgrades/New Technologies Total		1,186	4,550
Exciter Upgrades	J0FJR - [REDACTED] U1 HP/LP Exciter Digital FE UPGR					
Exciter Upgrades Total		2,425	5,434			

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Non-Nuclear Generation & Environmental	Grid Performance	GSU Transformer Upgrades	J0C9G - U1 Transformer Explosion Protection		
		GSU Transformer Upgrades Total		675	1,403
	Grid Performance Total			5,107	13,320
<b>Non-Nuclear Generation &amp; Environmental Total</b>				<b>5,107</b>	<b>13,320</b>
Nuclear Generation	Grid Performance	Controls Upgrades for Faster Ramp Rates/Lower Minimums	11293 - Turbine Controls Digital UPGR J0PLL - XMB01 Exciter Transformer UPGR		
		Controls Upgrades for Faster Ramp Rates/Lower Minimums Total		892	8,017
		Switchyard Breaker / Relay Upgrades	J0CW9 - SPV Digital Relay UPGR		
		Switchyard Breaker/Relay Upgrades Total		507	2,433
	Grid Performance Total			1,399	10,450
<b>Nuclear Generation Total</b>				<b>1,399</b>	<b>10,450</b>
Hydro Generation	Grid Performance	Cyber Security Upgrades / New Technologies			
		Cyber Security Upgrades/New Technologies Total			84
		Exciter Upgrades	J06VD - U9 EXCITER UPGR J06VF - U10 EXCITER UPGR J06VG - U11 EXCITER UPGR		
		Exciter Upgrades Total		374	8,836
		GSU Transformer Upgrades	J0KTB - U2 GSU XFMR UPGR		
		GSU Transformer Upgrades Total		21	21,992
		Switchyard Breaker / Relay Upgrades	J0FJH - Switchyard Disconnect Switch UPGR J0LR1 - Switchyard Disconnect Switch UPGR		
		Switchyard Breaker/Relay Upgrades Total		167	166
Grid Performance Total			562	31,078	
<b>Hydro Generation Total</b>				<b>562</b>	<b>31,078</b>
Renewable & Gas Turbine Generation	Grid Performance	Cyber Security Upgrades / New Technologies	J0JNG - Fleet Cyber UPGR		
		Cyber Security Upgrades/New Technologies Total		331	1,335
		Exciter Upgrades	J0KQ3 - VEN Excitation System UPGR		
		Exciter Upgrades Total		507	7,534
		GSU Transformer Upgrades			
		GSU Transformer Upgrades Total			192
		Solar	JONK5 - Community Solar Program Site 2 JONKH - JONKK - Neighborhood Solar J0B74 - Community Solar Renewable		

### Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year	
Renewable & Gas Turbine Generation	Grid Performance	Solar	J0CDW - [REDACTED] Distributive Gen Solar			
		Solar Total		8,365	41,327	
	Grid Performance Total			9,203	50,388	
<b>Renewable &amp; Gas Turbine Generation Total</b>				<b>9,203</b>	<b>50,388</b>	
Secure & Reliable Transmission	Grid Performance	Line Reliability Improvements	J04P7 - [REDACTED] Line UPGR			
			J0KH7 - [REDACTED] -1 & -2 Shield Wire UPGR			
			J0LQZ - [REDACTED] 161kV Line UPGR			
	Line Reliability Improvements Total				187	5,211
	Mobile Transformers					
	Mobile Transformers Total					8,320
	Substation Reliability Improvements					
	J0FS7 - [REDACTED] GATE Lead Lines					
	J0FS8 - [REDACTED] (138kV) -Add 2 Line BRK					
	J0G8Z - [REDACTED] XFMR UPGR and BRKR Addn					
	J0G9L - [REDACTED] Sub Add Line BRKRs					
	J0HRD - Line Re-Route [REDACTED] Sub					
	J0HZI - [REDACTED] 138kV Ring Bus					
	J0HZM - [REDACTED] 138kV Ring Bus					
	J0HZN - [REDACTED] - Add 161kV Line & Tie BRKRs					
J0J30 - [REDACTED] Removals						
J0J7V - [REDACTED] 161kV Ring Bus						
J0KW1 - [REDACTED] (161 kV) 6-Position Ring Bus						
J0LPO - [REDACTED] Add BRKRs						
J0LSN - [REDACTED] - Land Purchase						
J0P8W - [REDACTED] 161kV Ring Bus						
J0P8X - [REDACTED] (161kV)-Add Bus Tie						
J0P8Z - [REDACTED] (161kv)-Rebuild						
J0PVP - J541_598 - [REDACTED] 161kV_Tie Lines						
J0PVQ - J541_598 - [REDACTED] (161kV) Reroute						
J0PVR - J817 [REDACTED] (161kV) - Reroute						
J0PVS - J817 [REDACTED] (345kV) - New Structure						
J0PW6 - [REDACTED] (345KV)-J598 and J541 345KV Station UPGR						
J0PWD - [REDACTED] (345KV)-J598 and J541 161KV Station UPGR						
J0PWG [REDACTED] (345KV)-J598 and J541 XFMR UPGR						
J0PWJ - J817 [REDACTED] IF Line posn.						
J0PWL - J817 [REDACTED] IC Ntwk UPGR						
J0PWP - J817 [REDACTED] Breaker Addition						
Substation Reliability Improvements Total				14,041	109,122	
VAR Compensation						
J0G9J - [REDACTED] [REDACTED]						

**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

\$ - Thousands

Category 1	Category 2	Category 3	2 020 ProjecDetail	2020	5- Year	
Secure & Reliable Transmission	Grid Performance	VAR Compensation	JOGXG - [REDACTED] Static VAR Sys.			
		VAR Compensation Total		12,932	29,932	
	Grid Performance Total			27,160	152,585	
	Modernization	Breaker Upgrades	J087S - [REDACTED]	BT-1-2 BRKR-Relay-Switch		
			J08K6 - [REDACTED]	BRKR UPGRs		
			J08XR - [REDACTED]	BT-2-3 BRKR/Switch UPGR		
			J0C5Z - [REDACTED]	- BT1-2 BRKR UPGR		
			J0C63 - [REDACTED]	-UPGR 6 138kV BRKR		
			J0FSK - [REDACTED]	-2 BRKR UPGR		
			J0G94 - [REDACTED]	UPGR BRKR/Switches		
J0G9G - [REDACTED]			BRKR/Bus UPGRs BT 1-2 3-4			
J0J7R - [REDACTED]			Posn W BRKR UPGR			
J0J7Z - [REDACTED]			Substation PCB 1 & PCB 4 UPGR			
J0J80 - [REDACTED]	BT BRKR UPGR					
J0J81 - [REDACTED]	BRKR UPGRs BT 3-4					
J0J86 - [REDACTED]	BT BRKR UPGR					
Breaker Upgrades Total			4,994	21,562		
Transformer Upgrades						
Transformer Upgrades Total				18,388		
Modernization Total			4,994	39,950		
Smart Grid	Intelligrid	J086S - INTG Sub Trans. I/S 2020-MO				
		J086T - INTG Sub Trans. I/S 2021-MO				
		J0871 - INTG Sub Dist. I/S 2021-MO				
		J0876 - INTG Trans Lines I/S 2020-MO				
		J09VF - INTG [REDACTED]				
		J0B71 - INF C [REDACTED]				
		J0DKW - INTG CORE MED [REDACTED] GEN				
		J0DL4 - INTG CORE MED [REDACTED]				
		J0DM8 - INTG CORE MED [REDACTED]				
		J0DMF - RELB [REDACTED]				
		J0DMS - RELB [REDACTED]				
		J0DNH - RELB [REDACTED]				
		J0DSD - RELB [REDACTED]				
		J0F2J - RELB [REDACTED]				
		J0FB5 - INTG [REDACTED]				
		J0FB6 - INTG [REDACTED]				
		J0FN3 - INTG [REDACTED]				
		J0FNF - INTG [REDACTED]				
		J0FNM - INTG [REDACTED]				
		J0FNN - INTG [REDACTED]				
J0G7Q - INTG CORE MED [REDACTED]						

**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Secure & Reliable Transmission	Smart Grid	Intelligrid	JOG7R - INTG CORE MED - [REDACTED]-47		
			JOG7X - INTG CORE MED [REDACTED]		
			JOG7Z - INTG CORE MED [REDACTED]		
			JOG87 - INTG CORE MED IT Trans 2018 UEC		
			JOG88 - INTG CORE MED IT Trans 2019 UEC		
			JOG8M - INTG CORE MED TELECOM UEC 2018		
			JOG8P - INTG CORE MED TELECOM UEC 2019		
			JOGK7 - INTG CORE MED TELECOM UEC 2020		
			JOHR4 - INTG CORE MED TELE UEC 2019-[REDACTED]		
			JOHR5 - INTG C.MED TELECOM UEC MH [REDACTED]		
			JOHVX - INTG CORE MEDTELE UEC 2019 IS DEC19		
			JOHVZ - INTG CORE MED TELECOM UEC 2019 -Loc		
			JOHW6 - INTG CORE MED Trans UEC IS SEPT 19		
			JOKSW - INTG L-[REDACTED]		
			JOKWW - [REDACTED] COMM EASE.- [REDACTED]		
			JOKWX - [REDACTED] COMM EASEMENT [REDACTED]		
			JOL5N - INF [REDACTED]		
			JOL67 - [REDACTED] - INTG Relay UPGRs		
			JOL68 - [REDACTED] -INTG Relay UPGR		
			JOL69 - [REDACTED] - INTG Relay UPGR		
			JOL6B - [REDACTED] - INTG Relay UPGRs		
			JOLB0 - INTG Trans Lines [REDACTED] -P		
			JOLMJ - INTG - [REDACTED]		
			JOLN1 - INTG Access [REDACTED] Sub		
			JOLP3 - INTG Access [REDACTED]		
			JOLPX - INTG Access [REDACTED]		
			JOLS5 - INTG Access [REDACTED]		
			JOLS7 - INTG Access [REDACTED]		
			JOLSS - [REDACTED] - INTG OPGW Pole UPGR		
			JOLST - [REDACTED] - INTG OPGW Pole UPGR		
			JOLSW - [REDACTED] - INTG OPGW		
			JOLSX - [REDACTED] - INTG Pole UPGR		
			JOLSZ - [REDACTED] - INTG OPGW Pole UPGR		
			JOLTO - [REDACTED] INTG OPGW		
			JOLT1 - [REDACTED] INTG OPGW Pole UPGR		
			JOLVQ - [REDACTED] - INTG OPGW		
			JOLVS - [REDACTED] -1 - INTG OPGW		
			JOLVT - [REDACTED] -3 INTG OPGW		
			JOM4P - INTG - [REDACTED]		
			JOM5L - INTG [REDACTED]		
JOM8V - INTG Access [REDACTED]					

Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year			
Secure & Reliable Transmission	Smart Grid	Intelligrid	JOM8W - INTG Access High					
			JOM8X - INTG Access High					
			JOM8Z - INTG Access High					
			JOM90 - INTG Access High					
			JOM91 - INTG Access High					
			JOMB1 - INTG Access High					
			JOMB2 - INTG Access High					
			JOMB3 - INTG Access High					
			JOMCJ - INTG Access High					
			JOMCN - INTG Access High	345kV				
			JOMD7 - INTG Access High					
			JOMNP - INTG Access High	69kV				
			JOMZT - INTG Comm 1/S 2020 G IL					
			JONMC - INTG Access Med					
			JONMF - INTG Access Med					
			JONMG - INTG AM	-7407				
			JONMH - INTG Access Med					
			JONMJ - INTG AM					
			JONMK - INTG AM					
			JONMM - INTG AM					
			JONMO - INTG Access Med					
			JONMS - INTG Access Med					
			JOPM7 - (138kV)-UPGR SW					
			JOPXX - Fiber					
			<b>Intelligrid Total</b>				<b>28,101</b>	<b>131,589</b>
					Relay Upgrades	JOFS6 - (138kV) - Relay UPGR		
						JOFS9 - (138kV) -Relay UPGR		
						JOG93 - Relay UPGR		
			JOG96 - Relay UPGR	-4				
			JOG9B - Relay Panel UPGR					
			JOG9H - Relay UPGR	1				
			JOGXC - Relay and Station UPGR					
			JOGXF - UPGR Controls					
			JOH62 - Relay UPGR					
			JOHRF - 345kV -Rly UPGR					
			JOHRG - 345kV -Equip UPGR					
			JOJ4Z - Sub Relay UPGR					
			JOJG - Relay UPGR					
			JOJGV - UPGR Relays/BT BRKR					
			JOJGX - Relay UPGRs	-3 -4				
			JOJGZ - Relay UPGRs	-3 -4				



**Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects**

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Secure & Reliable Transmission	Smart Grid	Relay Upgrades	J0JH1 - [REDACTED] Relay UPGRs [REDACTED] -1 -3		
			J0JH2 - [REDACTED] Relays UPGRs Posn H8 H13		
			J0JH4 - [REDACTED] XFMR BRKR and Relay UPGR		
			J0JH9 - [REDACTED] Relay UPGRs		
			J0JHH - [REDACTED] Bus 1 Relay UPGR		
			J0LW6 - [REDACTED] 6H & 24H Relay UPGR		
			J0M7G - [REDACTED] (138KV) -Line Panel and Relay		
			J0MHK - [REDACTED] sub relay UPGR		
			J0MKX - [REDACTED] - 138KV relay UPGR		
			J0MPM - [REDACTED] Relay UPGR 2 [REDACTED]		
			J0N2Z - [REDACTED] Relay UPGR		
			J0NB2 - [REDACTED] remote end work for [REDACTED]		
			J0NB3 - [REDACTED] remote end work for [REDACTED]		
			J0NB4 - [REDACTED] remote end work for [REDACTED]		
			J0NB5 - [REDACTED] remote end work for [REDACTED]		
J0NB6 - [REDACTED] remote end work fo [REDACTED]					
J0NB7 - [REDACTED] remote end work for [REDACTED]					
J0NB8 - [REDACTED] remote end work for [REDACTED]					
<b>Relay Upgrades Total</b>				<b>11,837</b>	<b>30,220</b>
<b>Monitoring Upgrades</b>			J0C85 - [REDACTED] PMU Add		
<b>Monitoring Upgrades Total</b>				<b>5</b>	<b>5</b>
<b>Smart Grid Total</b>				<b>39,943</b>	<b>161,814</b>
<b>Secure &amp; Reliable Transmission Total</b>				<b>72,097</b>	<b>354,349</b>
Cyber & Technology Upgrades	Business & Corp Services	Enterprise System Upgrades	J0K40 - UPGR Security Camera - UEC		
			J0M01 - UPGR Security Camera - UEC GENERATION		
		<b>Enterprise System Upgrades Total</b>			
<b>Business &amp; Corp Services Total</b>				<b>2,992</b>	<b>4,792</b>
	Customer Support	Intelligrid	J06K8 - Intelligrid Core Med 2019 UEC		
			J0MC4 - INTG Access High [REDACTED] Trans UEC		
			J0MC5 - INTG Access High [REDACTED] Trans UEC		
			J0MC7 - INTG Access High [REDACTED] - Dist UEC		
			J0MC8 - INTG Access High [REDACTED] - Dist UEC		
			J0MC9 - INTG Access High [REDACTED] - Dist UEC		
			J0MCB - INTG Access High [REDACTED] - Dist UEC		
			J0MJV - Private LTE MO [REDACTED] -UEC		
			J0MPH - INTG Acc High [REDACTED] UEC Lines		
			J0MPJ - INTG Acc High [REDACTED]		
<b>Intelligrid Total</b>				<b>9,425</b>	<b>27,616</b>

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year	
Cyber & Technology Upgrades	Customer Support	Work & Asset Mgmt System Upgrades	J0642 - GIS Electric UPGR - UEC			
			J0DHW - DFE P8 MMV AMO HW			
				J0DJ1 - ASPIRE P2 S&T AMO		
				J0DX2 - ASPIRE P3 E&G AMO		
				J0DX6 - ASPIRE P3 AMO HW		
				J0GP5 - GIS Electric UPGR UEC Hardware		
				J0GP7 - GIS Graphic Work Design UEC		
				J0K6T - ADMS Annual Upgrades - UEC		
				<b>Work &amp; Asset Mgmt System Upgrades Total</b>	19,314	30,239
				<b>Customer Support Total</b>	28,739	57,855
	Cyber Security	Cyber Security Upgrades / New Technologies	J0K7L - Intrusion Detect OT Networks - UEC			
			J0NX4 - Centralized OT Cybersecurity - UEC			
			<b>Cyber Security Upgrades/New Technologies Total</b>	654	1,454	
			<b>Cyber Security Total</b>	654	1,454	
	Run The Business	Network & Server Upgrades	J0LRJ - [REDACTED] DTI Fiber UPGR 2020			
			J0LZV - [REDACTED] DTI Fiber [REDACTED]			
			J0M64 - [REDACTED] DTI Fiber [REDACTED]			
			<b>Network &amp; Server Upgrades Total</b>	2,171	4,787	
			<b>Run The Business Total</b>	2,171	4,787	
			<b>Cyber &amp; Technology Upgrades Total</b>	<b>34,556</b>	<b>68,888</b>	
Innovative Opportunities	Electrification Infrastructure	Electrification Infrastructure	J0NL7 - EV Chargers - MO Workspace			
			J0NL8 - EV Chargers - Battery Backup			
				J0NLC - Electric School Bus		
			J0NLF - Electric Equipment Program			
			J0NLG - EV Fleet - Light duty			
			J0NLH - EV Fleet - Heavy duty			
			J0NLJ - EV Fleet - Groundskeeping			
			J0NLZ - Electric Shuttle Bus Pilot Phase-1			
			<b>Electrification Infrastructure Total</b>	2,528	12,501	
			<b>Electrification Infrastructure Total</b>	2,528	12,501	
	Grid Innovative Technologies	Grid Innovative Technologies	J0KJ1 - Distributed Technology Pilots			
			J0KVf - Energy Analysis Tool			
			J0NLL - [REDACTED]			
			J0Q02 - UEC Substation of the Future, Advanced Sensor Deploy			
			J0Q03 - UEC Corona Inspection / Image Processing (Hardware)			
			J0Q04 - UEC Data Centers Pilot (Hardware)			
			J0Q05 - UEC Connected Communities / Smart Street Lights HW			

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Grid Modernization Projects

\$ - Thousands

Category 1	Category 2	Category 3	2020 Project Detail	2020	5-Year
Innovative Opportunities	Grid Innovative Technologies	Grid Innovative Technologies	J0Q06 - UEC Electric School Bus Pilot (Hardware)		
			J0Q07 - UEC VR/AR Training (Software)		
			J0Q08 - UEC AMI Analytics & Connected Home (Software)		
	Grid Innovative Technologies Total			3,085	10,595
Grid Innovative Technologies Total			3,085	10,595	
<b>Innovative Opportunities Total</b>				<b>5,613</b>	<b>23,096</b>
<b>Grid Modernization Projects Total</b>				<b>467,231</b>	<b>2,832,690</b>

**NOTE:** Only 2020 projects are listed.

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Ongoing Operations

\$ - Thousands

Category 1	Category 2	Category 3	2020	5-Year	
Smart, Reliable Grid Operations	Distribution Operations	Circuit Inspection Resulting Work	29,611	161,679	
		Customer Requested	6,471	32,431	
		Device Inspection Resulting Work	532	2,594	
		Emergency Work	15,532	74,476	
		Emergent Business	47,158	242,507	
		Fleet	18,473	83,990	
		General Plant	2,208	8,036	
		Government Relocations	4,618	22,060	
		Reliability & NESC	18,300	92,122	
		Storms Rebuild	4,615	22,949	
		Street Light Inspection Resulting Work	97	473	
		Transformers & Tools	21,323	116,673	
		UG Inspection Resulting Work	2,127	10,261	
	Worst Performing Circuits	1,435	7,060		
	Distribution Operations Total			172,500	877,311
	Grid Resiliency/Operating Flexibility		Line Capacity Increases	3,151	12,728
	Grid Resiliency/Operating Flexibility Total			3,151	12,728
Substations - Condition Based Modernization		Sub/Switchgear Upgrades	1,581	2,584	
		Substation Spill Control	1,016	8,844	
Substations - Condition Based Modernization Total			2,597	11,428	
System Hardening		Brittle Conductor Upgrades	225	849	
System Hardening Total			225	849	
<b>Smart, Reliable Grid Operations Total</b>			<b>178,473</b>	<b>902,316</b>	
Non-Nuclear Generation & Environmental	Modernization	Component/Material Upgrades	10,221	71,009	
		Controls/Communication Upgrades	10,282	41,998	
		Physical Security Upgrades	40	40	
	Modernization Total			20,543	113,047
	Regulatory & Facilities	Facility Upgrades	12,700	61,761	
		Regulatory Required	52,374	144,365	
	Regulatory & Facilities Total			65,074	206,126
Reliability		Component Replacements	58,425	492,731	
Reliability Total			58,425	492,731	
<b>Non-Nuclear Generation &amp; Environmental Total</b>			<b>144,042</b>	<b>811,904</b>	
Nuclear Generation	Modernization	Component/Material Upgrades	15,608	111,271	
		Physical Security Upgrades	760	3,457	
	Modernization Total			16,368	114,728
Regulatory & Facilities		Facility Upgrades	11,081	20,070	

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Ongoing Operations

\$ - Thousands

Category 1	Category 2	Category 3	2020	5-Year
Nuclear Generation	Regulatory & Facilities	Regulatory Required	10,022	29,930
	Regulatory & Facilities Total		21,103	50,000
	Reliability	Component Replacements	32,137	229,305
	Reliability Total		32,137	229,305
<b>Nuclear Generation Total</b>			<b>69,608</b>	<b>394,033</b>
Hydro Generation	Modernization	Component/Material Upgrades Controls/Communication Upgrades	17,336 1,904	37,372 19,698
	Modernization Total		19,240	57,070
	Regulatory & Facilities	Facility Upgrades Regulatory Required	1,493 3,399	10,130 7,251
	Regulatory & Facilities Total		4,892	17,381
	Reliability	Component Replacements	1,467	55,313
	Reliability Total		1,467	55,313
<b>Hydro Generation Total</b>			<b>25,599</b>	<b>129,764</b>
Renewable & Gas Turbine Generation	Modernization	Component/Material Upgrades Controls/Communication Upgrades	1,299 5,658	19,099 22,379
	Modernization Total		6,957	41,478
	Regulatory & Facilities	Facility Upgrades Regulatory Required	558 1,265	2,090 1,347
	Regulatory & Facilities Total		1,823	3,437
	Reliability	Component Replacements	6,144	26,680
	Reliability Total		6,144	26,680
<b>Renewable &amp; Gas Turbine Generation Total</b>			<b>14,924</b>	<b>71,595</b>
Secure & Reliable Transmission	Modernization	Physical Security Upgrades		5,216
	Modernization Total			5,216
	Reliability	Condition Based Replacements	57,420	462,157
	Reliability Total		57,420	462,157
	Vehicles, Tools & Other	Vehicles, Tools & Other	3,930	20,947
	Vehicles, Tools & Other Total		3,930	20,947
<b>Secure &amp; Reliable Transmission Total</b>			<b>61,350</b>	<b>488,320</b>
Cyber & Technology Upgrades	Business & Corp Services	Department System Upgrades Enterprise System Upgrades	3,357 11,470	4,577 75,533
	Business & Corp Services Total		14,827	80,110
	Customer Support	Customer System Enhancements Work & Asset Mgmt System Upgrades	13,548 201	126,185 32,601
	Customer Support Total		13,749	158,786

## Ameren Missouri 1 & 5-Year Total Electric Customer-Focused Capital Investment Plan - Ongoing Operations

\$ - Thousands

Category 1	Category 2	Category 3	2020	5-Year	
Cyber & Technology Upgrades	Cyber Security	Cyber Security Upgrades/New Technologies	11,534	39,429	
	Cyber Security Total		11,534	39,429	
	Foundational Enablers	Analytics & Process Automation		5,481	21,624
		New Data Centers & Facility Technologies		3,999	47,232
		New User Technologies		3,237	6,729
	Foundational Enablers Total		12,717	75,585	
	Run The Business	Network & Server Upgrades		9,153	53,311
User Technology Upgrades		5,369	17,268		
Run The Business Total		14,522	70,579		
<b>Cyber &amp; Technology Upgrades Total</b>			<b>67,349</b>	<b>424,489</b>	
Operational & Customer Support Facilities	Facilities	Facilities	81,705	360,563	
	Facilities Total		81,705	360,563	
<b>Operational &amp; Customer Support Facilities Total</b>			<b>81,705</b>	<b>360,563</b>	
Innovative Opportunities	Other	Other	2,288	9,438	
	Other Total		2,288	9,438	
<b>Innovative Opportunities Total</b>			<b>2,288</b>	<b>9,438</b>	
<b>Ongoing Operations Total</b>			<b>645,338</b>	<b>3,592,422</b>	
<b>Grand Total - Grid Modernization Projects + Ongoing Operations</b>			<b>1,112,569</b>	<b>6,425,112</b>	

Wind Asset Acquisition (Two Sites)	1,203,000	1,203,000
<b>Grand Total, Including Wind</b>	<b>2,315,569</b>	<b>7,628,112</b>

## Ameren Missouri Electric Customer-Focused Capital Investment Plan - First Adds

Category 1	Category 2	Category 3	Project
Smart, Reliable Grid Operations	Grid Resiliency/Operating Flexibility	Substation Capacity Increases	JOPV0 - [REDACTED] New Cust Sub-C JOPXQ - [REDACTED] New Cust Sub-UG C
	Standardize 12kV	Standardize 12kV	JOJF6 - [REDACTED] Sub Second Unit-UG-C JOKQD - [REDACTED] New 34-12 kV Sub-C JOJ5P - [REDACTED] New 34-12 kV Sub-UG-C JOP0J - [REDACTED] 197-57 [REDACTED]
	Substations - Condition Based Modernization	Sub/Switchgear Upgrades	JOJJ5 - [REDACTED] - Upgr Xfmr #1 JO1WC - [REDACTED] Sub-C
	Non-Nuclear Generation & Environmental	Grid Performance	Exciter Upgrades
Secure & Reliable Transmission	Smart Grid	Intelligrid	JONML - INTG AM [REDACTED] Delta1 JONMP - INTG Access Med [REDACTED] 1 JOPKW - INTG Access High Trans MO JOQ51 - INTG Access Med Trans MO Lines JOQ4V - INTG Access Med Trans MO JOQ4X - INTG Access High Trans MO Lines
Cyber & Technology Upgrades	Run The Business	Network & Server Upgrades	JOL99 - Comm Tower UPGR - UEC 2020 JONXQ - Cellular 3G Modem UPGR UEC

**NOTE:** "First Add" projects are ready to execute when unforeseen circumstances require in-budget project deferrals or cuts, or when actual costs are less than forecasted costs on executed projects. This allows budget and grid modernization investment targets to be achieved.

**Missouri Smart Energy Plan**  
**Project Name Acronym Guide**

ADMS - Ameren Data Mgmt System	MKRDY - Make Ready
ARV - Archview Division	MMV - Mobile Map Viewer
BPD - Business Process Development	MSRP - Metro South Reliability Project
BRK / BRKR - Breaker	MVD - Meramec Valley Division
C-UPGR - Cable Upgrade	NMD - Northeast MO Division
CAB - Cable	NTWK - Network
CBM - Condition-Based Modernization	OCB - Oil-filled Circuit Breaker
CMD - Central MO Division	OH - Overhead
COLM - Continuous Online Monitoring	OPGW - Optical Ground Wire
COMM - Communication	OT - Operational Technology
CON / COND - Conduit	OTU - Overhead To Underground
CTG - Combustion Turbine Generator	PCB - Power Circuit Breaker
CTG VEN - Venice CTGs	PMU - Phasor Measurement Unit
CTL - Control	POS - Position
DA - Distribution Automation	PTO - Pressure, Temp, Oil Level Monitoring
DCD - Distribution Control Dept	PQ - Power Quality
DER - Distributed Energy Resources	RECON - Reconductor
DFE - Digital Field Experience	RELB - Reliability Upgrade
EQPTINST - Equipment Installation	REPL - Replace or Replacement
EQPT - Equipment	RI - Rush Island Energy Center
EXT - Extension	SITE-C - Site Companion Project *
FCI - Fault Circuit Indicator	SMO - Southeast MO Division
GIS - Geographic Information System	SMP - Smart Meter Program
GOB - General Office Building	SSC - Substation Spill Control
GSU - Generator Step Up	SSM - Sisters of St. Marys Hospitals
GWY - Gateway Division	SUB-C - Substation Companion Project *
HISD - High Side	SWGR - Switchgear
HMI - Human Machine Interface	SWO - Standing Work Order
IC - Interconnection Customer	SWYD - Switchyard
IF - Interconnection Facility	SX - Sioux Energy Center
IGC - Increased Ground Clearance	T&DD - Transmission & Distribution Design
INF - Infrastructure	TAC - Technical Application Center
INTG - Intelligrid	TDL - Terre Du Lac
IOC - Integrated Operations Center	TS - Taum Sauk Center
KEO - Keokuk Energy Center	UEC - Union Electric Company
LBD - Labadie Energy Center	UG / UND - Underground
LINE-C - Line Companion Project *	UG-C - Underground Companion Project *
MDI - Missouri Distribution	UPGR - Upgrade
MED - Medium	VAR - Volt Amp Reactive
MER - Meramec Energy Center	VLT - Vault
MH - Manhole	XF / XFMR - Transformer

\*Companions are individual projects that make an over-arching project; by linking projects this way, administrative and executional efficiencies may be achieved.

Other acronyms and abbreviations not defined in this list are either geographical in nature, are common acronyms (e.g., "MO" - Missouri), are used industry-wide (e.g., "NERC" = North American Electric Reliability Corporation), or are easily recognized.