# EXHIBIT D

# GARKANE ENERGY COOPERATIVE PRELIMINARY 2023 SYSTEM STUDY & WORKPLAN

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# **EXECUTIVE SUMMARY**

### Purpose, Results, and General Basis of Study

The 2023 Work Plan uses present loads and projections for expected loads in the future years of 2026, 2028, 2030, and 2033 on an individual feeder basis. Historical Non-Coincidental data was utilized from 1995 thru 2022 to develop a 'least squares best fit' projections. Where there were inconsistencies in the trend period data, the projections are based on the past three years of history.

Using the analysis data described, the nameplate capacities of the various parts of Garkane's system were compared to the forecast loads. In addition, voltage measurements and projections were also checked at the equipment locations. When these checks showed that the existing facilities did not meet Garkane's established standards, projects were identified to resolve any voltage and capacity-related issues specified. Project estimates were then calculated using pricing information from Garkane's material suppliers and our current labor rates.

A summary of the identified projects is included in the report. In addition, estimated costs for the individual projects are included in the project summary table, along with an estimated time frame for when the project would need to be in service based on the severity of the issue.

There are also a limited number of projects that are not capacity related. These fall into three general categories. The first is related to the reliable and safe operations of the system. The second category is those projects mandated by law or contractual agreement. The third is equipment critical to the safe and reliable operation made obsolete by its manufacturer discontinuing its support/manufacturer coupled with an inability to procure replacement parts. The reason for these projects is noted in the project description.

### Service Area

Garkane Energy Cooperative, Inc. serves all or parts of six counties in South-Central Utah and two counties in North-Central Arizona, a rural area with considerable tourism. The Cooperative serves four national parks, two national monuments, a national recreation area, three national forests, and significant BLM lands. Several state parks are also served. Private lands encompass only about 10% of the Garkane's service territory of 16,000 square miles. The cooperative serves approximately 15,000 meters over 2,628 miles of distribution and transmission lines. Exhibit 1 shoes Garkane's Service territory and its primary system components.

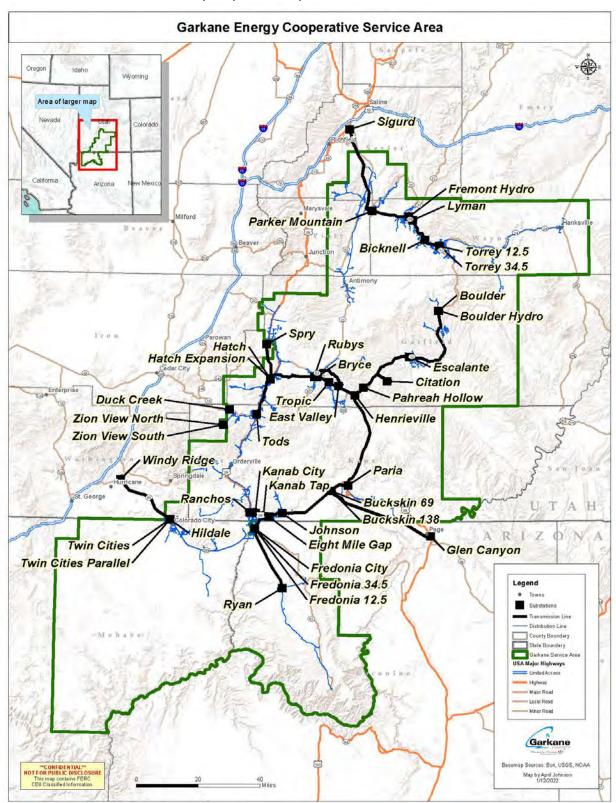


Exhibit 1, Garkane Service Territory & System Components

### Load Forecast Summary

Garkane operates and maintains 33 substations and switch yards for the transmission and distribution of electrical power across its service territory. Metering and control equipment in these facilities are used to collect load data and monitor system health in relation to Garkane's standards. The data is collected monthly and stored on computer servers. This historical data is then used to track load and voltage trends for each substation and feeder facility, making up each of Garkane's transmission and distribution systems. Exhibits 2-4 show the current load forecasts for each substation and associated feeders.

Exhibit 2, Garkane Northern Interconnect System Load Forecast

		PEAK		1		-	
	CURRENT	AVERAGED	MAX PAST 5	ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATE
	YEAR PEAK KW	OVER 3 YEARS	YEAR PEAK KW	PEAK LOAD IN 3 YEARS	PEAK LOAD IN 5 YEARS	PEAK LOAD IN 7 YEARS	PEAK LOAI IN 10 YEAR
TOTAL SYSTEM	66,051	63,379	66,051	68,715	71,374	74,032	78,02
NORTHERN SYSTEM INTERCONNECT							
(RMP)	- 1						
TOTAL NORTHERN SYSTEM	9,969	9,942	11,394	10,426	10,762	11,108	11,64
Sigurd Substation							
SIGURD (PAC) 46/60 Transformer	9,969	9,942	11,394	10,426	10,762	11,108	11,6
SIGURD (GKE) 46/69 Transformer	9,969	9,942	11,394	10,426	10,762	11,108	11,64
Sigurd to Parker Transmission Feeder, 69 kV	9,969	9,942	11,394	10,426	10,762	11,108	11,64
Parker Substation							
PARKER 69/12.5 kV Transformer	2,067	1,951	2,067	2,207	2,261	2,315	2,3
Parker to Fremont 69 Transmission Feeder	7,902	7,992	9,327	8,219	8,501	8,793	9,2
Grass Valley Feeder #34-1	1,838	1,820	1,838	2,029	2,098	2,168	2,2
Fish Lake Feeder #34-2	533	499	564	535	541	547	5
Fremont Substation							
FREMONT 2.4/69 STEP-UP TRANSFORMER	1,900	1,900	1,900	1,900	1,900	1,900	1,9
Fremont to Lyman 69 Transmission Feeder	7,892	7,982	9,317	8,209	8,491	8,783	9,2
Fremont Generator Feeder	10	10	10	10	10	10	
Lyman Substation							
LYMAN 69/12.5kV TRANSFORMER	2,809	2,797	2,809	3,158	3,246	3,333	3,4
Lyman to Bicknell 69kV Transmission Feeder	5,069	5,173	6,494	5,141	5,335	5,540	5,8
Loa Feeder #36-1	2,296	2,303	2,296	2,570	2,656	2,743	2,8
Lyman Town #36-2	527	506	527	499	499	499	4
Bicknell Substation							
BICKNELL 69/12.5kV Transformer	1,875	2,079	1,875	2,680	2,672	2,664	2,6
Bicknell to Torrey 69kV Transmission Feeder	3,115	3,079	4,540	2,543	2,707	2,882	3,1
Bicknell Town #38-1	1,061	1,015	1,061	1,035	1,044	1,053	1,0
Teasdale #38-2	892	1,078	892	1,563	1,584	1,606	1,6
Torrey Substation							
ORREY Transformer 69/34.5kV	1,184	1,504	1,999	2,100	2,219	2,337	2,5
ORREY Transformer 69/12.5kV	1,207	1,554	2,083	1,869	1,940	2,010	2,1
Torrey to Hanksville 34.5kV Transmission Feeder	1,909	1,524	2,457	2,100	2,219	2,337	2,5
Torrey Town Feeder #39-1	1,010	1,216	1,570	1,500	1,562	1,625	1,7
Grover Feeder 39-2	197	338	514	487	511	535	5
Hanksville Substation							
HANKSVILLE Transformer 34.5/12.5 kV	1,045	908	1,045	934	971	1,009	1,0
Hanksville Feeder #40-1	1,045	908	1,045	934	971	1,009	1,0

# Exhibit 3, Garkane Glen Canyon Interconnect System Load Forecast

	_		_				
	CURRENT	PEAK AVERAGED	MAX PAST 5	ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED
	YEAR PEAK KW	OVER 3 YEARS	YEAR PEAK KW	PEAK LOAD IN 3 YEARS	PEAK LOAD IN 5 YEARS	PEAK LOAD IN 7 YEARS	PEAK LOAD IN 10 YEARS
Second Street							
TOTAL SYSTEM SOUTHERN SYSTEM EASTERN	66,051	63,379	66,051	68,715	71,374	74,032	78,020
INTERCONNECT (WAPA)							
TOTAL SOUTHERN SYSTEM	56,500	52,675	56,500	53,460	55,431	57,402	60,358
Glen Canyon to Buckskin T.L. & Interconnect	45,148	43,947	45,148	48,975	50,995	53,016	56,046
Buckskin Substation, #2 Buckskin to Henrieville Transmission Feeder, 138kV	17.807	17,537	18,965	19,662	20.384	21,106	22,189
Buckskin 138/69 kV Transformer	27,663	26.828	27.663	28,468	29,382	30.296	31.668
Fredonia Feeder (Planned Alteration to EMG Feeder 138kV	25,467	24,519	25,467	25,737	26,455	27,173	28,251
Paria Feeder #2-4	2,433	2,413	2,509	2,358	2,399	2,439	2,500
Paria Substation	2,410	2,355	2,465	2,219	2,239	2,259	2 200
Paria 69/25 kV Transformer Big Water Feeder	2,410	2,355	2,405	2,219	2,239	2,259	2,288
Johnson Substation (Retirement Planned						_1	
JOHNSON 69/12.5 kV Transformer	452	753	998	556	573	591	617
Johnson Canyon (Retired From Normal Operation)	-	134	622	- 426	-	-	-
Canyon Country Feeder Seeps Ranch Feeder (Single Phase)	363	393 129	476	426	436 137	447	462
EMG Substation							
E.M.G. 69/12.5 kV Transformer	1,297	1,232	1,297	1,952	2,087	2,237	2,493
EMG Substation to Kanab Tranmission Feeder (Planned)	17,281	16,353	17,827	15,203	15,861	16,575	17,762
EMG Substation to Fredonia Tranmission Feeder (Planned) Johnson Canyon	3,393 726	3,382	3,399 726	4,064 726	4,054	4,047 726	4,044
Vermillion East	746	1,048	1,253	1,226	1,361	1,511	1,767
EMG Generator	10	5	10	a final second sec	N/A	N/A	N/A
PLX (Metering System Retirement, Alteration?)	1,791	895	1,791	N/A	N/A	N/A	N/A
KANAB CITY SW (Retirement Planned 2023)	12,777	12,173	12,777	12,768	13,181	13,607	14,273
KANAB CITY 69/12.5 TRANSFORMER	8,702	8,479	8,702	6,070	6,255	6,445	6,741
Kanab City to KCR Transmission Feeder	6,830	5,889	6,830	6,625	6,946	7,303	7,911
Kanab North	5,363	5,363	8,514	5,610	5,780	5,956	6,230
Kanab South	440	440	440	460	474	489	511
Fredonia Substation FREDONIA 69 BUS	3,393	3,382	3,399	4,064	4,054	4,047	4,044
Fredonia City 69 Transmission Feeder	2,946	2,985	2,946	3,051	3,096	3,142	3,212
Fredonia to Ryan Transmission Feeder	828	1,103	1,338	1,013	957	905	831
FREDONIA 69/34.5 kV Transformer	7,070	6,895	7,187	6,871	7,266	7,701	8,429
Fredonia to Colorado City Feeder Fredonia to Orderville Feeder	455 6,691	438 5,914	500 6,691	337 6,534	283 6,983	238	183
FREDONIA 34.5/12.5 kV Transformer	302	323	331	446	506	585	754
I.R.C. Generation (Retired/Inactive)	-	-	2,781	-		-	-
I.R.C. Feeder	249	277	296	283	287	292	298
Kaibab Feeder	100	105	116	163	218	293	455
Kanab City Ranchos (KCR) Substation KCR 69/12.5 kV Transformer	6,830	5,889	6,830	6,625	6,946	7,303	7,911
KCR Feeder	3,553	3,390	4,155	3,366	3,350	3,335	3,312
KCR West Kanab Feeder	3,295				3,596	3,968	4,599
Ryan Substation							
RYAN 69/25 kV Transformer	855		1,351	1,118	1,089	1,061	1,024
Jacob Lake Feeder Big Springs Feeder	242 709	218 949	248	232 887	241 848	251 810	267
Orderville Substation	. 30	0.0	1,100	001	0.0	0.0	.01
ORDERVILLE 34.5/12.5 Transformer	1,379	1,197	1,502	1,295	1,365	1,438	1,556
Orderville to Tod's 34.5 Feeder							
Orderville Feeder	1,379	1,197	1,502	1,295	1,365	1,438	1,556
Boulder Substation BOULDER 2.4/12.5 kV Transformer	4,736	4,532	5,083	4,318	4,181	4.049	3,858
BOULDER 2.4/12.5 kV Transformer BOULDER 2.4/69 kV Transformer	4,730	3,968	4,737	4,005	4,181	4,049	4,094
Boulder to Escalante Transmission Feeder	3,294	2,697	3,279	2,650	2,615	2,579	2,519
Boulder Town Feeder	1,078	1,272	1,458	1,356	1,415	1,477	1,575
Boulder East Fork Feeder	41	41	82	57	72	89	125
Escalante Substation ESCALANTE 69/12.5 kV Transformer	2,489	2,752	3,380	2,902	2,941	2,982	3,046
Citation to Escalante Transmission Feeder	2,469	2,752	3,433	2,902	2,941	2,982	3,046
Escalante Town Feeder	1,404	1,493	1,834	1,502	1,508	1,514	1,523
E Scalance Town Teoder							
North West (Vidrine)	745 608	758 593	989 611	767 633	773 661	778 689	787

PAHREAH HOLLOW 69/12.5 Transformer	14	14	14	14	14	14	1
Pahreah Hollow Feeder	14	14	14	14	14	14	1
Citation Oil Substation							
Citation Tap to Citation Transmission	2,567	2,554	2,741	2,500	2,465	2,430	2,37
CITATION 69/12.5 kV Transformer	2,567	2,554	2,741	2,500	2,465	2,430	2,37
Henrieville Tranmission Substation							
HENRIEVILLE 138/69 kV Transformer	17,807	17,537	18,965	19,662	20,384	21,106	22,18
Henrieville to Citation Tap Transmission Feeder	4,513	4,513	4,859	4,159	4,153	4,148	4,13
Henrieville to East Valley Switch Transmission Feeder	14,101	14,511	14,570	17,028	17,823	18,618	19,81
East Valley Switch Yard							
East Valley Switch to Rubys Switch Transmission	8,881	9,118	8,881	11,557	12,351	13,144	14,33
Rubys Switch Yard							
Rubys Switch Yard to Hatch Switch Yard Transmission	8,881	9,118	8,881	11,557	12,351	13,144	14,33
Tropic Substation							
TROPIC 69/12.5 Transformer	2,389	2,451	3,494	2,433	2.422	2,410	2,39
Tropic to Bryce Transmission Feeder	2,830	2,941	3.607	3,037	3.050	3.064	3,08
3 Communities Feeder	2,389	2.451	3,494	2,433	2.422	2,410	2,39
Bryce Substation	2,000	2, 101	0,101	2,100	2,722	2,710	2,00
BRYCE 69/12.5 Transformer	2,830	2,941	3,607	3,037	3,050	3,064	3,08
Bryce to Rubys Transmission Feeder	2,000	2,541	3,007	3,037	3,030	3,004	5,00
Bryce to Rubys Transmission Feeder Bryce Canyon	797	737	866	722	712	702	68
Ruby's Inn	1.774	1.680	2,187	1,731	1,766	1,802	1.85
Pink Cliffs	570	603	698	584	572	561	1,0
Hatch Switch Yard	5/0	005	050	504	512	501	
	7 460	7.264	0.202	0.500	10,330	11 101	10.43
Hatch Switch Yard Total (Incoming)	7,158	7,361	9,203 8,549	9,599 8,814	9,539	11,121	12,43
Hatch Switch Yard to Todds Transmission Feeder	731	7,029	756	784	9,539	798	80
Hatch Switch Yard to Spry Transmission Feeder	731	774	750	704	791	790	0
HATCH 69/34.5 Transformer	1.677	2.031	1.677	1.552	1.561	1.570	1.58
	532	481	548	513	535	558	1,56
Red Canyon	1,160	1,061	1,160	1,040	1.026	1,012	99
Hatch South	609	617	706	627	634	641	65
HATCH 34.5/12.5 Transformer	609	617	706	627	634	641	65
Hatch Town Feeder	009	017	700	027	034	041	0.
Tod's Substation	E 200 1	6 004	7 000	7.670	0.444	0.207.1	40.00
TOD'S 69/34.5 kV Transformer	5,298	6,201 1,681	7,289 2,531	7,670	8,441 1,742	9,307 1,766	10,80
Strawberry	3,738		6,195		6,700	7,540	9.00
Duck Creek	3,730	4,986	0,195	5,953	0,700	7,540	9,00
Long Valley Alton	441	482	1,191				-
TODD'S 34.5/12.5 kV Transformer	892	885	1,191	886	887	887	88
Elk Ridge	892	885	1,024	886	887	887	88
Swapp	092	000	1,024	000	007	00/	00
Zion View Substation		_	-				_
	011	04	04.1	100	474	024	-
ZION VIEW ESTATES (2@2.5) 34.5/12.5 kV Transformer	91 55	91	91 55	129 95	171	231 198	37
East Meter	36	55 35	36	34	34	34	34
West Meter	30	30	30	34	34	34	
Duck Creek Substation	2 700 1	E 404	6 400	0 400 1	7 400 1	7 070 1	0.40
DUCK CREEK 34.5/12.5 kV Transformer	3,768	5,131	6,138	6,468	7,132	7,870	9,13
Duck Creek Village	2,030	2,885	3,548	3,459	3,904	4,406	5,28
Color Country	1,882	2,708	3,223	3,009	3,228	3,463	3,84
Spry Substation							
SPRY 69/12.5 kV Transformer	722	731	755	819	884	953	1,06
Spry Feeder	722	731	755	819	884	953	1,06

Exhibit 4 continued, Twin Cities Interconnect and System Interconnect Load Forecast

	CURRENT YEAR PEAK KW	PEAK AVERAGE D OVER 3 YEARS	MAX PAST 5 YEAR PEAK KW	ESTIMATE D PEAK LOAD IN 3 YEARS	ESTIMATE D PEAK LOAD IN 5 YEARS	ESTIMATE D PEAK LOAD IN 7 YEARS	ESTIMATED PEAK LOAD IN 10 YEARS
TOTAL SYSTEM	66,051	63,379	66,051	68,715	71,374	74,032	78,020
SOUTHERN SYSTEM WESTERN INTERCONNECT (RMP)							
Twin Cities/Hildale Substation							
TWIN CITIES HILDALE 69/34.5 kV Transformer	3,858	3,854	4,674	4,548	4,854	5,160	5,618
Colorado City Substation	_						
COLORADO CITY SUB #10	2,789	1,889	2,789	Data	Data	Data	Data
Colorado City Feeder	355	291	355	Insufficent Data	Insufficent Data	Insufficent Data	Insufficent Data
Centennial Park #10-2	2,500	2,544	2,500	2,677	2,769	2,865	3,015
Cane Beds Step Transformer	-	0.000			-		
Cane Beds Step 34.5/12.5 kV Transformer	1,069	1,966	1,885	1 · · · · · · · · · · · · · · · · · · ·			
Cane Beds Feeder	1,069	1,966	1,885		-	I	
Twin Cities Substation			-		- Towners		
TWIN CITIES INTERCONNECTION TOTAL	10,574	10,443	10,617	10,391	10,560	10,729	10,983
Newell Ave Feeder	19	28	31	23	21	18	15
Utah Ave Feeder	3,148	3,093	3,352	2,900	2,778	2,661	2,495
Township Ave Feeder	3,850	3,730	3,926	3,603	3,522	3,442	3,326
Twin Cities 69/12.5 kV VT Transformer (Primary)	7,017	6,851	7,298	6,527	6,320	6,121	5,835
Twin Cities 69/12.5 kV US Transformer (Backup)	7,017	6,851	7,298	6,527	6,320	6,121	5,835
Interconnection Deliveries Substation	-				-		
TWIN CITES RMP DEVLIVERY	10,035	10,263	10,617	10,391	10,560	10,729	10,983
SIGURD 69 UPL Source	9,772	9,979	11,336	11,599	12,045	12,491	13,160
GLEN CANYON 138 WAPA Source	46,368	45,261	55,265	47,561	49,159	50,811	53,393
FREDONIA CITY 69 Delivery	2,808	2,839	2,969	2,831	2,825	2,820	2,81

### **Power Supply Projects**

Garkane Energy Cooperative is a member-owner of Deseret Power. Deseret Power is a regional generation and transmission cooperative meeting the power requirements of its five-member retail systems, selling surplus power to municipalities, power marketers, and other wholesale electric systems in five states. As a cooperative, Deseret is owned by its five-member systems: Bridger Valley Electric, Dixie Power, Garkane Energy, Moon Lake Electric, and Mt. Wheeler Power. Deseret's cooperative organization, combined with its vertical integration, positions Deseret to provide member/owners, partners, and customers of all sizes with competitive and stable power rates. Deseret owns 223 miles of transmission lines and 565 MW of existing generation and is currently constructing/planning 65 MW of additional generation resources.

Garkane takes service from Deseret at three interconnection points, Sigurd, Utah; Glen Canyon Dam, Arizona; and Hildale, Utah. Based on an analysis of existing interconnection contracts and equipment, these interconnections have sufficient capacity to serve the forecasted loads through the 2033 study period.

## Transmission System Projects

Garkane owns, operates, and maintains roughly 420 miles, 69, and 138 kV transmission lines. The majority of these lines are 30 to 50 years old, and some of the components making up these structures have deteriorated to the point that requires that they be replaced. Therefore, Garkane has an annual program of inspecting all our transmission lines. Garkane's crews identify and replace failing

components based on the observations made during these inspections. Garkane budgets \$100,000.00 annually to purchase replacement materials and cover the labor cost to install them.

Transmission studies completed as part of previous work plans indicate the need to upgrade the Buckskin to Fredonia 69 kV transmission line to 138 kV before the loads on the line reach 30 MW. The 2022 peak load on the line through October was 25.5 MW. Significant construction is occurring in the area, and loads are expected to reach the 30 MW milestone soon. Spring of 2022, the 138 kV Buckskin to Seamans Wash line section was completed. As part of the permitting requirements for rebuilding at 138 kV, Garkane committed to retiring the 69 kV line. This section of the line is phase one of the multiphase project. Three additional phases of the project remain. Completing the remaining phases of this project represents a significant portion of this work plan budget, comprising roughly 5 million dollars of the CWP budget.

Loads served by the Valley Feeder of the Fredonia Substation continue to increase year over year. Garkane is aware of significant construction plans by others to build new facilities that will accelerate the load growth rate on this feeder. As a result, it is anticipated that voltage regulation on the feeder will become an issue with the addition of roughly 2.5 more MVA for a total load of 9.5 MVA. Therefore, voltage conditions during peak loads should be closely monitored for compliance with Garkane standards. As loads continue to grow, if voltage conditions are observed to approach the ANSI C84.1 limits, work on this project should begin in earnest. Completion of this project comprises roughly 4.5 million dollars of the CWP budget.

### Substation System Projects

Garkane owns, operates, and maintains 33 substations and switch yards for the transmission and distribution of electrical power across our service territory. Equipment in these substations monitors the flow of energy across the system and de-energizes any portions of the system when a fault occurs. Substation control and relaying equipment is also used to collect operational data and monitor system health. In most cases, this equipment is operable from Garkane's SCADA system.

Garkane is in the process of a phased project to replace 40–50-year-old substation Oil Circuit Breakers (OCBs). This equipment has served Garkane well but, in general, has reached the end of its useful life. Associated with these OCBs are various Programmable Logic Controllers (PLCs), relays, and metering equipment that are no longer supported by the manufacturer and whose software can't be accessed using current computer operating system software and is vulnerable to cyber security attacks. Due to these issues, Garkane currently has no real-time load data monitoring or SCADA control to significant portions of our transmission system equipment. Garkane has completed the replacement work in our twenty-five distribution and one transmission substations, leaving four transmission substations and switch yards remaining for this project to be completed. The facilities remaining include the Sigurd, Buckskin, and Henrieville substations and the East Valley switchyard. These remaining projects make up 1.25 million dollars of the CWP budget.

The existing Tropic substation transformer has had consecutive Dissolved Gas Analysis (DGA) test results indicating the transformer core insulation is deteriorating and is experiencing some internal faulting. This condition is expected to lead to the eventual failure of the unit. The current substation bus support

structure consists of aged wood-framed components. The current location of the substation prohibits sectionalizing the loads to more than one feeder, which inhibits the reliable and efficient operation of the distribution system in the area and leads to poorer reliability indices than could otherwise be achieved. It is recommended that Garkane build a replacement substation with 138kV clearances adjacent to the East Valley Transmission Switch. Garkane previously purchased the property with this intention. The facility will initially be operated for 69 to 12.5 kV transformation. Associated with this project is the construction of 4 miles of double-circuit 12.5 kV distribution line, detailed in this report's Distribution section. This project makes up 1.58 million dollars of the CWP budget.

As part of a deal with a property owner for a long section of 138 kV transmission right-of-way and acreage for a switch yard, Garkane agreed to the retirement of the Bryce Substation when annual peak loads reached 80 percent of nameplate capacity or earlier. Garkane is aware of construction plans by others to build new facilities that will increase loads to the agreed threshold. Therefore, provided the agreed loading threshold is met, Garkane will build a replacement substation with 138 kV clearances in Ruby's switch yard. The facility will initially be operated for 69 to 12.5 kV transformation. This project makes up 1.58 million dollars of the CWP budget.

Based on this report's load forecast analysis, two existing substation transformers could become overloaded during the 2033 study period. The transformers are Tod's Substation 69/34.5 kV and Duck Creek Substation 34.5/12.5kV units. Provided the forecasted loads materialize, these transformers will be replaced with higher-capacity units. These projects make up 1.0 million dollars of the CWP budget.

The final three CWP substation projects fall into the potential project category. If required, their construction will occur near the end of the planning 2033 study period. Load growth forecasts using current trends indicate that the existing facilities will be sufficient through 2033. However, in these instances, Garkane is aware of specific potential construction projects in various planning and permitting stages that would increase loads significantly. Therefore, if these member projects are built within the planning horizon, their construction will likely necessitate these system improvements.

The first of these potential projects is the Eight Mile Gap (EMG) substation 138 kV conversion. Transmission Studies indicate the Buckskin to Kanab transmission line needs to be constructed by the time loading on the Buckskin to Fredonia line reaches 30 MW. This project is currently under construction. Completing the line will mitigate volt regulation issues for a time. However, it is estimated that at roughly 40 MW of load, voltage regulation will again become an issue and require that the line be operated at 138 kV. The project will consist of constructing a new substation bay and foundation with 138 kV clearances adjacent to the existing EMG Substation. This project makes up 2.5 million dollars of the CWP budget.

The second of these potential projects is the Valley/Mt Carmel Substation. Loads served by the Valley Feeder of the Fredonia Substation continue to increase year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate. It is anticipated that voltage regulation on the feeder will become an issue with the addition of roughly 2.5 more MVA for a total load of 9.5 MVA. Therefore, voltage conditions during peak loads should be closely monitored for compliance with Garkane standards. If loads increase to where ANSI C84.1 voltage standards can't be maintained, it is recommended that Garkane construct a new substation in the Mt Carmel area. Build

the new substation with 138 kV clearances. The facility will initially be operated for a 69 to 34.5 kV transformation. Associated with this project is the construction of 18 miles of 69 kV transmission line, detailed in this report's Transmission section. This project makes up 2.5 million dollars of the CWP budget.

The third potential project is the construction of the Cedar Ridge Substation. Loads served by the Big Water Feeder of the Paria Substation continue to increase year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate. It is anticipated that voltage regulation on the feeder will become an issue with the addition of roughly 1.5 more MVA for a total load of 4 MVA. If loads increase to where ANSI C84.1 voltage standards can't be maintained, it is recommended that Garkane construct a new substation on property owned by Garkane in the Cedar Ridge area south of Big Water. Build the new substation with 138 kV clearances. Associated with this project is the construction of 7 miles of 25 kV distribution line, detailed in the Distribution section of this report. The facility will initially be operated for a 69 to 34.5 kV transformation. This project makes up 1.5 million dollars of the CWP budget.

### **Distribution System Projects**

Garkane owns, operates, and maintains roughly 2220 miles of distribution lines. Garkane operates its distribution systems at three different voltages 12.5/7.2 kV, 25/14.4 kV, and 34.5/19.9 kV. The 12.5/7.2 kV systems are operated as a proper distribution system. The 25/14.4 kV and 34.5/19.9 kV lines are used in a hybrid sub-transmission fashion. They are utilized on long rural feeders where higher voltages are required to keep losses and voltages within acceptable limits. Many of Garkane's facilities are 30 to 50 years old, and the components making up these lines deteriorate over time. Garkane has an established inspection program to identify facilities needing replacement. Based on the observations made during these inspections, Garkane replaces failing components. Garkane budgets \$200,000.00 annually to purchase replacement materials.

Garkane regularly constructs primary line extensions as part of member service projects. In accordance with Garkane's line extension policy, the project owner pays for these projects in full. For this reason, these types of projects are not considered part of this study.

The existing Tropic substation transformer has had consecutive Dissolved Gas Analysis (DGA) test results indicating the transformer core insulation is deteriorating and is experiencing some internal faulting. This condition is expected to lead to the eventual failure of the unit. The current location of the substation prohibits sectionalizing the loads to more than one feeder, which inhibits the reliable and efficient operation of the distribution system in the area and leads to poorer reliability indices than could otherwise be achieved. It is recommended that Garkane build a replacement substation adjacent to the East Valley Transmission Switch. Garkane previously purchased the property with this intention. Associated with this project is the construction of 4 miles of double circuit 12.5 kV distribution line. This project makes up 0.74 million dollars of the CWP budget.

The potential project is the construction of the Cedar Ridge distribution line. Loads served by the Big Water Feeder of the Paria Substation continue to increase year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate. It is anticipated that voltage regulation on the feeder will become an issue with the addition of roughly 1.5 more MVA for a total load of 4 MVA. If loads increase to where ANSI C84.1 voltage standards can't be maintained, it is recommended that Garkane construct a new substation on property owned by Garkane in the Cedar Ridge area south of Big Water. The construction of 7 miles of 25 kV distribution line is associated with this project. This project makes up 1.435 million dollars of the CWP budget.

### AMI Metering System Projects

Our current AMI system manufacturer notified Garkane Energy that the manufacturing of system components will stop in June of 2023. The manufacturer will also stop supporting and hosting all system software and data in January 2029. Garkane is contracting with a third-party consultant to identify the optimal replacement system and a replacement project roadmap. Budgetary quotes from AMI system manufacturers indicate a replacement cost of 3.5 to 5.5 million dollars.

### SCADA System Projects

Garkane is in the process of a phased project to replace 40-50-year-old substation Oil Circuit Breakers (OCBs). This equipment has served Garkane well but generally has reached the end of its useful life, and replacement parts are no longer being manufactured. Associated with these OCBs are various Programmable Logic Controllers (PLCs), relays, and metering equipment that are no longer supported by the manufacturer and whose software can't be accessed using current computer operating system software. Nor are these devices hardened for cyber security.

Due to these issues, Garkane has no real-time load data monitoring or SCADA control of our station equipment at the Sigurd, Buckskin, Henrieville, Boulder Hydro, and East Valley facilities. Garkane has completed the replacement work in twenty-five distribution and one transmission substations, leaving four transmission substations and switch yards remaining for this project to be completed. This project makes up \$465,000 of the CWP budget.

### Summary of Construction Programs and Costs

Transmission Line Projects	Estimated Total Cost (\$)
Transmission Line Maintenance (Spread Over Ten Years)	1,000,000
Buckskin To Kanab & Fredonia, Phase 1,	210,000
Buckskin To Kanab & Fredonia, Phase 2,	1,450,000
Buckskin To Kanab & Fredonia, Phase 3,	1,710,000
Buckskin To Kanab & Fredonia, Phase 4,	1,450,000
Valley/Mt Carmel 34.5 To 69 kV Feeder Upgrade	4,230,000
Subtotal	10,050,000

Table 1. Summary of Transmission and Distribution Line Projects

Table 2. Summary of Transmission and Distribution Line Projects

Distribution Line Projects	Estimated Total Cost (\$)
Distribution Line Maintenance (Spread Over Ten Years)	2,000,000
Bryce Valley Substation Distribution Line	740,000
Cedar Ridge (Big Water) 25 kV Distribution Line	1,435,000
Subtotal	4,175,000

Substation Projects	Estimated Total Cost (\$)
Sigurd Transmission Substation Overhaul	200,000
Buckskin Transmission Substation Overhaul	350,000
Kanab Switch Retirement	75,000
Henrieville Transmission Substation Overhaul	350,000
East Valley Transmission Switch Overhaul	350,000
Johnson Canyon Substation Retirement	75,000
Bryce Valley Substation Construction	1,500,000
Tropic Substation Retirement	75,000
Ruby's Substation Construction	1,500,000
Bryce Substation Retirement	75,000
Duck Creek Substation Transformer Capacity Upgrade	500,000
Tod's Substation Transformer Capacity Upgrade	500,000
Eight Mile Gap Substation 138 kV Conversion	2,500,000
Valley/Mt Carmel Substation Construction	1,500,000
Cedar Ridge (Big Water) Substation Construction	1,500,000
Subtotal	11,050,000

Table 3. Summary of Substation Projects

Table 4. Summary of AMI, SCADA, and Facilities Projects

AMI, SCADA, and Facilities Projects Projects	Estimated Total Cost (\$)
Replacement Ami System	4,500,000
Replacement Scada Hardware & Software, Transmission	465,000
Substations & Boulder Hydro	
Subtotal	4,965,000

Table 5. Summary Construction Work Plan Facilities Cost

Construction Work Plan Projects	Estimated Total Cost (\$)
Power Supply Projects	0
Transmission System Project	10,050,000
Distribution System Projects	4,175,000
Substation System Projects	11,050,000
AMI Metering System	4,500,000
SCADA System Projects	465,000
Total	30,240,000

# BASIS OF STUDY GARKANE POWER ASSOCIATION, TRANSMISSION & DISTRIBUTION SYSTEM DESIGN STANDARDS

The following System Design Standards will be applied to the Garkane Transmission and Distribution System design and operation. The Transmission standards shall apply to facilities energized at 34.5 kV phase to phase and higher. The Distribution standard shall apply to facilities energized at less than 34.5 kV.

- 1. The system shall be designed to achieve a maximum of 200 consumer outage minutes, per consumer, per year, excluding outages caused by a major event or the power supplier for the last five consecutive years. (RUS Bulletin 1724D-101B)
- 2. Maximum design primary voltage levels at the distribution transformer primary terminals, at any loading level or condition, is 126 volts on a 120-volt base with a 1-volt tolerance for voltage regulator bandwidth. (RUS Bulletin 1723D-113 & ANSI C84.1-2016)
- 3. The minimum design primary voltage level at the distribution transformer primary terminals, at peak load conditions with voltage regulators, is 118 volts on a 120-volt base with a 1-volt tolerance for voltage regulator bandwidth. (RUS Bulletin 1723D-113 & ANSI C84.1-2016)
- 4. Distribution systems will be designed and operated to meet the service voltage level requirements of Range A in Table 1 of RUS Bulletin 1723D-113. Service Voltage shall be measured at the meter socket. Maintaining voltage levels within Range A on all line sections of the system cannot be assured. Under peak load conditions (95% to 100% of historic peak), it will be acceptable for some service voltages that fall in Range B of Table 1 of RUS Bulletin 1723D-113 for short durations. (RUS Bulletin 1723D-113 & ANSI C84.1-2016)
- When service voltages consistently extend into Range B during peak loading or for an extended period, they will be corrected promptly to conform to Range A requirements by using interim measures, and a permanent solution will be developed and implemented. (RUS Bulletin 1723D-113 & ANSI C84.1-2016)
- 6. Maximum distribution feeder voltage drop measured at the primary distribution terminals with line voltage regulators will be no more than 16 volts with no more than 8 volts drop between voltage regulators. (Substation Voltage Regulators or those immediately down line of a step transformer are not considered line regulators).
- 7. Voltage Regulator Line Drop Compensation settings shall be calculated to give a 6-volt rise at the projected peak load. Therefore, a voltage level of 124 volts and 2-volt bandwidth should be utilized.
- Under normal operation conditions, overhead ACSR conductor loading will be limited to 100% of the rated current capacity at 150°F (65°C). Using an ambient air temperature of 40°C, emissivity 0.5%, and wind of 1 ft/sec for distribution and transmission facilities.
- Under emergency operation conditions, overhead ACSR conductor loading will be limited to 100% of the rated current capacity at 167°F (75°C). Using an ambient air temperature of 40°C,

emissivity 0.5%, and wind of 1 ft/sec for distribution and transmission facilities.

- 10. Overhead primary lines shall be constructed using #4, #2, 1/0, 4/0, and 477 ACSR conductors wherever possible to minimize inventory of conductors, connectors, and splices.
- 11. New and upgraded transmission lines will include fiber optic cabling to provide a reliable communications path for system metering, data acquisition, and control equipment.
- 12. Table 1 shows the design sag percentages of rated breaking strength that shall be used in the design and construction of overhead lines.

Weather Case	Cable Condition (PLS CADD CONDITION)	Percent Rated Braking Strength
NESC District Loading (250B)	Initial	60
NESC Extreme Wind (250C)	Initial	80
NESC Concurrent Ice and Wind (250D)	Initial	80
NESC Tension Limit (261H1c)	Initial	35
NESC Tension Limit (261H1c)	Creep	25
AEOLIAN VIB Zone 7a Kanab -5d AAMT	Creep	17.5
GKE MAX SAGGING TENSION UNLOADED	Initial	16-20
RUS DISTRICT LOADING MAX TENSION	Initial	50
RUS HEAVY DISTRICT NO ICE OR WIND	Initial	33.3
RUS HEAVY DISTRICT NO ICE OR WIND	Load	25
GKE MAX SAGGING TENSION OPGW UNLOADED	Initial	15

### **Table 6 ACSR DESIGN SAG CRITERIA**

DETAILS OF WEATHER CASES CAN BE FOUND IN PLS CADD.CRI FILE AT: E:\Vault\Garkane COO\WORK PLANS\01 GKE SYSTEM STANDARDS

- 13. Overhead service drop conductor shall be constructed using #2 and 1/0 ACSR TRIPLEX. Hard-drawn Copper primary lines, which are subject to increased sag and breakage due to annealing of the conductor, will be replaced with ACSR conductors.
- The preferred URD Primary cable will be 1/0 AAC (152 max amps in conduit) for general conditions & 4/0 AAC (225 max amps in conduit) for heavily loaded feeder backbones, 133% XLP-TR Super Smooth insulation, with a full neutral, external jacket, installed in conduit.

- 15. The preferred URD operation voltage shall be 15 kV or less. For feeders 34.5 and 25 kV nominal voltages, a step-down transformer at the URD tap location will be the preferred design.
- 16. Primary URD cables which experience three faults due to insulation failure should be replaced as part of the annual cable replacement program. In addition, cables of the same vintage and general condition in the same area as the failed cable should also be replaced.
- 17. URD primary, secondary, and services shall be installed in conduits.
- 18. Secondary conductors shall be limited to a 3-volt drop under maximum expected loading conditions and shall be no more than 300 feet long.
- 19. Transmission system voltage levels shall be maintained between a maximum of 1.05 per unit and a minimum of .95 per unit for all expected loading levels.
- 20. Overhead Distribution Lines shall be designed at a minimum to meet the NESC Medium Loading District structural loadings for Grades B and C as applicable to conditions at the time of construction.
- 21. Overhead Transmission Lines shall be designed at a minimum to meet the NESC Medium Loading District structural loadings for Grades B and C as applicable to conditions at the time of construction. Consideration shall be given to using the NESC Heavy Loading District structural loadings in areas where historical weather conditions show that warranted.
- 22. Transmission and Distribution Poles less than 60 feet above ground level should be scheduled for replacement or rehabilitation when inspection shows that deterioration has reduced the structural strength to 2/3 of that required when installed for NESC District Loading. (RUS Bulletin 1730B-121)
- 23. Transmission and Distribution Poles greater than or equal to 60 feet above ground level should be scheduled for replacement or rehabilitation when inspection shows that deterioration has reduced the structural strength to 3/4 of that required when installed for NESC District Loading. (RUS Bulletin 1730B-121)
- 24. Voltage Regulator loading will be limited to 100 % of rated capacity at projected load levels.
- 25. Line, Mini-Sub, and Step Transformers loading will be limited to 135% of rated capacity during projected annual peak load levels. Once transformer loading reaches 100% of the rated capacity, provisions shall be made to promptly upgrade the transformer(s).
- 26. Substation Transformer loading will be limited to 125 % of rated capacity during projected

annual peak load levels. Once a Substation Transformer's peak annual loading reaches 95% of Forced Air rated capacity, provisions shall be made to promptly upgrade the transformer(s).

27. The following equipment shall not be thermally overloaded by more than the following percentages of the device's nameplate rating.

Equipment	Normal Conditions	Emergency Conditions (4hr)
Substation and Line Voltage Regulators	100%	110%
Hydraulic Oil Circuit Reclosers	70%	100%
Electronic Recloser Control	50%	75%
Line Fuses	75%	100%

TABLE 7, EQUIPMENT THERMAL OVERLOAD CRITERIA

- 28. Power factor will be maintained between 95% lagging and 95% leading under peak and light load conditions.
- 29. Feeder phase current balance will be maintained within 20% of the average phase loading during peak loading conditions.
- 30. Sectionalizing device loading will be limited to 90% of rated capacity at projected peak load conditions.
- 31. Sectionalizing devices will not be located so that their maximum interrupting capacity is exceeded.
- 32. Substation and Step Transformer Primary Fuses will be sized to provide maximum protection to the transformer and clear a phase-to-ground bus fault on the secondary side in approximately 2 seconds. The continuous rating of the fuse shall be more than two times the full load rating of the transformer, if possible, to allow for cold load pickup and inrush current. The preferred 69 kV primary transformer fuse is S & C SMD-1A Standard Speed.
- 33. Motor Load Equipment and Design Standard
- 34. Motors over ten hp must be served with three-phase power unless an engineering study demonstrates a specified larger motor will not cause power quality deviations from industry standards.
- 35. All motors over five hp shall have starting current limited to no more than 3 ½ times full load rating for no more than 15 seconds.
- 36. Motor loads with variable frequency drives may require: upgrading transformer size (pole class may have to increase), decreasing transformer impedance, increasing service wire size, decreasing service wire length and harmonic filters to reduce Total Harmonic Current Distortion at the member's meter (per IEEE Standards 519). These changes will be at the member's

expense.

- 37. Garkane requires equipment owners/members to provide electrical protection on three-phase motors. This protection should include: loss-of-phase, reverse phasing, and low-voltage protection (including low-voltage protection for single-phase motors). Garkane will not assume responsibility for damages related to a member's lack of effective protection.
- 38. Motor loads should be compensated for their reactive power usage by installing shunt capacitors. Power Factor shall be between 95% lagging and 100%. Leading Power Factor is not permitted.
- 39. Newly installed motors or any other load shall cause less than 3% voltage flicker (per IEEE Standard 141) at the member's meter.

# Garkane Labor & Equipment Rates

### Exhibit 5: Per Hour Position Labor Rates (Effective 01/01/2023)

GENERAL FOREMEN (AREA MANAGER)	100.00	(\$/HR)
LINE FOREMEN	97.00	(\$/HR)
LEAD JOURNEYMEN	94.00	(\$/HR)
JOURNEYMAN LINEMAN	90.00	(\$/HR)
APPRENTICE LINEMAN 1 <sup>ST</sup> TO 2 <sup>ND</sup> YEAR	65.00	(\$/HR)
APPRENTICE LINEMAN 3 <sup>RD</sup> TO 4 <sup>TH</sup> YEAR	81.00	(\$/HR)
EQUIPMENT OPERATOR (EMPLOYEE POSITION MAY NOT BE AVAILABLE)	60.00	(\$/HR)
SUBSTATION TECHNICIAN	88.00	(\$/HR)
METER TECHNICIAN	85.00	(\$/HR)
STAKING/SURVEY TECHNICIAN	83.00	(\$/HR)
STAFF ENGINEER	120.00	(\$/HR)
SENIOR ENGINEER/PROJECT MANAGER	140.00	(\$/HR)

### Exhibit 6: Per Hour Equipment Rates (Effective (01/01/2023)

CATERPILLAR D6 DOZER	180.00	(\$/HR)
MINI-EXCAVATOR	90.00	(\$/HR)
4x4 BACKHOE	75.00	(\$/HR)
SKID STEER	85.00	(\$/HR)
DIGGER DERRICK TRUCK	200.00	(\$/HR)
BUCKET TRUCK	200.00	(\$/HR)
CRANE TRUCK	170.00	(\$/HR)
SEMI-TRACTOR WITH TRAILER	125.00	(\$/HR)
4X4 1&2 TON FLATBED, & DUMP TRUCKS	75.00	(\$/HR)
LINE CREW 4X4 TRUCK (WITH UTILITY SERVICE BED AND LINE TOOLS)	75.00	(\$/HR)
1/2 & 3/4 TON 4X4 WORK TRUCK	50.00	(\$/HR)
ROPE PULLER TENSIONER TRUCK	50.00	(\$/HR)
WIRE PULLER	54.00	(\$/HR)
WIRE TENSIONER BULL WHEEL	50.00	(\$/HR)
CHIPPER WITH CHIPPER TRUCK & 4 CHAIN SAWS	200.00	(\$/HR)
REEL TRAILER	40.00	(\$/HR)
POLE TRAILER	40.00	(\$/HR)
SNOWCAT WITH TRAILER	85.00	(\$/HR)
AIR COMPRESSOR TRAILER WITH ROCK DRILL	50.00	(\$/HR)
FORKLIFT	75.00	(\$/HR)
LOWBOY TRAILER	40.00	(\$/HR)
EQUIPMENT TRAILER	40.00	(\$/HR)
WELDER W/ EQUIPMENT TRAILER (CONSUMABLES CHARGED SEPARATELY)	50.00	(\$/HR)
UNDERGROUND FAULT LOCATING EQUIPMENT	125.00	(\$/HR)
METER TESTING EQUIPMENT	70.00	(\$/HR)
SNOWMOBILE	18.00	(\$/HR)
ATV/UTV	18.00	(\$/HR)

• All equipment must have a Garkane employee operator, which will be billed separately.

• Fuel provided with equipment

<sup>•</sup> Rates apply when equipment is on the project site, AND Equipment mobilized from the home port 100 miles are subject to a \$5.50/mile rate

### Distribution Line Per Foot Construction Costs

Garkane maintains records tracking the cost of materials and labor required to construct the various components of its distribution lines. Exhibit 7 summarizes the aggregated price per foot for the primary types of distribution line construction used by Garkane.

### EXHIBIT 7, ESTIMATE OF DISTRIBUTION FACILITY PER FOOT CONSTRUCTION COST

	UF	D 15kV					UR	RD 25kV					JRD 35kV		
Unit	Dist/Pri Voltage	Price	w/10%	Per ft	. Г	Unit	Dist/Pri Voltage	Price	w/10%	Per ft	Unit	Dist/Pri Voltage	Price	w/10%	Perf
		PHASE			1.1		1	PHASE					1 PHASE		
UM3-14	1,000' 1/0 15kV	\$18,191.77	\$20,010.95	\$20.01	Г	LIM3-14	1,000' 1/0 25kV	\$29,098.47	\$32,008.32	\$32.01	ZUM3-14	1,000' 1/0 35kV	533,891.84	537,281.02	\$37.2
		PHASE	100 C 10				3	PHASE			1.1	Santa and	3 PHASE		
UM33	1,000' 1/0 15kV	\$46,522.50	\$51,174.75	\$51.17	E 1	UM33	1,000' 1/0 25kV	575,936.32	\$83,529.95	\$83.53	ZUM33	1,000' 1/0 35kV	\$90,565.84	\$99,627.42	\$99.6
Unit	O Dist/Pri Voltage	H 15kV Price	w/10%	Perft	Ē	Unit	Dist/Pri Voltage	H 25kV Price	w/10%	Perft	Unit	Dist/Pri Voltage	OH 35kV Price	w/10%	Perf
Unit			w/10%	Parft	F	Unit	the second se		w/10%	Perft	Unit			w/10%	Part
Unit	Dist/Pri Voltage		w/10%	Perft	C	Unit	Dist/Pri Voltage		w/10%	Per ft	Unit			w/10%	Perf
	Dist/Pri Voltage	Price	w/10% \$21,743.96	-	C C	Unit 4 ACSR	Dist/Pri Voltage	Price PHASE	w/10% \$21,658.79		Unit 4 ACSR		Price	w <b>/10%</b> \$21,564.06	
	Dist/Pri Voltage	Price PHASE		-	C		Dist/Pri Voltage 1,400' 25kV 3	Price PHASE				Dist/Pri Voltage	Price 1 PHASE		
4 ACSR	Dist/Pri Voltage	Price PHASE \$19,767.24		-			Dist/Pri Voltage 1,400' 25kV	Price PHASE \$19,689,81				Dist/Pri Voltage	Price <u>1 PHASE</u> \$19,603.69		\$17.9
4 ACSR	Dist/Pri Voltage	Price PHASE 519,767.24 PHASE	\$21,743.96	\$18,12	Ē	4 ACSR	Dist/Pri Voltage           1           1,400'25kV           1,400'25kV           1,400'25kV           1,400'25kV	Price PHASE \$19,689,81 PHASE	\$21,658.79	\$18.05 \$22.87	4 ACSR	Dist/Pri Voltage 1,400' 35kV 1,400' 35kV	Price <u>1 PHASE</u> \$19,603.69 <u>3 PHASE</u>	\$21,564.0 <mark>6</mark>	\$17.9 \$23.5
Unit 4 ACSR 4 ACSR 4/0 ACSR 4/0 ACSR	Dist/Pri Voltage 1,400' 15kV 1,400' 15kV	Price PHASE \$19,767.24 PHASE \$29,097.76	\$21,743.96 \$32,007.54	\$18.12 \$22.86		4 ACSR 4 ACSR	Dist/Pri Voltage 1,400'25kV 1,400'25kV 1,400'25kV	Price PHASE \$19,689,81 PHASE \$29,109,52	\$21,658.79 \$32,020.48	\$18.05 \$22.87	4 ACSR	Dist/Pri Voltage 1,400' 35kV 1,400' 35kV 1,400' 35kV	Price <u>1 PHASE</u> \$19,603.69 <u>3 PHASE</u> \$29,914.29	\$21,564.06 \$32,905.72	Per fr \$17.9 \$23.5 \$29.1 \$28.7

\*Note: Cost per foot does not include impact fee's or transformer fee's.

List Undated: 11/3/2022

## Transmission Line Per Foot Construction Costs

Garkane maintains records tracking the cost of materials and labor required to construct the various components of its distribution lines. Exhibit 4 summarizes the aggregated price per foot for the primary types of distribution line construction used by Garkane.

ESTIMATED TRANSMIS	SSION COST BASED ON VOLTA	ge ai	ND BASE STRUCTURE TYPE
NOMIAL VOLTAGE (kV)	BASE TANGENT STRUCTURE		ESTIMATED COST (\$/FT)
138	Garkane RUS TP-138	\$	50.54
69	Garkane RUS TP-69	\$	42.38

EXHIBIT 8, ESTIMATE OF DISTRIBUTION FACILITY PER FOOT CONSTRUCTION COST

# Status of **Previous** Construction Work Plan Items Summary

		in them in cannuly opened the former in the	
Substation	Feeder	Solution	Current Status
Parker Sub	Koosharem/Antimony Feeder	<ol> <li>Install 3 - 100a V Regs South of Koosharem at Section OH25613</li> <li>Install 1 - 50a V Reg East of Monroe Mtn at Section OH25790</li> <li>Install 1 - 50a V Reg East of Mormon Peak at Section OH32442</li> <li>Install 3 - 100a V Regs North of Greenwitch at Section OH29023</li> </ol>	Antimony, Monroe and Angle Vregs Completed
Lyman Sub		Need to update and correct model data with correct conductor phasing and sizes.	Completed
Bicknell Sub	Bicknell Town Feeder	Need to update and correct model data with correct conductor phasing and sizes.	Completed
Bicknell Sub	Torrey Feeder	2010 Workplan Project: New Torrey Sub is being constructed and load will be transferred from Bicknell Sub to Torrey Sub. This project was started in 2010 Workplan as a reconductor of Bicknell to Torrey Line.	New Torrey Substation is energized and in service.
Torrey Sub	Torrey Feeder	Need to reconductor existing line to at least 477 or build new parallel line into Torrey town	Monitoring Conditions
Bicknell Sub	Hanksville Feeder	Add 3 - 50a V Regs on Notom Tap at Section OH27016	Completed
Eight Mile Gap Sub		Extend 4/0 approximately 2500 ft from Substation to UG24150. This will permit balancing of existing loads and moving of remaining Johnson Sub loads.	Completed
Johnson Sub			80% completed.
Fredonia Sub	Fredonia West Feeder	Install 3- 100 a V Regs on 35kV line between takeoff and Pipe Spring Step Transformer. If Mine continues operation or expands operations install 3 - 100 a Vregs on Hack Canyon Tap.	Mining operations have stopped, Regulators have been procured and scheduled for installation 2023
KCR Sub	KCR Feeder	Need to update and correct model data with correct conductor phasing and sizes.	Partially completed.
Boulder Sub	Boulder Town Feeder	Install 3 - 100a V Regs near Town OCR	Not Complete
Escalante Sub	Escalante Town Feeder	Need to update and correct model data with correct conductor phasing and sizes.	Partially completed.
Hatch Sub	Hatch South Feeder	Install 3 - 50a V Regs at Section OH17057	Completed
Tod Sub	Strawberry Feeder	Install 3 -50a V Regs at Swain Creek Step. Correct customer phasing data in model.	Partially completed.
Tod Sub	Elk Ridge Feeder	Need to update and correct model data with correct conductor phasing and sizes.	Partially completed.
Duck Creek Sub	Duck Creek Feeder	Need to correct customer phasing data in model and rerun analysis.	Partially completed.
Duck Creek Sub	Color Country Feeder	Add 400 feet 4/0 URD from end of OH45564 to the start of UG18662 and UG19408. Split URD between phases.	Partially completed.
Twin City Sub	Utah Avenue Feeder	Need to correct customer phasing data in model and rerun analysis.	Partially completed.
Twin City Sub	Redwood Road Feeder	Need to balance loads and either replace existing 4/0 URD with 500 mcm URD OR build OH line from sub to OH40425 Total distance is about 3 miles	Partially completed.
		TRANSMISSION AND SUBSTATION PROJECTS	
Tro	pic to Hatch Transmission	2003 Workplan Project. Construct Tropic to Hatch 138 kV line to replace the existing 44/69 kV line in Red Canyon to increase delivery capacity to Hatch and Tod Subs.	Completed
Retire Bry	ce to Hatch Mountain 69 kV Line	2003 Workplan. Permit requirement for Tropic to Hatch line requires the physical removal of the step transformer and yard on north side of road	Completed
	East Valley Substation	2003 Workplan Project. Construct East Tropic Substation	Completed
	Ruby Switching Station	2003 Workplan Project. Construct Ruby Station	Completed

### GARKANE ENERGY 2017 Work Plan Summary - Updated November 2022

Substation	Feeder	Solution	Current Status				
Retir	e Hatch Mountain Step Yard	2003 Workplan. Permit requirement for Tropic to Hatch line requires the physical removal of the line from Bryce to Hatch Mountain	Completed				
Bucks	kin to Fredonia Transmission	2010 Workplan Project. Construct 138 kV line from Buckskin to Fredonia. 31.5 miles @ \$150k/mile plus \$575k permitting costs	Partially completed.				
Cedar R	idge to Big Water Transmission	2010 Workplan Project. 138 kV line to Big Water and Substation when load grows to 3.5 MW at Paria Sub (Dec 2009 peak 2.3 MW).	s Right of Way has been obtained. Pro on hold until load requires construction				
Sigurd	Substation OCB Replacement	Remove existing 3 tank OCB and install single tank OCB retired from Bryce Substation after completion of Tropic to Hatch Project	Completed				
Install 69	kV tie from PAC to GKE at Spry Substation	The Emergency Services Agreement between PAC and GKE calls for the existing 12.5 kV tie to be replaced with a 69 kV tie when GKE upgrades the Spry transmission o 69 kV. This upgrade was completed in 2014. The tie will require installing a 69 kV OCB to be installed at Spry Station. Use OCB and relay panel removed from Hatch Mountain.	Partially completed, need PAC to agree to proceed				
	NON CAPAC	CITY RELATED PROJECTS (SYSTEM IMPROVEMENT	ITEMS)				
Hatch	Hatch South	Approximately 8000 feet of URD cable needs to be replaced and buried to proper depths.	Partially completed.				
Bryce	Barney Top Feeder	This section of cable was not installed as part of the original project due to right of way issues with the Forest Service.	Completed				
Torrey	Torrey		Partially completed.				
Torrey	Torrey	Partially completed.					

### Historical and Projected System Data

### Annual Energy, Load, and New Member Data

Exhibit 6 provides information on the last 11 years and projections based on ten months of operations in 2022 of the annual energy sales in kWh, annual system peak, and the number of member accounts. The source of this information is Garkane's annual Form-7 Reports and the Historical Load Reports. Data analysis indicates; 1) an Annual Energy Purchased growth rate of 1.66%, 2) an Annual Energy Sales growth rate of 1.69%, 3) an Annual System Peak Load growth rate of 2.67%, and 4) an Annual New Service growth rate of 5.55%. In addition, the data shows that two variables drive annual energy and peak demand. The most prominent variable from year to year is the heat and cooling days experienced, which drives usage and demand. The second variable which has driven an overall increase in energy use and demand is the number of new services added annually.

	ANNUAL EN PURCHAS		ANNUAL EN SALES	-	ANNUAL EN LOSSES (I		ANNUAL S PEAK L		ANNUAL NEW SERVICES		
Year	(kWh)	Growth	(kWh)	Growth	(kWh)	(%)	(kW)	Growth	(#)	Growth	
2010	255,376,552	2.11%	231,437,976	2.41%	23,938,576	9.37%	51,262	14.13%	138	-39.86%	
2011	260,755,489	-1.82%	237,006,723	-1.56%	23,748,766	9.11%	58,504	-12.28%	83	32.53%	
2012	256,008,992	6.25%	233,314,277	6.46%	22,694,715	8.86%	51,319	17.70%	110	20.91%	
2013	272,000,929	-4.28%	248,393,231	-3.47%	23,607,698	8.68%	60,401	-15.00%	133	-0.75%	
2014	260,355,092	1.69%	239,773,471	0.86%	20,581,621	7.91%	51,341	-0.08%	132	15.15%	
2015	264,762,690	-1.00%	241,838,346	0.26%	22,924,344	8.66%	51,299	16.06%	152	-8.55%	
2016	262,110,503	-0.88%	242,459,544	-0.84%	19,650,959	7.50%	59,536	-8.23%	139	1.44%	
2017	259,811,232	2.59%	240,411,862	0.92%	19,399,370	7.47%	54,639	0.26%	141	306.4%	
2018	266,540,284	3.72%	242,632,250	3.01%	23,908,034	8.97%	54,783	3.53%	573	-54.10%	
2019	276,455,845	-2.78%	249,947,222	3.73%	26,508,623	9.59%	56,715	-1.15%	263	18.63%	
2020	268,781,632	7.89%	259,272,159	3.54%	9,509,473	3.54%	56,066	5.87%	312	8.97%	
2021	289,981,303	4.06%	268,448,529	3.32%	21,532,774	7.43%	59,358	11.27%	340	7.06%	
2022	301,759,848	4.06%	277,348,673	3.32%	24,411,175	8.09%	66,051	2.67%	364	5.55%	
2023	306,776,069	1.66%	282,032,385	1.69%	24,743,684	7.98%	67,817	2.67%	384	5.55%	
2024	311,875,676	1.66%	286, 795, 194	1.69%	25,080,482	7.89%	69,630	2.67%	406	5.55%	
2025	317,060,054	1.66%	291,638,434	1.69%	25,421,620	7.81%	71,492	2.67%	428	5.55%	
2026	322,330,613	1.66%	296, 563, 464	1.69%	25,767,150	7.73%	73,404	2.67%	452	5.55%	
2027	327,688,786	1.66%	301,571,665	1.69%	26,117,122	7.72%	75,367	2.67%	477	5.55%	
2028	333,136,030	1.66%	306,664,442	1.69%	26,471,588	7.64%	77,382	2.67%	503	5.55%	
2029	338,673,824	1.66%	311,843,223	1.69%	26,830,601	7.65%	79,451	2.67%	531	5.55%	
2030	344,303,674	1.66%	317,109,460	1.69%	27,194,214	7.67%	81,576	2.67%	561	5.55%	
2031	350,027,110	1.66%	322,464,631	1.69%	27,562,479	7.56%	83,757	2.67%	592	5.55%	
2032	355,845,688	1.66%	327,910,237	1.69%	27,935,451	7.39%	85,997	2.67%	625	5.55%	
2033	361,760,989	1.66%	333,447,805	1.69%	28,313,185	7.71%	88,296	2.67%	660	5.55%	
	al Average Rate	1.66%	N/A	1.69%	N/A	8.09%	N/A	2.67%	N/A	5.55%	

### Exhibit 9, Annual Energy Sales, Annual Peak Load, Number of Member Services

\*Italics indicate forecast values

### Substation, Substation Transformer, and Feeder Load Data

Garkane operates and maintains 33 substations and switch yards for the transmission and distribution of electrical power across its service territory. Metering and control equipment in these substations is used to collect load data and monitor system health in relation to Garkane's standards. The data is also used to forecast load trends. Exhibits 7, 8a, 8b, and 9 provide a summary of the load trends for each of the substation and feeder facilities making up each of Garkane's three interconnections, their nameplate capacities, individual existing and forecast loads over the next ten years. Items where the forecast loads or other know conditions require actions to mitigate deviations from Garkane standards are highlighted in yellow.

### Exhibit 10, Garkane PAC Northern Interconnect Capacity Analysis

	Transt Rat OA	/FA	Nominal Operating Voltage (KV)	Limiting Conduct or Size, (AWG & KCMILL)	Maximum Operating Temp Conducto r Ampacity (65 C)	Emergency Operating Temp Conductor Ampacity (75 C)	Maximu m 3-ph Line Capacity Due to Ampacity / MVA	Emergency 3-ph Line Capacity Due to Ampacity / MVA	Current Voltage Measuremen ts Meet AN SI C84.1	Based on Projected Loads Voltage Expected to Remain within AN SI.C84.1 For Planning Period	Capacity Ok at Present Based on Ampacity / MVA	Operating Capacity Ok in 3 yrs Based on Ampacity / MVA	Capacity Ok in 5 yrs	Operating Capacity Ok in 7 yrs Based on Ampacity / MVA	Operating Capacity Ok in 10 yrs Based on Ampacity / MVA	CURRENT YEAR PEAK KW	PEAK AVERAGE D OVER 3 YEARS	MAX PAST 5 YEAR PEAK KW	ESTIMATE D PEAK LOAD IN 3 YEARS	ESTIMATE D PEAK LOAD IN 5 YEARS	ESTIMATE D PEAK LOAD IN 7 YEARS	ESTIMATED PEAK LOAD IN 10 YEARS
TOTAL SYSTEM	10.01	n ini		-					Yes	As Noted			Les mu	L.	1	66,051	63,379	66,051	68,715	71,374	74,032	78,020
NORTHERN SYSTEM INTERCONNECT																						
(RMP)																						
TOTAL NORTHERN SYSTEM	20*	20*	69	1	1- C		-		Yes	YES	See Below	See Below	See Below	See Below	See Below	9,969	9,942	11,394	10,426	10,762	11,108	11,649
Sigurd Substation																						
SIGURD (PAC) 46/60 Transformer	12.0	12.0	69.0	N/A	£				N/A	N/A.	Yes	Yes	Yes	Yes	Yes	9,969	9,942	11,394	10,426	10,762	11,108	11,649
SIGURD (GKE) 46/69 Transformer	5.0	7.0	69.0	N/A					N/A	N/A.	OK UNDER EMERGE NCY CONDITI	OK UNDER EMERGE NCY CONDITI	OK UNDER EMERGE NCY CONDITI	OK UNDER EMERGE NCY CONDITI	OK UNDER EMERGE NCY CONDITI	9,969	9,942	11,394	10,426	10,762	11,108	11,649
Sigurd to Parker Transmission Feeder, 69 k	V		69.0	3/0	162	204	19	24	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9,969	9.942	11,394	10.426	10,762	11,108	11.649
Parker Substation				1																		
PARKER 69/12.5 kV Transformer	5.0	7.0	69.0	N/A					N/A.	N/A	Yes	Yes	Yes	Yes	Yes	2,067	1,951	2,067	2,207	2,261	2,315	
Parker to Fremont 69 Transmission Feeder			69.0	1/0	126	156	15	19	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7,902	7,992	9,327	8,219	8,501	8,793	
Grass Valley Feeder #34-1	1	200	12.5	3/0	162.00	204	4	4		-	Yes	Yes	Yes	Yes	Yes	1,838	1,820	1,838	2,029	2,098	2,168	
Fish Lake Feeder #342 Fremont Substation			12.5	. 1/0	126.00	156	3	3	-		Yes	Yes	Yes	Yes	Yes	533	499	564	535	541	547	
FREMONT 2.4/69 STEP-UP TRANSFORM	3.0	3.0	69.0	N/A	100	150		10			Yes	Yes	Yes	Yes	Yes	1,900	1,900	1,900	1,900	1,900	1,900	
Fremont to Lyman 69 Transmission Feeder Fremont Generator Feeder			69.0	1/0	126	156	15	19			Yes	Yes	Yes	Yes	Yes	7,892	7,982	9,317	8,209	8,491	8,783	
Lyman Substation		-	2.4	k350AA0	318	318	2.6	2.6	-		Yes	Yes	Yes	Yes	Yes	10	10	10	10	10	10	1 10
LYMAN 69/12.5kV TRANSFORMER	5.0	5.0	69.0	N/A	<b>1</b>				-		Yes	Yes	Yes	Yes	Yes	2.809	2.797	2.809	3.158	3.246	3.333	3,464
Lyman to Bicknell 69kV Transmission Feede	er		69.0	1/0	126	156	15	19		-	Yes	Yes	Yes	Yes	Yes	5.069	5,173	6,494	5,141	5,335	5,540	5,869
Loa Feeder #36-1		1.00	12.5	266	207	260	4	6			Yes	Yes	Yes	Yes	Yes	2,296	2,303	2,296	2,570	2,656	2,743	2,873
Lyman Town #36-2		1	12.5	2	97	119	2	3		1	Yes	Yes	Yes	Yes	Yes	527	506	527	499	499	499	499
Bicknell Substation																						
BICKNELL 69/12.5kV Transformer	5.0	5.0	69:0	N/A	1	1	1 - 1		1		Yes	Yes	Yes	Yes	Yes	1,875	2,079	1,875	2,680	2,672	2,664	
Bicknell to Torrey 69kV Transmission Feeder		1 = 1	69.0	477	314	414	38	49			Yes	Yes	Yes	Yes	Yes	3,115	3,079	4,540	2,543	2,707	2,882	
Bicknell Town #38-1		111	12.5	2	97	119	2	3			Yes	Yes	Yes	Yes	Yes	1,061	1,015	1,061	1,035	1,044	1,053	1,066
Teasdale #38-2 Torrey Substation		1	12.5	3	97	119	2	3	-		Yes	Yes	Yes	Yes	Yes	892	1,078	892	1,563	1,584	1,606	1,637
TORREY Transformer 69/34.5kV	3.75	5.25	69.0	N/A					4	1	Yes	Yes	Yes	Yes	Yes	1,184	1,504	1,999	2,100	2.219	2,337	2,515
TORREY Transformer 69/12.5kV		14.0	69.0	N/A	-						Yes	Yes	Yes	Yes	Yes	1,207	1,504	2.083	1,869	1.940	2,010	
Torrey to Hanksville 34.5kV Transmission Fe		14.0	35.5	4 HDC	139	165	q	10			Yes	Yes	Yes	Yes	Yes	1,909	1,504	2,005	2,100	2,219	2,337	2,515
Torrey Town Feeder #39-1		-	12.5	4 HDC	97	119	3	3			Yes	Yes	Yes	Yes	Yes	1,909	1,324	1.570	1.500	1.562	1.625	
Grover Feeder 39-2			12.5	2	97	119	2	3			Yes	Yes	Yes	Yes	Yes	1,010	338	514	487	511	535	
Hanksville Substation			12.0	1 4		110	12				1 105	100	1 100	1 105	100 1	1 101			107		000	. 314
HANKSVILLE Transformer 34.5/12.5 kV	2.5	3.5	34.50	N/A			1		1		Yes	Yes	Yes	Yes	Yes	1.045	908	1.045	934	971	1,009	1.065
Hanksville Feeder #40-1		212	12 50	1/0	126	156	2	2			Yes	Yes	Yes	Yes	Yes	1.045	908	1.045	934	971	1.009	

### Exhibit 11a, Garkane Glen Canyon Interconnect Capacity Analysis

EXHIBIT IId, Garkane C	лсп	Cui	iy Off	nneer	conn	cet cu	pacit	y Analy	y 313													
	Trans Ra OA (M'	ling /FA	Nominal Operating Voltage (KV)	Limiting Conduct or Size, (AWG & KCMILL)	Maximum Operating Temp Conducto T Ampacity (65 C)	Emergency Operating Temp Conductor Ampacity (75 C)	Maximu m 3-ph Line Capacity Due to Ampacity / MVA	Emergency 3-ph Line Capacity Due to Ampacity / MVA	Current Voitage Measuremen Is Meet ANSI.C84.1	Based on Projected Loads Voitage Expected to Remain within ANSI.084.1 For Planning Perind	Capacity OK at Present Based on Ampacity / MVA	Operating Capacity OK in 3 yrs Based on Ampucity / MVA	Ciperating Capacity Ok in 5 yrs Based on Ampacity / MVA	Operating Capacity Ok in 7 yrs Based on Ampacity / MVA	Operating Capacity Ok.In 10 yrs Based on Ampacity / MVA	CURRENT YEAR PEAK KW	PEAK AVERAGE D OVER 3 YEARS	MAX PAST 5 YEAR PEAK KW	ESTIMATE D FEAK LOAD IN 3 YEARS	ESTIMATE D PEAK LOAD IN 5 YEARS	D PEAK LOAD IN 7 YEARS	ESTIMATED PEAK LOAD IN 10 YEARS
TOTAL SYSTEM					1		1		Yes	As Noted		1	K	1		66,051	63,379	66,051	68,715	71,374	74,032	78,020
DOUTHERN SYSTEM CASTERN																						
INTERCONNECT (WAPA)																					_	
TOTAL SOUTHERN SYSTEM	-		138	-		-		-	-	_			286	266	388	56,500	52,675	56,500	53,460	55,431	57,402	60,358
				Same	Same		100				Land.	100	NEEDS	NEEDS	NEEDS							
	37*	37*	138	266	207	260	49	62			Yes	Yes	ATTENTI	ATTENTI	ATTENTI					-		
Glen Canyon to Buckskin T.L. & Interconnect	t					-	-		-				ON	ON	ON	45.148	43,947	45,148	- 48,975	50,995	- 53,016	56,046
Buckskin to Henneville Transmission Feede	ar. 1384	W I	138	266	207	260	49	62	-		Yes	Yes	Yes	Yes	Yes	17.807	17.537	18,965	19,662	20.384	21,106	22,189
Buckskin 138/69 kV Transformer	30		69	N/A						1	Yes	Yes	Yes	Yes	Yes	27.663	26,828	27,663	28,468	29,382	30,296	31,668
				1.0	1.000	100 C 100	1				4/0 NEEDS	4/0 NEEDS	4/0 NEEDS	A/0 NEEDS	4/G NEEDS							
			69	4/0 8 47	182	232	22	28			ATTENT	ATTENT	ATTENTI	ATTENTI	ATTENTI							
Fredonia Feeder (Planned Alteration to EM	G Feed	ier 130			April 4		1.000	the second			CIN	ON	ON	UN	ON	25,467	24,519	25,467	25,737	26,455	27,173	
Paria Feeder #2-4			69	4/0	182	232	22	28		_	Yes	Yes	Yes	Yes	Yes	2,433	2,413	2,509	2,358	2,399	2,439	2,500
Paria 69/25 kV Transformer	5	7	69	TV/A.	-				-	-	Yes	Yes	Yes	Yes	Yes	2.410	2,355	2,465	2,219	2,239	2,259	2,288
Big Water Feeder			25	1/0	126.00	156.00	5	7			Yes	Yes	Yes	Yes	Yes	2,410	2,355	2,465	2,219	2.239	2,259	2.288
Johnson Substation (Retirement Planned		15	Jari.		_			_	-				16	1		452	762	998	556	573	591	617
JOHNSON 69/12.5 KV Transformer Johnson Carryon (Retired From Normal Op		1.0	69 12.5	N/A 1/0	126.00	156.00	3		-		Yes Yes	Yes	Yes	Yes Yes	Yes Yes	952	753	622	.000	514	081	617
Canyon Country Feeder	Creation		12.5	3/0	162.00	204.00	4	4			Yes	Yes	Yes	Yes	Yes	363	393	476	426	436	447	462
Seeps Ranch Feeder (Single Phase)			12.5	2	97.00	t 19 00	07	0.9			Yes	Yes	Yes	Yes	Yes	142	129	142	130	137	144	155
EMG Superation E.M.G. 69/12.5 kV Transformer	TER	201	20	DI/A	-	_	_	_		_	- Van	Van	9.46	Van	Marc	1,297	1,232	1,297	1,952	2,087	2,237	2,493
E.M.G. 69/12.8 KV Transformer	5.0	7.0	69	N/A	-				-		Yes.	Yes 4/0	Yes 40	Yes	Yes 4/0	1,231	6,202	1,291	1,802	2,007	1,201	2,480
			69	4/0	182	232	22	20			NEEDS	NEEDS	NEEDS	NEEDS	NEEDS							
FUE FLUX AND AND A FLUX	in the		.09	40	104	232	24	20	· · · · · ·		ATTENTI	ATTENT	ATTENTI	ATTENH	ATTENT	12.000	10.000	17 007	10.000	10.001	No PRO	17.700
EMG Substation to Kanab Tranmission Feed EMG Substation to Englance Tranmission Fe	eder (Ha		89	0 URD	182	232	22	28	-		ON Yes	Yes	ON Yes	Ves	ON Yes	17,281 3,393	16,353 3,382	17,827	15,203	15,861	16,575	
Johnson Canyon	Vuei II	ionnio.		2/0 URD	130.00	180.00	3	4		-	Yes	Yes	Yes	Yes	Yes	726	726	726	726	726	726	
Vermillion East			12.5	1/0 URD	105.00	155,00	2	3			Yes	Yes	Yes	Yes	Yes	746	1,048	1,253	1,226	1,361		
EMG Generator	n2)	-	12.5	1/0 URD	185.00	235.00	4	5	-		Yes	Yes	Yes	Yes	Yes Yes	10	895	1,791	N/A N/A	N/A N/A	N/A	N/A N/A
KANAB CITY SW (Retirement Planned 202			_1452	an oral	103.141	200.00	- 4	~	_		185	165	1 65	185	Tes	12,777	12,173	12,777	12,768	13,181	13,607	14,273
Kanab City Submation				-	_																	
KANAB CITY 69/12.5 TRANSFORMER Kanab City to KCR Transmission Feeder	12.0	16.0	69 69	N/A 477	314	414		49		_	Yes	Yes	Yes	Yes	Yes	6.830	8,479	6.830	6,625	6,255	6,445 7,303	
Kanab North	-		12.5	477	314	414	3/	49	-		Yes Yes	Yes	Yes	Yes Yes	Yes	5 363	5,363	8 514	5.610	5 780	5 956	6,230
Kanab South			12.5	473	314	414	7	9			Yes	Yes	Yes	Yes	Yes.	440	440	440	460	474	489	
Fredors/ Jaberation FREDONIA 69 BUS	-		80	L.H.A		-	-				Vee	200		Vez	Mag	9 9/19	2 994	2.200	4 094	ADEX	1042	4.0/24
Fredonia City 69 Transmission Feeder	-	-	69	N/A. 477	314	414	37	49			Yes	Yes Yes	Yes	Yes Yes	Yes	3,393	3,382	3,399	4,064	4,054	4,047	
Fredonia to Ryan Transmission Feeder	1.1	-	69	1/0	126	156	15	19			Yes	Yes.	Yes	Yes	Yes	828	1,103	1,338	1,013	957	905	831
FREDONIA 69/34.5 kV Transformer	10.0	14.0	34,5	N/A	-		1		-		Yes	Yes	Yes	Yes	Yes	7,070	6,895	7,187	6,871	7,266	7,701	8,429
Fredonia to Colorado City Feeder			34,5	266/477	207	260	12	16	1	-	Yes (2nd Source)	Yes (2nd Source)	Yes (2nd Source)	Yes (2nd Source)	Yes (2nd Source)	455	438	500	337	283	238	183
and the second se		1.1	34.5	266/3/0	162	204	10	12			Y es	Yes	Yes	Yes	Yes							
Fredonia to Orderville Feeder						0.001	1				(Voltage?)	(Voltage?)	(Voltage?)	(Voltage?)	(Voltage?)	6,691	5,914	6,691	6,534	6,983	7,463	
FREDONIA 34.5/12.5 kV Transformer	5.0	7.0	12:00	N/A.	257	334	8				Yes. Yes	Yes	Yes	Yes. Yes	Yes.	302	323	331	446	506	585	754
LR.C. Feeder	1		12.50	3.36	257	334	6	4	-		Yes	Yes	Yes	Yes	Yes.	249	277	2,781	283	287	292	298
Katbab Feeder			12.50		207	260	4	6			Yes	Yes	Yes	Yes	Yes.	100	105					
Katab City Ranchas (NLR) Substation	10.0	14.6		1.991		_		-	-	_		2400	111.00		1	0.0000			2.000	5 10 M	7.300	
KCR 69/12.5 kV Transformer	10.0	14.0	69 12.5	N/A. 266	207	260	4	6	-		Yes	Yes	Yes Yes	Yes	Yes Yes	6,830	5,889	6,830	6,825	6,946	7,303	
KCR West Kanab Feeder			12.5	477	314	414	7	9			Yes	Yes	Yes	Yes	Yes	3,295	2,811	3,295	3,259	3,598	3,968	
Ayon Substition	1.0.5					_		_	-		-			-	-	-						
RYAN 69/25 kV Transformer Jacob Laké Feeder	25	2.5	69	N/A 1/0	126	156	5	1			Yes. Yes	Yes	Yes	Yes	Yes	855 242	1,119	1,351	1,118	1,089	1,061	1,024
Big Springs Feeder	1		25	1/0	126	156	5	7			Yes	Yes	Yes	Yes	Yes	709	949	1,159	887	848	810	757
Divisional in Submation	-	-					-															

ORDERVILLE 34.5/12.5 Transformer	25 35		I N/A	T	1	1	ly / area	no (contantae	Yes	Yes	Yes	Yes	Yas	13791	1.1971	1.502	1.295 1	13651	14381	1.5561
Orderville to Tod's 34.5 Feeder	20 00	34.5	- 3/0	162	204	10	12		Yes	Yes	Yes	Yes	Yes		12101			1000	1,900	1,000
Orderville Feeder		12.5	3/0	182	204	3.5	44		Yes	Yes	Yes	Yes	Yes	1,379	1,197	1,502	1,295	1,365	1,438	1,556
BOULDER 2.4/12.5 kV Transformer	1.5 1.5	12.5	NA				-	-	Yes	Yes	Yes	Yes	Yes	4,736	4,532	5,083	4,318	4,181	4,049	3,858
BOULDER 2.4/69 kV Transformer	5 7	69	N/A						Yes	Yes	Yes	Yes	Yes	4,372	3,968	4,737	4,005	4,030	4,055	4,094
Boulder to Escalante Transmission Feeder Boulder Town Feeder	-	69	3/0	162	204	19	24		Yes	Yes	Yes	Yes	Yes	3,294	2,697	3,279	2,650	2,615	2,579	2,519
Boulder East Fork Feeder	1 - 1	12.5		75	91	2	2		Yes	Yes	Y 05	Yes	Yes	41	41	82	5/	72	89	125
ESCALANTE 69/12.5 kV Transformer	3.8 5.3	69	N/A	-				-	Yes	Yes.	Yes	Yes	Yes	2,489	2,752	3,380	2,902	-2,941	2,982	3,046
Citation to Escalante Transmission Feeder	3.0 3.3	69	3/0	162	204	19	24		Yes	Yes	Yes	Yes	Yes	2,757	2,845	3,433	2,902	2,941	2,982	3.046
Escalante Town Feeder		12.5	3/0	162	204 204	35	44		Yes	Yes.	Yes	Yes	Yes	1,404	1,493	1,834	1,502	1,508	1,514	1.528
West (Vidnne)		12.5	3/0	97	119	21	4.4 2.6		Yes	Yes	Yes	Yes	Yes	745	593	611	633	661	778	1.523 787 735
Firmal Price Subsatur	10 0 11		1	_	-	_								14	14	14	14	14	14	141
PAHREAH HOLLOW 69/12.5 Transformer Pahreah Hollow Feeder	:45 0.43	5 69	N/A	75-	91	16	2.0		Yes	Yes Yes	Yes	Yes	Yes	14	14	14	14	14	34	14
Citation Of Substation										-										
Citation Tap to Citation Transmission CITATION 69/12.5 kV Transformer	5 7	69	3/0	162	204	19	24		Yes	Yes	Yes	Yes	Yes	2,587	2,554	2,741	2,500	2,465	2,430	2,379
Hermine the Transmission Subatment	3 1	1 00							165	163	1.62	103	103	Tingi	2,001	=(131	2,000	2,100	2,100	- Lini 3
HENRIEVILLE 138/69 kV Transformer Henrieville to Otation Tap Transmission Fe	30.0 50.0	0 138	2/0	167	204	19	74		Yes	Yes	Yes	Yes	Yes	17,807	17,537	18,965	19,662	20,384	21,106	22,189
Henneville to Citation Lap Transmission Fe Henneville to East Valley Switch Transmiss			477	314	414	37	49		Yes	Yes	Yes	Yes	Yes	14,101	14,513	4,859	17,028	17,823	18,618	19,811
East Valley Switch Fare East Valley Switch to Rubys Switch Transmis	Sinn	69	177	31/1-00	414.00	- 37	-49		Yes	Vor	V ac	Vac	Yes	8,881	0.00	2 321	11.557.1	12,351	13,144	14,331
Rubys Switch Yard to Hatch Switch Yard Tra							49							8,881	9,118	8,881	11,557	12,351	13,144	14,331
Tropic Sousanter	Institusion	09	411	314.00	414.00	- 21	49		Yes	Yes	Yes	Yes	Yes	0.001	3,110	0,001	11,0,07	12,001	10,144	14,551
	3.8 4.2	N/A			1000	1		1	Yes	Test	Test	Test	Test		100 million (1990)		1000			
TROPIC 69/12.5 Transformer	-10 De			1		11	1.00	the set of the set of	1.000	Results	Results	Results	Results	2,389	2,451	3,494	2,433	2,422	2,410	2,392
Tropic to Bryce Transmission Feeder 3 Communities Feeder		69	3/0	97	119	12	14		Yes Yes	Yes	Yes	Yes	Yes	2,830	2,941	3,607	3,037	3,050	3,064	3,088
Bryon Suba alice		12.50	3/0	102	304	-4	4		Tes	Tes	142	( 63	162	2,008	2,401	2,424	ZINGO	5,422	eniu	2,002
	1			1					1 1 1	Yes, But Move to	Yes, But Move to	Yes, But Move to	Yes, But Move to					1		100
	50 70	N/A							Yes	Rubys	Rubys	Rubys	Rubys			_				
BRYCE 69/12.5 Transformer		1.00	1.0	11.1	1.1	1.000		A		624500 UW	@4500	@4500	@4500	2.830	2,941	3,607	3.037	3,050	3,064	3.088
Bryce to Rubys Transmission Feeder		69	2	97	119	12	14		Yes	Yes	Yes	Yes	Yes	2,030	2,941	5,007	5,051	3,030	5,004	2,000
Bryce Canyon		12.5	1/0	105	155	23	34		Yes	Yes	Y 65	Yes	Yes	797	737	866	722	712	702	687
Ruby's Inn Pink Cliffs		12.5	4/0	185	235	21	26		Yes	Yes	Yes	Yes	Yes	1.774	1,680	2,187	1,731	1,766	1,802	1.856
March Sweet Hard				_																
Hatch Switch Yard Total (Incoming) Hatch Switch Yard to Todds Transmission F	conter	69 69	477	314 314	414	37	49		Yes Yes	Yes	Yes	Yes	Yes	7,158	7,361	9,203	9,599	10,330	10,323	12,430
Hatch Switch Yard to Spry Transmission Fe		69	4/0	185	235	22	28		Yes	Yes	Yes	Yes	Yes	731	774	756	784	791	798	809
Harch Substation HATCH 69/34.5 Transformer	10.0 14.0	0 69	N/A	-		_	_	_	Yes	Yes	Yes	Yes	Yes	1,677	20311	1,677	15521	1,561	1,570	1 5861
Red Canyon	10.0 14.0	34.5	3/0	162	204	10	12		Yes	Yes	Yes	Yes	Yes	532	481	548	513	535	558	595 991
Hatch South HATCH 34.5/12.5 Transformer	12 14	34.5		162	204	10	12		Yes	Yes	Yes	Yes	Yes	1,160	1,061 617	1,160	1,040	1,026 634	1,012	991. 652
Hatch Town Feeder	1.5 1.5	34.5		162	204	4	4		Yes	Yes	Yes	Yes	Yes	609	617	.706	627	634	641	652
Tools Substanion	-			-			-									_				
and the second second	7.5 10.0	0 69	NA.						Yes	Yes	Yes	Plan to	No.	1.00	1.00	1.0				1000
TOD'S 69/34.5 kV Transformer Strawberry					4.005				1 - Y - 1			Replace		5,298	6,201	7,289	7,670	8,441	9,307	10,807
Strawberry Duck Creek		34.5	477	105	155 414	19	25		Yes	Yes	Yes	Yes	Yes	1,686	1,681	2,531	1,717	1,742	1.766	1,804
Long Valley		34.5	3/0	162	204	10	12		Yes	Yes.	Yes	Yes	Yes	1 1 1						
Alton TODD'S 34.5/12.5 kV Transformer	50 70	34.5	3/0 N/A	162	204	10	12		Yes	Yes	Yes	Yes	Yes	441	482	1,191	896	887	887	888
Elk Ridge	30 70	12.5	4/0	185	235	- 4-	- 5		Yes	Yes	Yes	Yes	Yes	892	885	1,024	886	887	- 887	888
Swepp		- 12.5	4/0	185	235	- 4	5		Yes	Yes	Yes	Yes	Yes				-			1
ZION VIEW ESTATES (2@2.5) 34.5/12.5 kV	5 5	345	4/0	185	235	11	14		Yes	Yes	Yes	Yes	Yes	91	91	91	129	171	231	376
East Meter West Meter	25 25			105	155	2	3		Yes	Yes	Yes	Yes	Yes	55	55 35	55 36	95 34	137	198 34	343
Olick Crack Substances	2.5 2.5	12.5	1/0	105	155	- 2-	3		Yes	Yes	Yes	Yes	Yes	.30	20	20	54	-54	24	33
A CONTRACT OF A CONTRACT.	5.0 7.0	34.5	NUC						1.4.52	Yes, But	ĥla	The	the state							1
DUCK CREEK 34.5/12.5 kV Transformer	5.0 7.0	34.5	NA						Yes	Plan to Replace	No	No	No.	3,768	5,131	6,138	6,468	7,132	7,870	9,132
Duck Creek Village		12.5	2/0	143	179	3.1	3.9	T	Yes	Yes	Yes	Yes	Yès	2,030	2,885	3,548	3,459	3,904	4,406	5,284

# Exhibit 11b, Garkane Glen Canyon Interconnect Capacity Analysis (Continued)

Exhibit 11c, Garkane Glen Canyon Interconnect Capacity Analysis (Continued)

Color Country		1	125	3/0	162	- 204	3.5	44			Yes	Yes	Yes	Yes	Yes	1,882	2,708	3,223	3,008	3,228	3,483	3,848
pry Sticssonn																						
SPRY 69/12.5 kV Transformer	2.5	28	69	N/A	1 Same and Same	(	a fragmenter of	1			Yes	Yes	Yes.	Yes	Yes	722	731	755	.819	884	953	1,068
Spry Feeder			12.5	3/0	162	204	3.5	44	A	1	Yes	Yes	Yes	Yes	Yes	722	731	755	819	884	953	1,068

Exhibit 12 Garkana Twir	Cities PAC Interconnect	& System Interconnect Forecast Loads
EXHIBIT 12, Garkane I WI	I CILIES FAC IIILEI COIIIIECL	a system miler connect rorecast Loads

	R	atomer ating A/FA /VA)	Nommal Operating Voltage (KV)	Limiting Conduct or Size, (AWIS & KCMILL)	Maximum Operating Temp Conducto r Ampachy (55 C)	Emergency Operating Temp Conductor Ampacity (75 E)	Maximu m 3-ph Line Capacity Due to Ampacity 7 MVA	Emergency 3-ph Line Capacity Due to Ampacity / MVA	Current Voltage Measuremen Is Meet AN SI (384-1	Hased on Projected Loads Voltage Expected to Remain within ANSI GR4 1 For Planning Period	Capacity Ok at Present Based on Ampacity / MVA	Operating Capacity Ok in 3 yrs Based on Ampacity / MVA	Operating Capacity Ok in 5 yrs Based on Ampacity / MVA	Operating Capacity Ok in 7 yrs Based on Ampacity / MVA	Operating Capacity Ok in 10 Vrs Based on Ampacity / MVA	CURRENT YEAR PEAK KW	PEAK AVERAGE D OVER 3 YEARS	MAX PAST 5 YEAP PEAK KW	D PEAR LOAD IN 8 YEARS	ESTIMATE D PEAK LOAD IN 5 YEARS	ESTIMATE D FEAK LOAD IN 7 YEARS	PEAK LOAL IN 10 YEARS
TOTAL SYSTEM	1.1	1	1		0				Yes	As Noted		· · · · ·	· · · · · ·	· · · · · · · ·		66,051	63,379	66,051	68,715	71,374	74,032	78,020
SOUTHERN SYSTEM WESTERN																						
INTERCONNECT (RMP) Twin Cities/Hildale Substation		_		_	_					_	_	_	_	_	_		_				_	
TWIN CITIES HILDALE 69/34.5 kV Transfe	10.0	14.0	69	N/A					1	1. 10	Yes	Yes	Yes	Yes	Yes 1	3.858	3.854	4.674	4.548	4.854	5,160	5,618
Colorado City Substation	4.101	1 1932	Ma	1 1905		-	-				1 100	165	1 65	105	105 1	1 20000	0.001	tiger of	10.0	1,004	0,100	1 0,010
COLORADO CITY SUB #10	5.0	7.0	34.5	N/A			1				Yes	Yes.	Yes	Yes	Yes	2,789	1,889	2,789	Cata	Data	Deta	Data
Colorado City Feeder			12.5	1/0	105	155	23	34		1	Yes	Yes	Yes	Yes	Yes	355	291	355	Theumcent Data	Deta	Insumcent Deta	t Insumcen Data
Contrado Caty Paeder	-	1	1.0.000						-		Yes But	Yes, Dut	Yes But	Yes Dut	Yes, Dut	- 333	1.6%	1999	Pictica	Ligita	LIGIA	Data
Centennial Park #10-2			12.5	1/0	105	155	2,3	3.4			Plan to Replace	Plan Lo Replace	Plan to Replace	Plan tu Replace	Planto Replace	2,500	2,544	2,500	2.677	2,769	2,865	3,016
Cane Beds Step Transformer	0	2 0			2		1		0			- The prince of	- Auguster	- reconary	Tropideo 1	-					-	
Cane Beds Step 34.5/12.5 kV Transforme	1.5	1.5	34.5	(F							Yes, But Plan to Replace	Vies, But Plan to Replace	Yes, But Plan to Replace	Ves, But Plan to Replace	Yes, But Plan to Replace	1,059	1,966	1,885		-		
Cane Beds Feeder		1 L	12.5	-4	75	91	1.6	20			Monitor	Yes, Eut Monitor	Yes, But Monitor	Yes, But Monitor	Yes, Eut Monitor	1,089	1,966	1,885	1			
Twin Cities Substation		1			-	-				-						6 2 3					Terror	
WIN CITIES INTERCONNECTION TOTAL	207	207	69	477	314.00	414.00	37	49			Y88	Vés	Yes	Yes	Yes	10,674	10,443	10,817	10,391	10,660	10,729	10,98
Newell Ave Feeder Utah Ave Feeder	-	-	12,5	1/0 URD 500 URD	450.00	235.00	4	11	-		Yes	Yes	Yes	Yes	Yes	3,148	28	31	23	.2,778	2,661	2,405
			12.5	A/D URD	185.00	235.00	4	5			Yes, But	Yes, Dut	Yes, But	Yes, But	Yes, But				1	1	-	
Township Ave Feeder	1.0	000	( interest		163,00	200.00	1.00			-	Monitor	Monitor	Monitor	Montor	Monitor	3,850	3,730	3,926	3,603	3,522	3,442	
win Cities 69/12.5 kV VT Transformer (Pr win Cities 69/12.5 kV US Transformer (Ba	15.0	10.5	69	N/A			-	1	-		Yes	Yes	Yes	Yes	Yes	7,017	6,851 6,851	7,298	6,527 6.527	6,320 6,320	6,121	
Interconnection Deliveries Substation	1.1.2	1 10.5	119	I INFA			-		-		1.62	tes	1.63	183	165	1.611	0,001	1,430	0,021	0,020	8041	9,000
WIN CITES RMP DEVLIVERY	20	1 20 1	69.00		1		-	1	0		Yes	Yes	Yes	Yes	Yes	10,035	10,263	10,617	10,391	10,560	10,729	
SIGURD 69 UPL Source	20		69.00	1.2.3	1 1	·	1		B	1	Yes	Yes	Yes	Yes	Yes	9,772	9,979	11,336	11,599	12,045	12,491	13,160
GLEN CANYON 138 WAPA Source	60		138.00						1	1	Yes	Yes	Yes	Yes	Yes	46,368	45,261	55,265	47,561	49,159	50,811	53,393
REDONIA CITY 69 Delivery	NON	ENONE	69.00								Yes	Yes.	Yes	Yes	Yes	2.808	2,839	2.969	2.831	2,825	2.820	2.81

### Voltage Measurements

Garkane operates and maintains 33 substations and 2,628 miles of transmission and distribution lines to provide electrical power across its service territory. Metering and control equipment across the system is used to monitor the voltage levels in relation to Garkane's standards. Exhibits 7, 8a, 8b, and 9 provide a summary with a limited sample of the voltages measured during the peak month across the system at peak load at the measurement equipment over the last three years. In addition, the measured voltages are compared to the ANSI C84.1 and Garkane voltage standards. Equipment recording voltage measurement these standards are highlighted in red.

SUBSFAFION/REEDER	38	URD GRIMI	BUS	PARK	ER 69kV	BUS	LYNN	IN 12,54W	6US	BICKN	ELL 12,5 kV	BUS	TORR	EV 125 NV	BUS	TORRE	Y 34.5 KV	BUS	TIANKS	VILLE BAS	IV BUS
ER UNIT MAXIMUM VOLTAGE MEASURED	1.032	1.032	1.033	1.040	1.039	1.036	1.031	1.032	1.031	1.046	1.045	1.047	1.030	1.029	1.032	1.030	1.030	1.030	1.030	1.625	1.03
ER UNIT MINIMUM VOLTAGE MEASURED	1.013	1.012	1,008	1.015	1.006	1,004	1,006	1,005	1.005	1,018	1.019	1.020	1,006	1,004	1.008	1,007	1,005	1,006	1,012	1,012	1.01
DTAL TIME READINGS LESS THAN NOMINAL	0	0	0	0	0	0	Ő	0	0	0	D	Ö	0	0	Ő	0	0	0	0	0	
OTAL TIME READINGS LESS THAN STANDARD	0	0	- 0	Ö	0	0	Ó	0	0	0	Ó	0	0	Ó	0	0	Ó	0	0	0	
OMINAL LINE TO LINE	69000	59000	69000	69000	69000	69000	12470	12470	12470	12470	12470	12470	12470	12470	12470	34500	34500	34500	12470	12470	1247
IOMINAL LINE TO GRND	39837	39837	39837	39837	39837	39837	7200	7200	7200	7200	7200	7200	7200	7200	7200	19919	19919	19919	7200	7200	720
NNUAL PEAK MONTH	Dec-20	Jan-21	Feb-22	May-20	Dec-21		Dec-20	Dec-21	Feb-22	Dec-20	Dec-21	Feb-22	Dec-20	Jan-21	Feb-22	Dec-20	Jan-21	Feb-22		Jan-21	Feb-2
		UREMENTS			REMENTS			REMENTS			REMENTS			REMENTS		MEASUR				REMENTS	1000
12:00:00 AM	70632	70668	70562	41295	41012	40952	7350	7350	7326	12847	12839	12874	7332	7350	7358	20343	20314	202.46	12734	12688	1276
12:15:00 AM	70758		70594	41350	41098	41000	7359	7351	7323	12875	12854	12844	7346	7351	7355	20371	20317	20219	12736	12659	1275
12:30:00 AM	70745		70585	41149	41095	40945	7350	7342	7327	12861	12828	12861	7345	7356	7351	20370	20336	20230	12759	12689	1275
12:45:00 AM	70645	70646	70730	41162	41076	41047	7351	7345	7335	12860	12834	12870	7336	7350	7370	20347	20317	20260	12777	12717	1276
1:00:00 AM	70527	70629	70846	41128	41106		7330	7340	7339	12821	12831	12895	7319	7343	7372	20302	20307	20284	12712	12696	1278
1:15:00 AM	70445		70874	41162	41052		7316	7358	7354	12814	12869	12908	7307	7354	7380	20267	20327	20314	12719	12713	1280
1:30:00 AM	70503	70806	70805	41202	41100	40943	7331	7356	7350	12822	12860	12902	7320	7368	7367	20298	20368	20288	12718	12708	1278
1:45:00 AM	70501	70810	70960	41215	41017	40879	7337	7367	7359	12840	12868	12918	7325	7358	7389	20314	20333	20347	12724	12727	1280
2:00:00 AM	70488		70789	41254	41038		7321	7372	7330	12821	12883	12878	7316	7379	7357	20296	20394	20257	12741	12714	1276
215:00 AM	70539	70975	70761	41246	41046	40841	7339	7357	7335	12837	12855	12880	7326	7365	7363	20312	20398	20265	12717	12756	1274
2:30:00 AM	70514	70994	70820	41224	40996	40837	7335	7377	7341	12840	12881	12877	7319	7368	7373	20300	20405	20282	12703	12759	1273
2:45:00 AM	70573	70590	70710	41226	40998	40845	7338	7352	7315	12846	12844	12853	7323	7320	7357	20314	20279	20233	12728	12756	1277
3:00:00 AM	70492	70621	70738	41238	40968	40766	7317	7348	7329	12805	12844	12874	7310	7334	7355	20272	20322	20247	12732	12672	1274
3:15:00 AM	70533	70586	70688	41232	40995	40788	7332	7339	7306	12824	12831	12839	7319	7325	7342	20294	20286	20204	12760	12682	1272
3:30:00 AM	70494	70639	70709	41248	40985	40722	7321	7340	7307	12825	12837	12838	7312	7342	7330	20277	20336	20181	12713	1267B	1270
3:45:00 AM	70474	70503	70683	41248	40939	40725	7327	7337	7315	12812	12830	12882	7315	7314	7346	20279	20257	20216	12705	12695	1274
4:00:00 AM	70359	70465	70589	41239	40865	40710	7309	7331	7300	12835	12821	12860	7299	7305	7311	20250	20227	20149	12684	12679	1274
4:15:00 AM	70339	70489	70633	41192	40799	40714	7300	7333	7303	12824	12823	12861	7290	7312	7327	20214	20244	20172	12584	12676	1268
4:30:00 AM	70383	70413	70543	41195	40769	40541	7306	7338	7284	12826	12835	12820	7298	7298	7305	20239	20210	20113	12711	12677	1267
4:45:00 AM	70294	70364	70522	41170	40611	40556	7280	7322	7281	12799	12808	12841	7280	7295	7316	20179	20202	20137	12713	17661	1769
5:00:00 AM	70230		70491	41130	40732	40431	7273	7311	7293	12786	12821	12831	7275	7285	7309	20179	20175	20117	12694	12694	1270
5:15:00 AM	70312	70272	70501	41122	40625	40365	7290	7294	7283	12807	12794	12831	7281	7272	7306	20191	20138	201.22	12599	12719	1268
5:30:00 AM	70210		70296	41064	40570	40475	7277	7287	7225	12787	12778	12535	7264	7276	7302	20152	20146	20125	12720	12699	1270
5:45:00 AM	70109	70197	70293	41004	40476	40458	7253	7269	7283	12749	12723	12842	7249	7262	7308	20099	20104	20178	12711	12701	1275
5:00:00 AM	70364	70182	70152	40959	40597	40450	7283	7288	7275	12801	12870	12796	7272	7263	7293	20169	20111	20098	12738	12712	1275
6:15:00 AM	70295	70029	70152	40335	40596	40402	7272	7267	7269	12773	12870	12730	7261	7257	7291	20128	20013	20038	12750	12698	1275
6:30:00 AM	70295	70352	70256	40815	40695	40402	7270	7278	7312	12804	12800	12848	7259	7291	7318	20132	20195	20112	12730	12050	1274
5:45:00 AM	70281	70352	70256	40838	40695	40447	7264		7312	12804	12800	12848	7259	7291		20132	20195	20141	12730	12712	
The second se								7268						1	7310						1275
7:00:00 AM	70361	70339	70249	40733	40796	40417	7296	7284	7302	12827	12849	12847	7285	7295	7308	20216	20200	20113	12723	12690	1267
7:15:00 AM	70486	70243	70162	40745	40828	40424	7303	7316	7294	12849	12907	12851	7303	7280	7300	20271	20166	20101	12719	12710	1269
7:30:00 AM	70444	70319	70234	40650	40775	40424	7306	7320	7288	12845	12899	12841	7296	7291	7309	20242	20193	20102	12705	12723	1272
7:45:00 AM	70506	70364	70251	40811	40793	40382	7320	7337	7323	12863	12927	12895	7317	7275	7312	20311	20155	20160	12668	12727	1271
8:00:00 AM	70592	70518	70190	40865	40812	40463	7343	7324	7296	12906	12915	12852	7329	7304	7296	20343	20234	20102	12702	12724	1273
8:15:00 AM	70511	70622	70181	40853	40800		7327	7332	7302	12888	12926	12843	7322	7314	7301	20319	20265	20108	12733	12805	1270
8:30:00 AM	70525	70789	70175	40784	40815	40521	7343	7332	7292	12893	12920	12841	7332	7342	7311	20343	20342	20113	12716	12820	1272
8:45:00 AM	70517	70725	70120	40735	40833	40552	7348	7350	7287	12914	12950	12830	7341	7332	7284	20380	20316	20079	12721	12808	1271
9:00:00 AM	70532	70715	70236	40789	40855	40576	7354	7349	7320	12885	12947	12871	7343	7334	7317	20341	20319	20145	12698	12767	1275
9:15:00 AM	70636	70722	70339	40743	40852	40532	7371	7350	7342	12910	12948	12912	7358	7332	7336	20386	20315	20204	12698	12780	1278
9:30:00 AM	70439	70550	70329	40819	40944	40591	7344	7358	7328	12869	12958	12889	7334	7326	7335	20315	20301	20179	12699	12722	1278
9:45:00 AM	70530	70470	70321	40820	40997	40507	7367	7365	7325	12903	12929	12889	7356	7323	7341	20382	20295	20199	12700	12717	1276
10:00:00 AM	70406	70381	70369	40809	41051	40512	7332	7371	7332	12814	12935	12897	7313	7312	7348	20301	20267	20215	12726	12740	1276
10:15:00 AM	70292	70195	70327	40749	41089	40632	7305	7368	7344	12771	12937	12906	7289	7297	7333	20243	20223	20194	12701	12693	1278
10:30:00 AM	70512	70164	70357	40706	41108	40642	7341	7387	7353	12827	12967	12926	7332	7308	7357	20306	20256	20241	12716	12708	1279
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	the second s			11000					the second states of the	and the second se					100		the second se		1274
10:30:00 AM 10:45:00 AM	70512	70164	70357 70212	40706 40796	41108 41220	40642 40692	7341 7329	7387 7405	7353	12827 12798	12967 12928	12926 12887	7312	7308	7357 7337	20306 20271	20256 20314	20241 20201	12716 12732	12708 12723	

	TION/FEEDER		CANYON 138kV	1.00218		O HENRIEVILLE 1			IEVILLE 138kV			TATION SUB BU			CALANTE SUB B			DULDER SUB B			ULDER SUB 69 KV I	
RUNIF MAXIMUM VOLT	AGE MEASURED	1.056	1.065	1.066	1.057	1.067	1.070	1,070	1.069	1.075	1.031	1.031	1.031	1.037	1.031	1.031	1.019	1.025	1.029	0.000	1.050	1.0
UNIT MINIMUM VOLT/	AGE MEASURED	1.004	1.017	0.999	1.006	1.024	1.010	1.016	1.015	0.999	1.005	1.005	1.004	1.011	1.007	1.007	0,967	0.975	0.956	0.000	0.997	0.9
TAL TIME READINGS LES	STHAN NOMINAL	0	0	2	0	0	0	0	.0	3	0	0	0	0	0	0	2064	661	1052	0	15	
TAL TIME READINGS LES	S THAN STANDARD	0	0	0	0	0	0	0	.0	0	0	0	0	0	0	0	0	0	-0	ŭ	0	
IN CANVON LOAD AT EX	& URSION VOLTAGE (MVA)			1								1.0										
OMINAL LINE TO LINE		138000	138000	138000	138000	138000	138000	138000	138000	138000	12470	12470	12470	12470	12470	12470	12470	12470	12470	69006	69000	69
OMINAL LINE TO GRHD		79674	79674	79674	79674	79674	79674	79674	79674	79674	7200	7200	7200	7200	7200	7200	7200	7200	7200	39837	39837	390
NNUAL PEAK MONTH		Feb-20	Dec-21	Eeb-22	Feb-20	Dec-21	Jan-22	Feb-20	Jan-21	lan-22	Mar-20	Apt -21	Sep-22	Feb-20	Qct-21	Feb-22	Dec-20	Feb-21	Dec-22	May-20	Apr-21	May
DAY of Month	Hour:Minute	MEASUREME	NTS (LINE TO LIP	IE & GROUNDI	MEASUP	EMENTS (LINE TO	D LINE)	MEASUREM	ENTS (LINE TO	GROUND)	MEASUR	EMENTS [LINE	TO LINE)	MEASU	REMENTS (LINE T	TO LINE)	MEASUR	EMENTS (LINE	TO LINE!	MEASU	REMENTS (LINE T	O LINE)
1	12:00:00 AM	143829	83297	83658	143787	145354	143657	83434	82931	84158	12660	12723	12765	12797	12797	12699	12527	12294	12570	No Readings	70121	71
1	12:15:00 AM	143600	83789	83658	143875	145453	143699	83560	82923	84156	12657	12729	12759	12797	12813	12701	12547	12303	12575	1	70152	71
1	12:30:00 AM	143791	83204	83658	143559	145296	143618	83452	82899	84125	12657	12722	12759	12797	12808	12694	12541	12308	12569		70156	71
1	12:45:00 AM	144098	83843	83658	143773	145437	143735	83507	82853	84344	12658	12726	12759	12797	12814	12/22	12520	12301	12599		70098	73
1	1:00:00 AM	144080	83527	83658	144224	145334	143660	83653	82836	84250	12641	12716	12759	12797	12818	12695	12512	17315	12569	5	70030	73
1	1:15:00 AM	143970	83491	83658	144052	145689	143609	83618	83031	84192	12637	12697	12759	12797	12830	12707	12497	12318	12582		70010	7
1	1:30:00 AM	144093	83946	83658	144059	145705	143653	83660	82919	84150	12642	12694	12771	12797	12807	12684	12492	12326	12562	1	69923	
1	1:45:00 AM	144034	83279	83658	144090	145355	143509	83687	83013	84120	12638	17688	12759	12797	12810	17688	17498	12317	12554		69984	7
1	2:00:00 AM	144152	83888	83658	144099	145600	143391	83602	83087	84060	12644	12684	12759	12797	12824	12672	12481	12310	12550		69909	71
1	2:15:00 AM	143869	83243	83658	144107	145290	143456	83666	83030	84040	12641	12680	12748	12797	12822	12676	12473	12310	12542		69928	43
1	2:30:00 AM	143998	83841	83658	144072	145446	143415	83747	82982	84082	12640	12681	12754	12797	12819	12673	12464	12297	12538		69933	7
1	2:45:00 AM	144071	83225	83658	144023	145285	143276	83752	82912	84031	12637	12691	12759	12797	12806	12665	12487	12320	12527		69937	73
1	3;00:00 AM	144102	83465	83658	143998	145267	143214	83663	82893	84085	12637	12687	12748	12797	12811	12676	12485	12315	12555		69982	7
1	3:3.5:00 AM	143976	83157	83658	143970	145096	143218	83691	82844	83946	12632	12676	12754	12797	12807	12650	12495	12301	12514		69862	7
1	3:30:00 AM	143712	83376	83658	143792	145082	143018	83633	82844	84019	12633	12668	12771	12797	12805	12672	17498	12308	12544		69786	7.
1	3:45:00 AM	143681	83347	83658	143821	145008	142981	83647	82827	83911	12628	12661	12759	12797	12802	12656	12482	12290	12543		69802	73
1	4:00:00 AM	143665	83327	83658	143685	144981	143012	83571	82743	83891	12622	12652	12759	12797	12795	12643	12448	12307	12518		69661	Ť
1	4:15:00 AM	143664	83667	83658	143709	145264	143044	83619	82754	83950	12620	12637	12771	12797	12792	12660	12457	12300	12537		69599	7
1	4:30:00 AM	143845	83072	83658	143704	144993	143091	83516	82639	83738	12615	12623	12794	12797	12768	12622	12450	12287	12497	4-	69491	7
1	4:45:00 AM	143412	83293	83658	143795	144635	143133	83470	82517	83811	12606	12603	12788	12797	12751	12626	12442	12284	12507		69390	73
1	5:00:00 AM	143514	82/20	83658	143555	144460	142977	83421	82546	83563	12606	12661	12/88	.12/9/	12723	12584	12411	12274	12470		69305	1
I	5:15:00 AM	143599	83108	83658	143574	144288	142806	83376	82536	83540	12603	12645	12777	12797	12712	12583	12412	12252	12459		69182	73
1	5:30:00 AM	143443	82714	83658	143611	144053	142747	83414	82505	83248	12586	12636	12759	12797	12699	12598	12406	12225	12400	2	69096	7
1	5:45:00 AM	1/13601	82496	83658	143505	143696	142437	83281	82402	83442	12582	12624	12748	12797	12685	12632	12382	12243			69012	73
1	6:00:00 AM	143652	82118	83658	143567	143048	142302	83262	82334	83234	12623	12638	12731	12797	12665	12594	12368	12217	12403		68935	-73
1	6:15:00 AM	143376	82081	83658	143698	143003	142149	83264	82251	83129	12656	12641	12731	12797	12666	12573	12340	12205	12372		68789	-73
1	6:30:00 AM	143241	82271	83658	143497	142980	142037	83130	87173	83052	12637	12639	12759	12797	12661	12624	17345	12190	12367		68918	Ť.
1	6:45:00 AM	143000	82039	83658	143384	142873	141819	83086	82116	83072	12607	12648	12748	12797	12641	12621	12334	12190	12359	1	69035	70
1	7:00:00 AM	142822	82038	83658	143135	142601	141998	82988	81939	82953	12597	12657	12742	12797	12647	12602	12321	12191	12340	1	69001	70
1	7:15:00 AM	143005	81742	83658	142851	142877	141637	87888	81924	82977	12596	12681	12713	12797	12673	12611	12342	12180	12333	-	691.03	70
1	7:30:00 AM	142756	82488	83658	143013	143241	141647	82889	81840	83082	12586	12711	12679	12797	12679	12608	12332	12177	12332		69383	71
1	7:45:00 AM	142784	82515	83658	142717	143711	141345	82851	81/35	82898	1,2595	12745	12/13	12797	12688	125/9	12332	1218)	12317		69485	71
1	8:00:00 AM	143003	82558	83658	142815	143877	141486	82889	81854	82969	12615	12764	12742	12797	12684	12595	12373	12175	12325	)i	69657	70
1	8:15:00 AM	143095	82908	83658	143080	144421	141573	83026	81916	83017	12639	12798	12/19	12797	12682	12608	12379	12177	12337	h	69828	70
1	8:30:00 AM	143359	83107	83658	143119	144335	141930	83136	82049	83077	12653	12827	17690	12797	12681	12636	12390	12176	12358		69989	70
1	8:45:00 AM	143512	82985	82789	143416	144880	141927	83195	82009	83100	12665	12841	12679	12797	12690	12623	12394	12155	12356		70063	70
1	9:00:00 AM	143448	83479	82808	143525	145076	142167	83291	82190	83153	12669	12827	12690	12797	12703	12630	12404	12174	12365		70272	/0
1	9:15:00 AM	143880	83288	83056	143528	145362	142085	83325	82190	83407	12677	12831	12598	12797	12693	12684	17437	12181	12400		70297	70
1	9:30:00 AM	144041	83689	83120		145587	142260	83475	82232	83556	12691	12812	12580	12797	12686	12709	12449	12184			70296	70
1	9:45:00 AM	144524	83446	83311	144083	145660	142300	83566	82346	83678	12689	12771	12563	12/9/	12705	12732	12463	12185			70400	/0
1	10:00:00 AM	144417	83867	83311	144551	145913	142431	83807	82483	83694	12718	12721	12644	12797	17695	12740	12481	12310	12463	1	70223	70
1	10:15:00 AM	144397	84106	83477	144264	145924	142594	83766	82507	83838	12724	12738	12609	12797	12699	12759	12513	12343	12485		70263	70
1	10:30:00 AM	144567	83884	83531	144524	146266	142662	83945	82570	83926	12724	12744	12575	12797	12713	12775	12518	12347			70220	70
1	10:45:00 AM	144701	84284	83573	144656	146201	142474	83964	82763	83979	12727	12743	12557	12797	12687	12794	12533	17359	12511		70204	70
1	11:00:00 AM.	144838	83854	83705	144773	146210	142617	83993	82991	84162	12738	12754	12540	12797	12703	12805	12531	12368			70373	70
1	11:15:00 AM	144881	84425	83787	144838	146347	142896	84023	82899	84738	17737	12763	12644	12,797	12710	12822	12539	17379	12546	1	70558	70
1	11:30:00 AM	145000	83911	83887	144877	1462.56	142836	84085	82977	84374	12746	12781	12650	12797	12707	12847	12526	12388			70416	70
1	11:45:00 AM	144983	84556	83870	145029	146570	142651	84187	83105	84332	12745	12773	12615	12797	12703	12829	12542	12396	12578		70487	70
1	12:00:00 PM	145016	84086	83957	145032	146527	142753	84281	83186	84405	12744	12766	12621	12.797	12715	12811	12558	12378	12593	e	70411	-70
1	12:15:00 PM	145220	84270	84038	145041	146462	142869	84214	83147	84526	12743	12764	12586	12797	12691	12806	12572	12388		1	70416	- 7
1	12:30:00 PM	145132	84062	83990	145136	146453	142785	84345	83357	84444	12733	12775	12586	12797	12707	12802	12576	12388			70573	7
1	12:45:00 PM	145150	84208	83966	145105	146336	142899	84235	83442	84536	12730	12786	12580	12797	12709	12811	12577	12386		1	70545	7
1	1:00:00 PM	145430	84382	83985	145301	146364	142966	84353	83433	84485	12739	12785	12563	12797	12692	12809	12601	12392	12606		70502	. 7
1	1:15:00 PM	145002	84427	83978	145559	146377	143311	84475	83456	84537	12761	12/84	12557	12797	12690	12796	12623	12446	12619		70547	1
1	1:30:00 PM	145382	84247	84080	145041	146427	143088	84513	83446	84549	12767	12787	12615	12797	12669	12795	12646	12468			70560	7
1	1:45:00 PM	145415	84049	83967	145303	146425	143452	84542	83496	84500	12771	12781	12609	12797	12649	12791	12644	12467			70587	7)
1	2:00:00 PM	145368	84031	84028	145372	146566	143445	84538	83509	84571	12785	12779	12615	12797	12657	12798	12642	12/169	12627		70541	7
1	2:15:00 PM	145444	84029	84034	145330	146552	143574	84520	83512	84581	12784	12783	12621	12797	12649	12805	12642	12486			70561	70
1	2:30:00 PM	145430	84106	84052	145547	146697	143555	84527	83417	84618	12789	12788	12598	12797	12642	12814	12646	12486		1	70542	7
1	2:45:00 PM	145391	84248	83955	145507	146410	143571	84524	83606	84478	12734	12780	12604	12797	12649	12791	12648	12485			70523	7
1	3:00:00 PM	145441	83926	83840	145419	146284	143724	84545	83604	84339	12654	12762	12592	12797	12653	12775	12629	12450			70467	7
1	3:15:00 PM	145508	83850	83851	145427	146122	143658	84520	83600	84331	12649	12782	12592	12,797	12653	12776	12622	12465	12595	11	70545	7
1	3:30:00 JM	145188	84074	83776	145496	146116	143623	84520	82693	84283	12646	12773	12580	12797	12666	12762	12628	12458	12592		70387	7
	3:45:00 PM	144763	83923	83708	145280	146177	143443	84577	83458	84180	12617	12761	12609	12797	12664	12751	12626	12462	12567		70359	7

# Exhibit 14a, Glen Canyon Interconnect, East Garfield County Transmission Feeder

	SUBSTATION	FEEDER	BL	JCKSKIN GLEN	ANYON 138K	/ FEED	*BUCKSKIN1	O HENRIE	VILLE 138kV FE	ED	HENRIEVILLE 13	8kV BUS	E/	AST VALLEY SWI	CH BUS		TROPIC SUB B	JS	P	RYCE SUB BUS	
ER UNIT MAX	IMUM VOLTAGE	MEASURED		1.056	1.065	1.066	1.057		1.067	1.070 1	.070 1.0	069 1.0	75 1.0	16 1.0	31 1.03	1 1.05	2 1.04	4 1.048	1.030	1.027	1.
ER UNIT MIN	MUM VOLTAGE	MEASURED		1.004	1.017	0.999	1.005	-			.010 1.0	015 0.5		0.9	77 0.9	7 1.01	9 1.01	3 1.016	1.008	1.004	1.
OTAL TIME RF	ADINGS LESS TH	HAN NOMINAL		0	0	2	0	-	0	0	0	0	3 20	024	99 8	3	D	0 0	0	0	
DTAL TIME RF	ADINGS LESS TH	AN STANDARD		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0 0	0	0	-
LEN CANYON	LOAD AT EXCUR	SION VOLTAGE	(MVA)								- 1		1			1	1				
OMINAL LINE	TO LINE			138000	138000	138000	138000	13	8000 1	8000 13	6000 1380	000 1380	00 690	000 690	00 6900	0 1247	0 1247	0 12470	12470	12470	12
OMINAL LINE	TO GRND			79674	79674	79674	79674	7	9674	9674 7	9674 796	674 796	74 398	337 398	37 3983	7 720	720	0 7200	7200	7200	7
NNUAL PEAK	MONTH		Fe	b-20	Dec-21	Feb-22	Feb-20	D	ec-21 J	an-22 Feb-2	nel C	-21 Jan-	22 Dec-20	Dec	21 Jan-:	2 Feb-20	Oct-2	1 Feb-22	Feb-20	Oct-21	Jan
DAY of N	Aonth	Hour:Minut	te MEA:	SUREMENTS (L	NE TO LINE &	GROUND)	MEASU	REMENTS	LINE TO LINE)	MEAS	UREMENTS (LINE	TO GROUND)	MEA	SUREMENTS (LI	NE TO LINE)	MEASU	IREMENTS (LIN	TO LINE)	MEASUR	EMENTS (LINE T	O LINE)
1		12:00:00 A	M	143829	83297	\$3658	143787	14	5354 14	3657 8	3434 829	931 841	.58 691	155 70	88 6856	7 1287	4 1270	1 12815	12669	12747	11
1		12:15:00 A	M	143600	83789	83658	143875	14	15453 14	3699 8	3560 829	923 841	.56 692	70	67 685	9 1288	1 1270	2 12816	12687	12757	1
1		12:30:00 At	M	143791	83204	83658	143559	14	5296 14	3618 8	3452 828	899 841	25 691	237 70:	49 6859	3 1287	9 1269	8 12825	12677	12759	1
1	-	12:45:00 AI	M	144098	83843	83658	143773	14	15437 14	13735 8	3507 828	853 843	44 691	125 70	83 6864	9 1287	1 1270	4 12825	12677	12758	1
1		1:00:00 AN	N	144080	83527	83658	144224	14	5334 14	3660 8	3653 828	836 842	50 690	22 70	56 685	7 1289	9 1268	7 12831	12707	12765	1
1		1:15:00 AM	Ń	143970	83491	83658	144052	14	15689 14	3609 8	3618 830	031 841	.92 690	20 70:	95 6856	3 1289	9 1271	5 12797	12694	12770	1
1		1:30:00 AM	N	144093	83946	\$3658	144059					939 841		305 703					12697	12750	1
1		1:45:00 AM	A N	144034	83279	83658	144090	14	5355 14	3509 8	3687 830	013 841	20 690	29 70	45 6849	0 1289	9 1269	0 12798	12706	12746	1
1		2:00:00 AM	Ń	144152	83888	83658	144099				3602 830						3 1271		12692	12761	1
1		2:15:00 AM	N	143869	83243	83658	144107	14	5290 14	3456 8	3666 830	030 840	40 689	910 700	91 6844	4 1289	8 1268	4 12797	12700	12765	3
1		2:30:00 AM	N	143998	83841	83658	144072	14	15446 14	3415 8	3747 829	982 840	82 688	399 70	54 684	0 1291	2 1269	0 12797	12714	12758	1
- 1		2:45:00 AM	A L	144071	83225	83658	144023	14	5285 14	3276 8	3752 829	912 840	31 689	989 70	07 6838	1 1292	1 1269	7 12786	12719	12752	4
1		3:00:00 AM	N	144102	83465	83658	143998	14			3663 828								12695	12746	
1	-	3:15:00 AM	N I	143976	83157	83658	143970	14	5096 14	3218 8	3691 828	844 835	46 689	699	80 6834	9 1290	1266	0 12822	12698	12742	
1		3:30:00 AM																			
1	-	3:45:00 AM		143712 143681	83376 83347	83658 83658	143792 143821			C 8.712	3633 828 3647 828			IGEN ICT:	12. 2021	2012	2421		12692 12694	12744 12731	
1					10000		10/32/2 -			C 8.712				IGEN ICT:	12. 2021	2012	2421				12
	TCH SUB 69 KV	3:45:00 AN	м		83347		10/32/2 -	14		2981 8		827 839	11 689	IGEN ICT:	71 682:	8 1290	2421	2 12789	12694		1
-	TCH SUB 69 KV 1.041	3:45:00 AN BUS	M HATC	143681	83347	83658	143821	14		2981 8	3647 828	827 839	11 689	922 699	71 682:	8 1290	1 1267	2 12789	12694	12731	1
HAT		3:45:00 AN BUS 1.036	M HATC	143681 .H SUB 34.5 K\	83347 BUS	83658	143821 SPRY SI	14 JB BUS	14	12981 S TODS	3647 829 SUB 34.5 KV BU	827 835	11 689 TODS	50B 12.5 KV B	71 682: JS	8 1290 ZION VIE	1 1267 W SUB 12,5 KV	2 12785 BUS	12694 DUCK CREE	12731 K SUB 12.5 KV	1 / BUS
HA1 1.022	1.041	3:45:00 AN BUS 1.036 0.949	и НАТС 0.957	143681 CH SUB 34.5 KV 0,958	83347 BUS 0.91	83658 58 31	143821 SPRY SI 1.048	14 JB BUS 1.048	1,022	12981 8 TODS 0.987	3647 823 SUB 34.5 KV BU 0.988	827 835 S. 0.993	11 589 TODS 1.037	5UB 12.5 KV B 1.032	71 6823 JS 1.037	8 1290 ZION VIE 1.028	1 1267 W SUB 12,5 KV 1.028	2 12785 BUS 1.027	12694 DUCK CREI 1.030	12731 K SUB 12.5 KV 1.044	/ BUS
HA1 1.022 0.956	1.041 0.964	3:45:00 AN BUS 1.036 0.949	M HATC 0.957 0.933	143681 H SUB 34.5 KV 0,958 0.931	83347 BUS 0.91 0.93	83658 58 31	143821 SPRY SI 1.048	14 JB BUS 1.048	1.022 0.998	12981 8 TODS 0.987 0.953	3647 823 SUB 34.5 KV BU 0.988 0.963	827 835 IS. 0.993 0.962	11 589 TODS 1.037	5UB 12.5 KV B 1.032	71 6823 JS 1.037	8 1290 ZION VIE 1.028	1 1267 W SUB 12,5 KV 1.028 1.006	2 12785 BUS 1.027	12694 DUCK CREI 1.030	12731 K SUB 12.5 KV 1.044	1 / BUS 1
HA1 1.022 0.956	1.041 0.964	3:45:00 AN BUS 1.036 0.949	M HATC 0.957 0.933	143681 H SUB 34.5 KV 0,958 0.931	83347 BUS 0.91 0.93	83658 58 31	143821 SPRY SI 1.048	14 JB BUS 1.048	1.022 0.998	12981 8 TODS 0.987 0.953 2976	3647 823 SUB 34.5 KV BU 0.988 0.963 2976	827 835 IS. 0.993 0.962	11 589 TODS 1.037	5UB 12.5 KV B 1.032	71 6823 JS 1.037	8 1290 ZION VIE 1.028	1 1267 W SUB 12,5 KV 1.028 1.006	2 12785 BUS 1.027	12694 DUCK CRED 1,030 0.983 1	12731 K SUB 12.5 KV 1.044	1 / BUS 1.
HA1 1.022 0.956	1.041 0.964	3:45:00 AN BUS 1,036 0,949 791 1 35:4	M HATC 0.957 0.933 2976	143681 CH SUB 34.5 KV 0,958 0.931 2976	83347 BUS 0.91 0.92 29	83658 58 31 76	143821 SPRY SI 1.048 1.023 0 0	14 JB BUS 1.048	1.022 0.998	12981 8 TODS 0.987 0.953 2976	3647 823 SUB 34.5 KV BU 0.988 0.963 2976	827 835 IS. 0.993 0.962	11 589 TODS 1.037	5UB 12.5 KV B 1.032	71 6823 JS 1.037	8 1290 ZION VIE 1.028	1 1267 W SUB 12,5 KV 1.028 1.006	2 12785 BUS 1.027	12694 DUCK CRED 1,030 0.983 1	12731 K SUB 12.5 KV 1.044	1 / BUS 1 1
HAT 1.022 0.956 1740 0	1.041 0.964 675 0	3:45:00 AN BUS 1,036 0,949 791 1 35:4	M HATC 0.957 0.933 2976 TAP UP	143681 CH SUB 34.5 KV 0,958 0,931 2976 TAP UP	83347 BUS 0.93 0.93 0.93 293 TAP UP	83658 58 51 56 50 1	143821 SPRY SI 1.048 1.023 0 0	14 JB BUS 1.048 1.024 0 0	1,022 0,998 1,03 0	TODS 0.987 0.953 2976 0	3647 823 SUB 34.5 KV BU 0.988 0.963 2976 0	827 835 0.993 0.962 2976 0	TODS 1.037 1.005 0 0	922 699 5UB 12.5 KV B 1,032 1.007 0 0	71 682: JS 1.037 1.005 0 0	ZION VIE 1.028 1.006 0 0	1 1267 W SUB 12,5 KV 1.028 1.006 0 0	2 12785 BUS 1.027 1.006 0 0	12694 DUCK CREI 1,030 0.983 1 0	12731 K SUB 12.5 KV 1.044 1.008 0 0	1 / BUS 1.
HAT 1.022 0.956 1740 0 69000 39837	1.041 0.964 675 0 69000	3:45:00 AN BUS 0.949 791 1 35:4 69000	M 0.957 0.933 2976 TAP UP 34500	143681 H SUB 34,5 KV 0,958 0,931 2976 TAP UP 34500	83347 BUS 0.93 0.93 293 TAP UP 3450	83658 83 81 76 90 11 19	143821 SPRY SI 1.048 1.023 0 0 0 1.049 1.023 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1.048 1.024 0 0 12470	1,022 1,022 0,998 103 0 12470	12981 8 0.987 0.953 2976 0 34500.0	3647 823 SUB 34.5 KV BU 0.988 0.963 2976 0 34500	827 835 0.993 0.962 2976 0 34500	TODS 1.037 1.005 0 0 12470.0	5UB 12.5 KV B 1.032 1.007 0 0 12470	71 682 JS 1.037 1.005 0 0 12470	8 1290 ZION VIE 1.028 1.006 0 0 240	1 1267 W SUB 12,5 KV 1.028 1.006 0 0 240	2 12785 BUS 1.027 1.006 0 0 240	12694 DUCK CREI 1,030 0.983 1 0 0 12470	12731 K SUB 12.5 KV 1.044 1.008 0 0 12470	/ BUS 1 1 12
HAT 1.022 0.956 1740 0 69000 39837 Dec-20	1.041 0.964 675 0 69000 39837	3:45:00 Ah 8US 1,036 0,949 791 1 35:4 69000 39837 Jan-22	M HATC 0.957 0.933 2976 TAP UP 34500 19919 Dec-20	143681 H SUB 34.5 KV 0.958 0.931 2976 TAP UP 34500 19919	83347 BUS 0.93 0.93 299 TAP UP 3450 1993 Jan-3	83658 83658 81 76 90 10 19 22 Aug-2	143821 SPRY SI 1.048 1.023 0 0 0 1.049 1.023 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21	14 1.022 0.998 103 0 12470 7200 Sep-22	2981 8 TODS 0.987 0.953 2976 0 34500.0 19918.6 Dec-20	3647 823 SUB 34.5 KV BU 0.988 0.963 2976 0 34500 19919	827 835 0.993 0.962 2976 0 34500 19919 Jan-22	TODS 1.037 1.005 0 12470.0 7200 Dec-20	322 699 SUB 12.5 KV B 1.032 1.007 0 0 12470 7200	71 682: JS 1.037 1.005 0 0 12470 7200 Jan-22	ZION VIE 1.028 1.006 0 240 120 Aug-20	1 1267 W SUB 12,5 KV 1.028 1.006 0 0 240 120	2 12785 BUS 1.027 1.006 0 0 240 120 Apr-22	12694 DUCK CREI 1,030 0,983 1 0 12470 7200 Dec-20	12731 K SUB 12.5 KV 1.044 1.008 0 0 12470 7200	/ BUS 1 1 1 1 1 1 1
HAT 1.022 0.956 1740 0 69000 39837 Dec-20	1.041 0.964 675 0 69000 39837 Dec-21	3:45:00 Ah 8US 1,036 0,949 791 1 35:4 69000 39837 Jan-22	M HATC 0.957 0.933 2976 TAP UP 34500 19919 Dec-20	143681 H SU8 34.5 KV 0.958 0.931 2976 TAP UP 34500 19919 Dec-21	83347 BUS 0.93 0.93 299 TAP UP 3450 1993 Jan-3	83658 88 31 76 20 11 9 22 Aug-2 Mi	143821 SPRY SI 1.048 1.023 0 0 1.2470 7200 20 EASUREMENT	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21	14 1.022 0.998 103 0 12470 7200 Sep-22	2981 8 TODS 0.987 0.953 2976 0 34500.0 19918.6 Dec-20	3647 823 SUB 34.5 KV BU 0.988 0.963 2976 0 34500 19919 Dec-21	827 835 0.993 0.962 2976 0 34500 19919 Jan-22	TODS 1.037 1.005 0 12470.0 7200 Dec-20	322 699 SUB 12.5 KV B 1,032 1,007 0 0 1,2470 7200 Dec-21	71 682: JS 1.037 1.005 0 0 12470 7200 Jan-22	ZION VIE 1.028 1.006 0 240 120 Aug-20	1 1267 W SUB 12.5 KV 1.028 1.006 0 0 240 120 Jul-21	2 12785 BUS 1.027 1.006 0 0 240 120 Apr-22	12694 DUCK CREI 1,030 0,983 1 0 12470 7200 Dec-20	12731 12731 12731 12731 1.044 1.008 0 0 12470 7200 Dec-21	/ BUS 1 1 1 Ja LINE)
HA1 1.022 0.956 1740 0 69000 39837 0ec-20 MEASUR	1.041 0.964 675 0 69000 39837 Dec-21 REMENTS (LINE	3:45:00 Ah 8US 1.036 0.949 791 1 35:4 6:9000 39837 Jan-22 TO LINEJ	M HATO 0.957 0.933 2976 TAP UP 34500 19919 Dec-20 MEASUR	143681 H SUB 34.5 KV 0,958 0,931 2976 TAP UP 34500 19915 Dec-21 EMENTS (LINE	83347 BUS 0.91 293 TAP UP 3450 1997 Jan-3 TO LINE)	83658 58 51 56 50 19 52 20 19 52 20 19 53 54 55 58 55 58 55 55 55 55 55 55 55 55 55	143821 SPRY SI 1.048 1.023 0 0 1.2470 7200 20 EASUREMENT	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 S (LINE TO	1.022 0.998 103 0 12470 7200 Sep-22 0 LINE)	2981 8 TODS 0.987 0.953 2976 0 34500.0 19918.6 Dec20 MEASURE	36647 823 308 34.5 KV 80 0.963 2976 0 34500 19919 Dec-21 MENTS (UNE TO	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 LLINE	TODS 1.037 1.005 0 0 12470.0 7200 Dec-20 MEASURE	322 699 SUB 12.5 KV B 1.032 1.007 0 0 0 12470 7200 Dec-21 MENTS (LINE T	71 682 JS 1.037 1.005 0 0 12470 Jan-22 D LINE	ZION VIE 1.028 1.028 1.006 0 0 240 120 Aug-20 MEASUREI	1 1267 W SUB 12.5 KV 1.028 1.006 0 0 240 120 120 120 14-21 WENTS (LINE T	2 12785 BUS 1.027 1.006 0 240 120 Apr-22 D LINE	12694 DUCK CREI 1,030 0,983 1 0 12470 7200 7200 Dec-20 MEASUREM	12731 EK SUB 12.5 KV 1,044 1,008 0 0 12470 7200 Dec-21 IENTS (LINE TO	/ BUS 1 1 1 Ja LINE) 1.
HAT 1.022 0.956 1740 0 69000 39837 2ec-20 MEASUR 69478	1.041 0.964 675 0 69000 39837 Dec-21 & MENTS (LINE 70671	3:45:00 Ak BUS 1,036 0.949 791 1 1 35.4 69000 39837 Jan-22 TO UNE) 68430	M HATC 0.957 0.933 22576 TAP UP 34500 19919 Dec-20 MEASUR 32492	143681 H SUB 34.5 KV 0.958 0.931 2976 TAP UP 34500 19915 Dec-21 EMENTS (LINE 32735	83347 BUS 0.91 299 TAP UP 3450 1993 Jan-3 TO LINE) 3273	83658 58	143821 SPRY SI 1.048 1.023 0 0 0 1.048 1.023 0 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1.048 1.024 0 0 12470 7200 7200 Aug-21 5 (LINE TC 13036	10008 14 1.022 0.998 103 0 12470 7200 Sep-22 0 LINE) 12510	2981 8 TODS 0.987 0.953 2976 0 54500.0 19918.6 Dec-20 MCASURE 33569	3667 828 SUB 34.5 KV BU 0.988 0.963 2976 0 34500 19919 Dec-21 MENTS (UNE TO 33399	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 LINE) 33553	TODS 1.037 1.005 0 0 12470.0 7200 Dec-20 MEASURE 12638	922 695 SUB 12.5 KV B 1.032 1.007 0 0 12470 7200 Dec-21 MENTS [LINE T 12614	71 682: 1.037 1.005 0 0 12470 7200 Jan-22 UNE) 12638	210N VIE 1.028 1.006 0 0 240 120 Aug-20 Mag-20 Mag-28 123	U 1267 W SUB12,5 KV 1.028 1.006 0 0 240 120 Jul-21 VIENTS (LINE TI 122	2 12785 BUS 1.027 1.006 0 0 240 120 Apr-22 D LINE) 121	12694 DUCK CREI 1,030 0,983 1 0 12470 7200 Dec-20 MEASUREM 12732	12731 K SUB 12.5 KV 1.044 1.008 0 0 12470 7200 Dec-21 ENTS (LINE TO 12664	/ BUS 1 1 1 1 1 1 1 1 1 1
HA1 1.022 0.956 1740 0 69000 39837 Dec-20 MEASUR 69478 69618	1.041 0.964 675 0 69000 39837 Dec-21 REMENTS (LINE 70671 70671 70651	3:45:00 Ah BUS 0.349 791 1 35.4 69000 39837 Jan-22 TO LINEJ 68430 68401 68473	M HATC 0.937 0.933 2976 TAP UP 34500 19919 Dec-20 MEASUR 32492 32545	143681 H SUB 34.5 KV 0.955 0.931 2976 TAP UP 34500 19915 Dec-21 EMENTS (UNE 82735 32745	83347 BUS 0.93 0.93 293 TAP UP 3450 1993 Jan-3 TO LINE) 3273 3274	83658 83658 831 76 76 76 76 76 76 76 76 76 76	143821 SPRY SI 1.048 1.023 0 0 1.2470 7200 0 EASUREMENT 13053 13053	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 S (LINE TO 13036 13042	1.022 0.998 103 0 12470 7200 Sep-22 7 LINE 12510 12510	2981 8 TODS 0.987 0.953 2976 0 0 34500.0 19918.6 Dec-20 MEASURE 33569 33624	36647 821 \$UB 34.5 KV BU 0.988 0.963 2976 0 34500 19919 Dec-21 MENTS (UNE TO 33399 33474	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 (LINE) 33553 33545	TODS 1.037 1.005 0 0 12470.0 7200 Dec-20 MEASURE 12638 12638	222 699 SUB 12.5 KV B 1.032 1.007 0 0 12470 7200 Dec-21 MENTS [LINE T 12614 12617	71 6822 JS 1.037 1.005 1.005 0 0 12470 7200 Jan-22 5 LINE) 12638 12638	ZION VIE 1.028 1.006 0 0 240 120 Aug-20 MEASUREE 123 123	L 1267 W SUB12.5 KV 1.028 1.006 0 0 240 120 Jul-21 WENTS (LINE TH 122 122	2 12785 BUS 1.027 1.006 1.007 1.006 0 0 0 240 120 Apr-22 D LINE) 121 121	12694 DUCK CREI 1,030 0,983 1 1 0 12470 7200 Dec-20 MEASUREM 12732 12754	12731 12731 1.044 1.008 0 0 0 12470 7200 Dec-21 12664 12661	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HAT 1.022 0.956 1740 0 69000 39837 Dec-20 MEASUR 69478 69478 69518	1.041 0.964 675 0 69000 39837 Dec-21 REMENTS (LINE 70671 70651 70651	3:45:00 Ah BUS 0.949 791 1 35:4 69000 39837 Jan-22 TO UNE) 68430 68430 68431 68433	M HATC 0.957 0.933 2576 TAP UP 34500 19919 Dec-20 MEASUR 32492 32545 32545	143681 H 508 34.5 KV 0,958 0,931 2976 TAP UP 34500 19915 Dec-21 EMENTS (LINE 32785 32745 32875	805 0.93 0.93 749 UP 3450 1997 Jan-3 TO LINE) 3273 3277 328	83658 58	143821 SPRY SI 1.048 1.023 0 0 1.2470 7200 20 EASUREMENT 13053 13047 13054	14 JB BUS 1,048 1,024 0 0 12470 7200 Aug-21 5 (LINE TO 13036 13042 13024	1.022 0.998 103 0 12470 7200 Sep-22 0 LINE) 12510 12510	2981 8 TODS 0.987 0.953 2976 0 34500.0 19918.6 Dec-20 MEASURE 33569 33624 33664	36647 921 SUB 34.5 KV BU 0.988 0.963 2976 0 34500 19919 Dec-21 MENTS (LINE TO 33399 33474 33472	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 1UNE) 33553 33545 33545	TODS 1.037 1.005 0 0 12470.0 7200 Dec-20 MEASURE 12638 12636 12667	922 695 5 SUB 12.5 KV B 1.032 1.007 0 0 12470 7200 Dec-21 MENTS (UNE T 12617 12617 12638	71 682: JS 1.037 1.005 0 0 12470 7200 Jan-22 0 LINE) 12638 12636 12667	ZION VIE 1.028 1.006 0 0 240 120 Aug-20 MEASURE 123 123	U 1267 W SUB12.5 KV 1.028 1.006 0 240 120 120 120 120 122 122 122 122	2 12785 BUS 1.027 1.006 0 0 240 120 Apr-22 D LINE) 121 121	12694 DUCK CREI 1.030 0.983 1 0 12470 7200 Dec-20 MEASUREM 12732 12754 12754	12731 EK SUB 12.5 KV 1.044 1.008 0 0 12470 7200 Dec-21 IENTS (LINE TO 12664 122691 12702	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1
HAT 1.022 0.956 1740 0 69000 39837 Dec-20 MEASUR 69718 69571 69461	1.041 0.964 675 0 69000 39837 Dec-21 EMENTS (LINE 70671 70651 70651 70651	3:45:00 Ah BUS 0.949 791 1 35:4 69000 39837 Jan-22 TO UNE) 68430 68430 68431 68433	M HATC 0.957 0.933 2.2576 TAP UP 3.4500 1.9919 Dec-20 MIRASUR 3.2492 3.2545 3.2531 3.2475	143681 H SUB 34.5 KV 0.935 0.931 2976 TAP UP 34500 19915 Dec-21 EMENTS (LINE 32735 32745 32872 32875	83347 BUS 0.93 729 74P UP 3455 1999 Jan-3 75 UNE) 8277 3277 3282 3283 3283	83658 58 58 58 58 58 58 58 58 58 58 58 58 5	143821 SPRV SI 1.048 1.023 0 0 0 1.2470	14 1.048 1.048 1.024 0 0 12470 7200 Aug-21 5 (LINE TC 13036 13036 13042 13074 13051	1,022 0.998 103 0 12470 7200 5ep-22 2 LINE) 12510 12510 12510 12510	TODS 0.987 0.953 2976 0 54500.0 19918.6 De-20 MEASURE 33569 33624 33569 33624 33569	36647 821 SUB 34.5 KV BU 0.9888 0.963 2976 0 34500 19919 Dec-21 Dec-21 MENTS (LINE TO 33399 33472 33554	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 1LINE 33553 33545 33627 33627	111 685 1.037 1.005 0 0 12470.0 7200 Dec-20 MEASURE 12638 12638 12657 12667	508 12.5 KV B 1.032 1.007 0 0 12470 7200 Dec-21 MENTS [LINE T 12614 12637 12638 12669	71 6822 JS 1.037 1.005 0 0 12470 7200 12470 7200 12470 7200 12638 12656 126567 12680	2100 VIE 1.008 1.006 0 0 240 120 Aug-20 MEASURE 123 123 123 123	U 1267 W SUB12.5 KV 1.028 1.006 1.006 0 0 240 120 101-21 WENTS (LINE TI 122 122 123 123	2 12785 BUS 1.027 1.006 0 0 240 120 Apr-22 D LINE 121 121 121	12694 DUCK CREI 1,030 0,983 1 0 12470 7200 Det-20 MEASUREM 12732 12753 12753 12755	12731 1.044 1.008 0 1.2470 7200 Dec-21 Dec-21 Dec-21 1.2664 1.2691 1.2702 1.2702	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
HAT 1.022 0.956 1.740 0 69000 39837 Dec-20 MEASUF 69478 69478 69571 69478 69571 69425	1.041 0.964 675 0 69000 39837 Dec-21 EMENTS (LINE 70671 70651 70651 70710 70710 70710	3:45:00 AM 8US 1.036 0.949 791 1 35.4 6:9000 39837 Jan-22 TO LINE) 6:84301 6:84301 6:8430 6:8439 6:8439 6:8454	HATC 0.957 0.933 2976 TAP UP 34500 19919 Dec-20 MRASUR 32492 32545 32492 32545 32475 32475 32475	143681 H SUB 34.5 KV 0.958 0.931 2976 TAP UP 34300 19915 Dec-21 EMENTS (UNE 8.2735 32745 32875 32875 32875 32875 32875	83347 BUS 0.9: 293 TAP UP 34551 1999 Jan- 70 UNE 92777 3277 3277 328 3282 3282 3283	83658 88	143821 SPRY SI 1.048 1.023 0 0 1.023 0 0 1.023 0 0 2.470 7.200 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1,048 1,024 0 0 12470 7200 Aug-21 3036 13032 13051 13051	15008 14 1.022 0.998 103 0 12470 5ep-22 2 LINE) 12510 12510 12510 12510	TODS 0.987 0.953 2976 0 34500.0 19918.6 Dec-20 MEASURE 33569 33562 33562 33542 33545	SUB 34.5 KV BU         0.988           0.988         0.963           2976         0           34500         0           19919         0c-21           MENTS (LINE TO 33399         33474           33474         33554           33486         0	827 835 0.993 0.962 2976 0 34500 19919 Jan-22 LLINE) 33553 33545 33645 33645	TODS 1.037 1.037 1.005 0 0 12470.0 Dec-20 MEASURE 12638 12638 12650 12650	522 695 508 12.5 KV B 1.032 1.007 0 0 1.2470 7200 7200 7200 7200 7200 7202 12614 12617 12633 12669 12642	71 682: 1.037 1.005 0 0 12470 12470 12470 12470 12470 12638 12636 12657 12680 12650	E 1290 ZION VIE 1.028 1.006 0 0 240 120 Aug-20 MEASURE 123 123 123 123	W SUB 12.5 KV 1.028 1.006 0 0 2400 1ul-21 200 1ul-21 120 1ul-21 122 122 122 123 123 123	2 12785 BUS 1.027 1.006 0 240 120 Apr-22 D LINE) 121 121 121 121 121 121	12694 DUCK CREI 1.030 0.983 1 1 2470 7200 Dec-20 MEASUREM 12732 12754 12755 12706	12731 12731 1.044 1.008 0 0 12470 7200 7200 1264 12663 12702 12740 12705	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HAT 1.022 0.956 1740 0 69000 39837 Dec-20 MEASUR 69478 69478 69478 69478 69478 69478 69478 69478 69378	1.041 0.964 675 0 0 39837 Dec-21 REMENTS (LINE 70671 70651 70651 70751 70751	3:45:00 Ah BUS 0.949 791 35:4 69000 39837 Jan-22 TO LINE) 68430 68430 68430 68431 684519 68464 68398	M HATC 0.957 0.933 2576 TAP UP 34500 19919 Dec-20 MEASUR 32492 32545 32475 32475 32475 32450 32456	143681 H SUB 34.5 KN 0.9358 0.933 2976 TAP UP 34500 19915 Dee-21 EMENTS (LINE 82735 32745 32874 32874 32874 32874 32874 32874 32874	83347 BUS 0.93 7AP UP 3455 1999 Jan-3 TO UNE) 8277 3287 328 328 328 328 328	83658 83658 88 88 58 58 58 58 58 58 58	143821 SPRY SI 1.048 1.023 0 0 2.2470 7.200 EASUREMENT 3.054 3.055 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.056 3.057 3.056 3.057 3	14 JB BUS 1,048 1,024 0 0 12470 7200 Aug-21 5 (LINE TO 13036 13042 13051 13051 13000	1.0292 0.9398 103 0 12470 7200 Sep-22 2.UNE 12510 12510 12510 12510 12510 12510 12510	TODS 0.967 0.953 2976 0 34500.0 19918.6 Dec-20 MEASURE 33569 33524 33506 33545 33545 33545	SUB 34.5 KV BU         0.921           0.988         0.963           .2976         0           0.963         2976           .0963         2976           .0963         2976           .0963         2976           .0963         34500           .19959         Dec-21           .08400         33399           .33472         3354           .34564         33558	\$ 0.993 0.962 2976 0 34500 19919 Jan-22 1LINE 33553 33545 33645 33583 33583	111 589 TODS 1.037 1.057 1.0567 1.2569 1.2559	522 699 528 12.5 KV B 1.032 1.037 0 0 0 12470 7200 Dec-11 12614 12617 12614 12669 12669 12642 12662	71 682: 1.037 1.037 1.005 0 0 12470 7200 Jan-22 0 LINE) 12638 126567 12650 12650	ZION VIE 1.028	W SUB 12.5 KV 1.028 1.008 1.008 0 0 240 1.01-21 VIENTS (LINE TI 122 122 122 123 122 123	BUS 1027 1.006 0 240 120 Apr-22 0 LINE 121 121 121 121 121 121 121	12694 DUCK CREI 1,030 0,963 1 0 12470 7200 Dec-20 MEASUREM 12732 12753 12755 12755 12755 12765 12765	12731 IK SUB 12.5 KV 1.044 1.084 0 0 12470 7200 Dec-31 12470 12470 12664 12665 12702 12702 12740 12705 12705	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HAT 1.022 0.956 1740 0 69000 39837 Dec-20 MEASUR 69451 69461 69235 69307	1.041 0.964 675 0 0 69000 39837 Dec-21 70651 70651 70651 70651 70710 70710 70710 70715 70751	3:45:00 AN BUS 1,026( 0:349) 791 35.4 6:63000 339377 Jan-22 TO LINE] 6:6430 6:6430 6:6439 6:6454 6:6456 6:6	M HATC 0.957 0.933 2976 2976 2976 2976 2976 2976 2976 2976	143681 H 508 34.5 KY 0,9358 0,931 2,976 TAP UP 3,4500 19911 Dec-21 EMENTS (LINE 8,2735 3,2745 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2874 3,2875 3,2975 3,2975 3,4975 3,4975 3,4975 3,4975 3,4975 3,4975 3,49	83347 BUS 0.9: 7.29 1997 180- 1997 1997 1997 1997 1997 1997 1997 199	83658 83658 88 88 88 90 19 19 22 Aug-2 19 19 19 19 19 19 19 19 19 19	143821 SPRY SI 1.048 1.023 0 0 1.2470 7.200 20 1.2470	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 5 (LINE TO 13036 13032 13042 13051 13051 13000 13000 13003	125008 12 1.022 0.9598 103 0 12470 7200 5ep-22 0 UNF) 12510 12510 12510 12510 12510 12510	1000 0.987 0.953 2976 0 34500.0 1991.6 Dec-20 MKASURE 33569 33624 33606 33542 33495 33549 33519	\$UB 34.5 KV BU           0.988           0.963           2976           0           34500           19919           Dec-21           MENTS (LINE TO 33399           3474           33474           33554           33554           33554	827 835 0.993 0.952 2.976 0 34500 19919 1an-22 14LNE) 33553 33545 33545 33545 33545 33545 33583 33583 33583 33583 33583	111 589 TODS 1.037 1.037 1.037 0 0 0 12470.0 7200 Dec-20 MRASURE 12636 12656 12650 12650 12650	222         692           1.032         1.032           1.003         0           0         0           12470         7200           Dec-21         MENTS (LINE T           12617         12638           12662         126642           126642         12671	71 6622 15 6622 1.037 1.037 1.037 1.037 0 0 0 0 1.2470 7.200 1.2470 7.200 1.2457 1.2585 1.25850 1.2550 1.2550	ZION VIE 1.028 1.008 1.006 0 0 240 120 MRSURE 123 123 123 123 123 123 123 123	W SUB 12.5 KV 1.028 1.0028 1.0006 0 0 240 1200 104-21 1222 1223 123 123 123 123	2 12785 BUS 1027 1.006 0 0 2400 4pr-22 0 LINE 121 121 121 121 121 121 121 12	12694 DUCK CREI 1.030 0.983 1 0 12470 7200 Dec-20 MEASUREM 12732 12754 12725 12755 12765 12765	12731 IX SUB 12.5 KV 1.044 1.008 0 0 12470 7200 Dec-21 12762 12663 12663 12702 12763 12702 12702 12703	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HA1 1.022 0.956 1740 0 0 89007 0 869018 69018 69618 6971 69461 69235 69398 69307 69379 69379 69379	1.041 0.964 675 0 69000 39837 Dec-21 EMENTS (LINE 70671 70651 70651 70710 70710 70715 70753 70753 70752 70721	3:45:00 AN BUS 1.0366 0.949 7511 1.1 35.4 6:9000 3:39837 1an-22 70 UINE] 6:64330 6:64330 6:64331 6:68341	M HATC 0.557 0.333 2976 TAP UP 34500 19919 Dec 20 MEASUR 32455 32475 32475 32475 32475 32475 32475 32483 32483 32483 32453	143681 1430834.5 KY 0.9358 0.931 0.9358 0.931 2.976 TAP UP 3.4500 1.9912 Dec-21 EMENTS (LINE 3.2735 3.2745 3.2847 3.2857 3.2857 3.2861 3.2960 3.2866 3.2960 3.286	83347 BUS 0.93 749 749 749 750 750 750 750 750 750 750 750 750 750	83658 88 58 58 58 58 58 58 58 58 58 58 58	143821 SPRV SI 1.048 1.023 0 0 1.023 0 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 13036 13042 13051 13004 13051 13003 13013 13007 13007	1022 0.996 103 0 12470 7200 Sep-22 20UNE 12510 12510 12510 12510 12510 12510 12510 12510 12510	TODS 0.887 0.953 2976 0.953 2976 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	S647         S2:           SUB 34.5 VK         UU           0.988         0.963           0.963         2.976           0         0           34500         19919           Dec-21         MENTS (UH CO)           334501         33359           33454         334466           33554         33553           33552         335520           33553         335520	S         0.993           0.962         2976           0.962         2976           0.961         19919           34500         19919           Jan-22         19919           33553         33545           33583         33583           33582         33587           33597         33567           335454         33587	111 589 TODS 1.037 1.035 0 0 12470.0 T200 Dec-20 MEASURE 12638 12636 12650 12650 12659 12654 12619 12629	5UB 12.5 KV B 1.032 1.037 0 0 12470 7200 Dec-21 MENTS (LINE- 12614 12654 12659 12642 12655 12669	71 662: 1037 1.005 0 0 12470 7200 Jan-22 0 UNE 12638 12636 12650 12650 12650 12654 12659 12659 12669	ZION VIE 1.028 1.008 1.008 0 0 0 0 240 120 MES20 123 123 123 123 123 123 123 123	U 500 52,5 KV 1,025 1,006 0 0 240 100-2 101-21 VMENTS (UNE TT 1222 123 123 123 123 123 123 123	2 12785 BUS 1 1.027 1.006 0 0 240 4pr-22 0 UNE) 121 121 121 121 121 121 121 121 121 12	12694 DUCK CRE 1.030 0.963 1. 0 0 12470 7200 Dec-20 MEASURE// 12732 12735 12775 12775 12775 12745 12745 12745	12731 12731 1008 1.008 0 0 12470 7200 Dec-21 12740 12769 12740 12709 12770 12770 12770 12770 12770 12770 12770 12770 12770	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HA1 1.022 0.956 1740 0 69000 39837 Jec-20 MEASUR 69478 69618 69571 69461 69235 69398 69307 69399 69379 69379 69379 69379	1.041 0.954 675 0 98837 Dec-21 2000 39837 Dec-21 2000 39837 70651 70651 70651 70651 70751 70751 70755 70627 70721 70721	3:45:00 Ah BUS 1.036( 0.949) 791 135.4 6:9000 3:39837 14n-22 TO UNE] 6:8430 6:8473 6:85473 6:85473 6:85473 6:85473 6:85473 6:8541 6:8541 6:85488 6:8548 6	A HATT 0.957 0.933 2.976 <b>TAP UP</b> 3.4500 19919 Dec.20 MEASUR 3.2492 3.2492 3.2492 3.2493 3.2493 3.2495	143681 14 508 34,5 KV 0,958 0,931 0,931 0,931 0,931 0,931 0,931 0,931 0,931 0,931 0,931 0,931 0,932 0,931 0,932	83347 BUS 0.95' 290 TAP UP 3455 1997 1997 1997 1997 1997 1997 1997 19	83655 836 11 12 13 13 13 13 13 13 13 13 13 13	143821 39RY SI 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 0 1.048 1.023 1.048 1.023 1.048 1.023 1.048 1.023 1.048 1.023 1.047 1.058 1.047 1.058 1.047 1.058 1.047 1.058 1.054 1.053 1.048 1.055 1.047 1.058 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1.054 1.055 1	14 JB BUS 1,048 1,024 0 12470 12470 13036 13042 13042 13042 13051 13003 13013 13017 13007	10008 12 1022 0.996 103 0 12470 12470 12510	IODS           0.987         0.953           2.976         0           0         33569           33519         33590           33487         33473	\$UB 34.5 KV BU         0.988           0.963         0.963           2976         0           0         3454           33554         3354           33550         33464           33557         33464	\$ 0.993 0.962 2976 0 34500 19919 33553 33545 33545 33545 33545 33545 33582 33582 33582 33582 33582	111 589 TODS 1.037 1.037 1.005 0 0 1247.00 1255.0	222 692 5UB 12.5 KV 8 1.032 1.007 0 0 0 12470 0 7200 7200 7200 7200 7200 7200 7200 7201 12471 12514 12554 12656 12642 12655 12642 12658	71 662: 15 1.037 1.035 0 0 12470 12470 12470 12470 12581 12688 12667 12687 12684 12667 12659 12559 1259 12559	ZION VIE 1.028 1.006 0 0 2.000 1.028 1.006 0 0 1.028 1.006 0 0 0 1.028 1.006 1.006 0 0 0 1.008 1.006 1.008 1.008 1.006 1.008 1.20 1.20 1.20 1.23 1	W SUB 12.5 KV 1.028 1.006 0 0 1.006 0 0 1.006 0 0 1.007 1.008 0 0 0 1.008 1.006 0 0 0 1.008 1.006 0 0 1.008 1.006 0 0 0 1.008 1.006 0 0 1.008 1.006 1.008 1.006 0 0 1.008 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.20 1.220 1.221 1.22	2 12785 BUS 1.027 1.006 0 0 2400 Apr-22 D LINE 121 121 121 121 121 121 121 121 121 12	12694 DUCK CRE 1.030 0.983 1 0 0 12470 7200 Dec-20 7200 7200 7200 7200 7200 7200 7200 7	12731 12731 12731 1004 1.004 1.008 0 0 12470 12470 12470 12702 12702 12702 12702 12703 12709 1270	/ BUS 1 1 1 1 1 1 1 1 1 1 1 1 1
HA1 1.022 0.956 1740 0 0 0 0 0 0 0 0 0 0 0 0 0	1.041 0.354 675 0 0 69000 39837 0862.21 70671 70651 70671 70651 70753 70753 70753 70753 70753 70753 70723	3:45:00 AN BUS 1.036 0.549 791 135.4 6:900 3:9837 1a.722 70 LINE] 6:8430 6:8430 6:8431 6:8388 6:8388 6:8381 6:83888 6:8388 6:83888 6:83888 6:83888 6:83888 6:83888 6:83888 6:83888 6:8388888 6:8388888 6:83888 6:83888 6:8388888	M HATT 0.957 0.933 2.776 3.2456 3.2456 3.2452 3.2452 3.2452 3.2455 3.25555 3.25555 3.25555 3.25555 3.255555 3.255555 3.255555555 3.2555555555555555555555555555555555555	143681 14 508 34,5 KY 0,958 0,931 2576 TAP UP 34500 19915 Dec-21 EMENTS (LINE 32735 32745 32874 32874 32875 32864 32785 32864 32965 32966 32966 32966 32965 329555 320555 320555 320555 3205555 3205555 320555555 320555555555555555555555555555555555555	83347 BUS 0.92 0.92 74P UP 1997 1997 1997 1997 1997 1997 1997 199	83655 58	143821 SPRV SI 1.048 1.023 0 1.023 0 1.2470 7.200 0 1.2470 7.200 1.202 1.3054 1.3024 1.3027 1.3075 1.30777 1.30777 1.30777 1.30777 1.	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 3042 13051 13024 13051 13071 13007 13017 13001 13017 13001 13017 13017	1022         0.998           1.022         0.998           103         0           12470         7200           589-22         201NE           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510	22921 8 TODS 0.9877 0.953 2076 0 0 0 0 0 0 0 0 0 0 0 0 0	SB647         S22           SUB 34.5 VK         0.988           0.963         .9963           2976	\$ 0,933 0,962 2,976 0 0 34500 19919 Jan-22 1,919 33553 33545 33545 33545 33545 33545 33545 33545 33545 33545 33545 33545 33557 33545 33557 33545 33556 33545 33556 33545 33556 33556 33567 3567	111 589 TODS 1.037 1.037 1.005 0 0 12470.0 T200 Dec-20 MEASURE 12658 12659 12650 12650 12659	222         692           SUB 12.5 KV B         1.032           1.007         0           0         0           12470         0           7200         0           Dec.21         MENTS [LINET 12614           12614         12612           12669         12662           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642	71 662: 10 1037 1037 1005 0 0 12470 12638 12638 12638 12653 12653 12650 12650 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12655 125555 125555 125555 125555 125555 125555 125555 125555	ZION VIE 1.028 1.006 0 0 0 2400 120 Aug-20 MEASURE 123 123 123 123 123 123 123 123	W SUB 12.5 KV 1.028 1.006 0 0 1.006 0 0 0 1.006 1.006 0 0 0 0 0 0 0 0 1.006 1.007 1.006 1.007 1.006 1.007 1.00	2 12789 BUS 1027 1.006 0 2440 120 Apr-22 DLINE) 121 121 121 121 121 121 121 121 121 121	12694 DUCK CRE 1.080 0.963 1 0 Dec-20 MEASUREM 12732 12734 12735 12735 12735 12735 1274 12745 127555 12755 12755 127555 1275555 12755555 1275555555555	12731 12731 12731 1008 1008 0 0 12470 12470 12470 12664 12664 12700 12740 12740 12770 12740 12726 12749 12749 12749 12764	1 / BUS 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2
HA1 1.022 0.956 1.740 0 0 0 0 0 0 0 0 0 0 0 0 0	1.041 0.354 675 0 0 33837 0521 7061 7061 7070 7061 7070 70751 70751 70751 70757 70721 70757 70757 70757 70757 70757 70757 70757 70577	3:45:00 Ah BUS 1,026( 0:349) 731 35.4 6:6000 333837 3357 335	A HATC 0.957 0.933 2576 TAP UP 34500 MEASUR 32492 32492 32492 32492 32492 32493 32492 32492 32493 32492 32493 32492 32493 32493 32493 32493 32493 32365 32455	143681 143081 1450834.5 KV 0.931 0.931 0.931 0.931 0.931 0.931 0.931 0.931 0.931 0.931 0.931 0.932 0.931 0.932	83347 BUS 0.95 7.4P UP 34545 1999 1997 1997 1997 1997 1997 1997 199	83655 88 131 137 137 137 137 137 137 147 147 147 147 147 147 147 14	143821 SPRY SI 1.048 1.023 0 0 1.024 1.023 0 0 0 0 0 0 0 0 0 0 0 0 0	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 13024 13024 13031 13000 13013 13007 13017 13007 13013	10008 12 1022 0.998 103 0 12470 12470 12510	22901 8 TODS 0.987 0.953 2976 0 0 0 0 0 0 0 0 0 0 0 0 0	\$UB 34 5K W BU           0.988         0.963           0.963         0           0         0           333472         33475           33475         34475	827         839           0.993         0.962           2976         0           0         34500           19919         Jan-22           ILINE)         33545           33645         33545           33545         33553           33545         335547           33545         33557           33545         33454           33444         33446           33446         34466	III         589           TODS         1.037           1.005         0           0         0           1.247.00         7200           Dec-20         MEASURE           1.2650         1.2650           1.2650         1.2650           1.2659         1.2659           1.2659         1.2659           1.2659         1.2659           1.2652         1.2591           1.2652         1.2659	222 692 5U6 12.5 KV 80 1.032 1.007 0 0 0 1.2470 Dec-21 12514 12514 12514 12514 12514 12514 12514 12514 12514 12555 12642 12642 12655 12636 12657 12656 12657 12656 12657 12656 12657 12656 12657 12656 12657 126566 126566 126566 126566 126566 126566 126566 126566	71 662: 1.037 1.005 0 0 1.037 1.005 0 0 1.2470 1.2470 1.2470 1.2470 1.2450 1.2550 1.2550 1.2550 1.2551 1.2555	ZION VIE 1.028 1.006 0 0 0 1.006 0 0 1.006 1.006 0 0 0 1.006 1.007 1.008 1.008 1.006 1.008 1.0	U SUB 12.5 KV 1.028 1.006 0 0 2.400 1.01-21 VENTS (LINE T 1.22 1.22 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.23 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.23 1.23 1.23 1.23 1.23 1.23 1.24 1.24 1.25 1.22 1.22 1.22 1.23 1.23 1.23 1.22 1.22 1.22 1.23 1.23 1.22 1.22 1.22 1.22 1.23 1.23 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.22 1.23 1.23 1.22	2 12785 BUS 1.027 1.027 1.006 0 0 2.2400 1.020 2.2400 1.020 2.2400 1.020 1.006 0 0 0 0 0 0 0 0 0 0 0 0 0	12694 DUCK CRE 1.030 0.983 1 0 0 12470 12470 12470 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 12775 1276 1276 1276 1276 1276 1276 1276 1276	12731 12731 12731 1008 0 0 1008 0 12470 7200 12470 7200 12470 12470 12470 12705 12700 12705 12706 12705 12705 12706 12705 12705 12705 12704 12705 1270	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
HA1 1.022 0.956 1.740 0 0 69000 39837 Dec-20 MEASUR 69478 69478 69478 69478 69518 69357 69359 69307 69379 69379 69379 69379 69379 69379	1.041 0.354 675 0 0 69000 39837 0862.21 70671 70651 70671 70651 70753 70753 70753 70753 70753 70753 70723	3:45:00 AN BUS 1.036 0.549 791 135.4 6:900 3:9837 1a.722 70 LINE] 6:8430 6:8430 6:8431 6:8388 6:8388 6:8381 6:83888 6:8388 6:83888 6:83888 6:83888 6:83888 6:83888 6:83888 6:83888 6:8388888 6:8388888 6:83888 6:83888 6:8388888	M HATT 0.957 0.933 2.776 3.2456 3.2456 3.2452 3.2452 3.2452 3.2455 3.25555 3.25555 3.25555 3.25555 3.255555 3.255555 3.255555555 3.2555555555555555555555555555555555555	143681 14 508 34,5 KY 0,958 0,931 2576 TAP UP 34500 19915 Dec-21 EMENTS (LINE 32735 32745 32874 32874 32875 32864 32785 32864 32965 32966 32966 32966 32965 329555 320555 320555 320555 3205555 3205555 320555555 320555555555555555555555555555555555555	83347 BUS 0.92 0.92 74P UP 1997 1997 1997 1997 1997 1997 1997 199	s365s           38           31           32           31           32           33           34           35           31           35           31           35           36           36           37           38           39           31           32           33           33           34           35           36           37           38           39           33           34           35           36           37           38           39           31           32           33           34           35           36           37           38           39           31           32           33           34           35           36           37           38	143821 SPRV SI 1.048 1.023 0 1.023 0 1.2470 7.200 0 1.2470 7.200 1.202 1.3054 1.3024 1.3027 1.3075 1.30777 1.30777 1.30777 1.30777 1.	14 JB BUS 1.048 1.024 0 0 12470 7200 Aug-21 3042 13051 13024 13051 13071 13007 13017 13001 13017 13001 13017 13017	1022         0.998           1.022         0.998           103         0           12470         7200           589-22         201NE           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510           12510         12510	22921 8 TODS 0.9877 0.953 2076 0 0 0 0 0 0 0 0 0 0 0 0 0	SB647         S22           SUB 34.5 VK         0.988           0.963         .9963           2976	\$ 0,933 0,962 2,976 0 0 34500 19919 Jan-22 1,919 33553 33545 33545 33545 33545 33545 33545 33545 33545 33545 33545 33545 33557 33545 33557 33545 33556 33545 33556 33545 33556 33556 33567 3567	111 589 TODS 1.037 1.037 1.005 0 0 12470.0 T200 Dec-20 MEASURE 12658 12659 12650 12650 12659	222         692           SUB 12.5 KV B         1.032           1.007         0           0         0           12470         0           7200         0           Dec.21         MENTS [LINET 12614           12614         12612           12669         12662           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642           12656         12642	71 662: 10 1037 1037 1005 0 0 12470 12638 12638 12638 12653 12650 12650 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12654 12655 125555 125555 125555 125555 125555 125555 125555 125555	ZION VIE 1.028 1.006 0 0 0 2400 120 Aug-20 MEASURE 123 123 123 123 123 123 123 123	W SUB 12.5 KV 1.028 1.006 0 0 1.006 0 0 0 1.006 1.006 0 0 0 0 0 0 0 0 1.006 1.007 1.006 1.007 1.006 1.007 1.00	2 12789 BUS 1027 1.006 0 2440 120 Apr-22 DLINE) 121 121 121 121 121 121 121 121 121 121	12694 DUCK CRE 1.080 0.963 1 0 Dec-20 MEASUREM 12732 12734 12735 12735 12735 12735 1274 12745 127555 12755 12755 127555 1275555 12755555 1275555555555	12731 12731 12731 1008 1008 0 0 12470 12470 12470 12664 12664 12700 12740 12740 12770 12740 12726 12749 12749 12749 12764	1 / BUS 1. 1. 12 7 Jar

Exhibit 14b, Glen Canyon Interconnect, West Garfield, and Northern Kane Transmission Feeder

POSTADON/AEEDLR	- 10 and 10 and 10 and 10		GLEN CANYO	N @ BUCKSKIN	130 KV BUS	BUCKSON	SUNSTATION OF	AV BUS	PARIASU	ESTATION 25 KV	305	ICHY/SQN	SUESTADON LES	12005	EMG SUB	STATION 12.5	KV BUS	LANASOT	SUBSTRITION S	2.5 14 0050
ER UNIT MAXIMUM VC	DUTAGE MEASURED		1.056	1.067	1,066	1,063	1.085	1.077	1.040	1.042	1.040	1,030		1,018	1.030	1,014	1.019	1.070	1.074	1,0
ER UNIT MINIMUM VO	DITAGEMEASURED		1.004	1.023	0.999	1,008	1,005	0.996	1.024	1.024	1.018	0.994	0.989	0.985	0.994	0.969	0.998	0.997	0.977	0.9
OTAL TIME READINGS		(III)	0	0	2	0	0	4	0	Ð	.0	105	1208	1315	105	1209	84	7	59	-1
OTAL TIME READINGS			0	0	0	0	0	0	0	D	0	0	0	0	0	0	0	Ø	0	-
LEN CANYON LOAD AT		EINWAI	138000	136000	138000	69000	69000	69000	25000	25000	25000		12470	12470	12470	12470	12470	10.000	12470	44.0
OMINAL LINE TO LINE OMINAL LINE TO GRNI			79674	79674	79674	39837	39837	39937	14434	14434	14434	12470		7200	7200	7200	7200	12470	7200	724
NNUAL PEAK MONTH	U .	- 1	Feb-20	Dec-21	Feb-22	Dec-20	Jul-21	Fab-22	Dec-20	Jul-21	Feb-22	Jul-20	Jan-21	Sep-22	Dec-20	101-21	5ep-22	Apr-20	Dec-21	Feb
	Hour Minute	-		EMENTSILINET			ENTSIUNETO			ENTS ILINE TO GR			MENTS (LINE TO G			ENTSTUNE TO			IENTS IUNE TO	
1		1/0/00 0.00	143829	145341	144900	41756	42830	42167	14,867	14927	14926	7,282		7220	7,282	7254	7293	7,651	7638	
1		1/0/00 0:15	143600	145347	144858	41838	42886	42149	14,859	14933	14936	7,292	7253	7223	7,292	7253	7299	7,660	7632	7
1		1/0/00 0.30	143791	145325	144251	41843	42514	42115	14,862	14944	14932	7,285		7225	7,285	7245	7303	7,660	7630	
1		1/0/00 0.45	144095	145390	145145	41764	42897	42250	14,858	14946	14954	7,269		7234	7,269	7243	7310	7,666	7639	
1		1/0/00 1.00	14403D	145274	14.5067	41669	42928	42221	14,856	14954	14954	7,269		7245	7,269	7242	7519	7,66E	7625	7
1		1/0/00 1:15	143970	145573	144942	41694	42930	42163	14,857	14958	14938	7,271		7237	7,271	7233	7311	7,659	7645	
		1/0/00 1:30	144093	145396	144894	41702	42971	42155	14,834	14968	14928	7,276		7244	7,275	7253	7320	7,658	7621	
		and an articl	Triesi	11000				(Link)	a dised		- total		1		1,210		- Ses [	.,		
KCR SU F	BSTATION 69 kV	BUS		KCR SUBS	TATION 12,5	5 kV BUS			FREDONIA	SUBSTATION	69 kV BU	IS	ORDERVILLE	SUBSTATION	N 12.47 kV	BUS	RYAN	SUBSTATIC	ON 69 kV BU	JS
1.041	1.069	1,	049	1.023	1.02	2	1.023		1.049	1.05	9	1.065	1.024	1.0	23	1.025	1,03	3	1.037	1.0
0.936	0.921	0.	917	0.998	0.00	0	0.999		0.950	0.95	3	0.934	1.003	1.0	02	0.995	1.00	5	1.005	1.00
1060	934		784	29	22	9	42		454	21	9	247	0	1	0	0	1	0	0	
14	190		35	0		2	0		0		0	10	0	1	0	0		0	0	
41.1	36.4	4	15.1		36.4						2	45.1			-					
69000	69000	69	000	12470	1247	0	12470		69000	6900	0	69000	12470	124	.70	12470	2500	0	25000	250
39837	39837	.39	837	7200	720	0	7200		39837	3983	7	39837	7200	72	200	7200	1443	4	14434	144
Dec-20	Jul-21	Feb	-22 De	ec-20	Jul-2	1 F	eb-22	1	Dec-20	Feb-2	1	Feb-22	Dec-20	Feb-	21	Feb-22	Oct-20	1 0	Oct-21	Feb-
MEASUREM	IENTS (LINE TO C	GROUND)	N	AEASUREMI	ENTS (LINE T	OGROUND	)		MEASUREM	ENTS (LINE T	OGROUN	ND)	MEASUREN	AENTS (LINE	TO GROUI	ND)	MEASUR	EMENTS (LI	NE TO GRO	JUND)
70065	72816	70	484	7,282	732	4	7291		71,002	7073	7	71686	12,644	126	97	12645	25,74	7	25702	255
70313	72887	70	533	7,300	733	6	7291		71,156	7073	7	71703	12,647	126	43	12651	25,66	3	25738	255
70253	73028	70	394	7,289	734	9	7286		71,063	7079	6	71646	12,632	127	01	12643	25,65	5	25746	255
70108	73053	70	608	7,280	731	9	7304		71,002	7078	8	71814	12,628	127	00	12631	25,66	0	25761	256
70139	73097	70	562	7,267	732	0	7304		70,843	7085	2	71823	12,615	126	94	12637	25,66	5	25778	256
70034	73221	70	368	7,264	731	9	7289		70,862	7085	8	71703	12,607	127	21	12650	25,67	9	25735	255
70102	73199	70.	395	7,264	731	4	7291		70,854	7099	5	71687	12,618	127	02	12634	25,68		25690	255
	10000		428	7.261	732	-	7293		70.833	7087	-	71725	12,625	126		12636	25.65		25639	255

Exhibit 14c, Glen Canyon Interconnect, Southern Kane County Transmission Feeder

SUBSTA	TION/FEEDER	TWIN CITIES S	UBSTATION 69k	V BUS	HILDALE	YARD 69 kV BU	5	COLORAD	O CITY 69 kV BL	JS
PER UNIT MAXIMUM VOL	TAGE MEASURED	1.073	1,081	1,064	1.058	1.071	1.059	D.000	1.033	1.032
PER UNIT MINIMUM VOLT	AGE MEASURED	0.946	0.963	0.991	1.012	0.942	0.991	0.000	1.009	1.007
TOTAL TIME READINGS LES	SS THAN NOMINAL	446	490	64	0	657	5	0	0	(
TOTAL TIME READINGS LES	SS THAN STANDARD	7	0	0	0		0	0	0	0
GLEN CANYON LOAD AT E	XCURSION VOLTAGE (MVA)	9.57				10.77			T()	
NOMINAL LINE TO LINE		69000	69000	69000	69000	69000	69000	12470	12470	12470
NOMINAL LINE TO GRND		39837	39837	39837	39837	39837	39837	7200	7200	7200
ANNUAL PEAK MONTH		Aug-20	Aug-21	Sep-22	Feb-20	Jul-21	Feb-22	n/a	Dec-21	Feb-22
DAY of Month	Hour:Minute	MEASUREN	IENTS (LINE TO I	LINE)	MEASUREM	ENTS (LINE TO I	.INE)	MEASUREN	IENTS (LINE TO I	LINE)
1	12:00:00 AM	72653	72833	72411	72526	73148	72743		12696	12826
1	12:15:00 AM	72879	72907	72142	72577	73234	72680		12698	12815
1	12:30:00 AM	72243	72957	72178	72612	73362	72758		12696	12827
1	12:45:00 AM	72451	73045	72215	72639	73381	72801		12706	12829
1	1:00:00 AM	72626	73098	72323	72558	73506	72803		12699	12829
1	1:15:00 AM	72730	73136	72368	72612	73575	72742		12698	12834
1	1:30:00 AM	72788	73141	72435	72634	73681	72786	-	12704	12805
1	1:45:00 AM	72861	73218	72486	72604	73741	72826		12702	12808
1	2:00:00 AM	72870	73182	72495	72597	73541	72801	-	12702	12813
1	2:15:00 AM	72879	73206	72406	72618	73621	72752		12697	12792
1	2:30:00 AM	72879	73259	72432	72581	73823	72844		12691	12820
1	2:45:00 AM	72900	73271	72524	72602	73921	72724		12675	12800
1	3:00:00 AM	72923	73314	72458	72566	73839	72776		12683	12801
1	3:15:00 AM	72909	73249	72532	72563	73873	72788	100	12680	12795
1	3:30:00 AM	72913	73253	72564	72545	73872	72716		12682	12793
1	3:45:00 AM	73115	73267	72543	72503	73757	72729		12684	12781
1	4:00:00 AM	73082	73166	72545	72500	73526	72668		12675	12779
1	4:15:00 AM	72899	73207	72561	72485	73527	72633	3	12665	12766
1	4:30:00 AM	73051	73186	72528	72464	73283	72615		12653	12767
1	4:45:00 AM	73101	73187	72464	72481	73282	72571		12646	12758
1	5:00:00 AM	72852	73173	72377	72396	73245	72361		12637	12722
1	5:15:00 AM	72920	73170	72391	72338	73233	72299		12617	12707

Exhibit 15, Twin Cities Interconnection at Last 3 Years Peak Load Voltage Measurements

### System Outages and Reliability

Garkane tracks the inputs to compute reliability indices. Exhibit 16 provides the SAIDI, SAIFI, and CAIDI calculations for the last five years. It is anticipated that continued replacement projects of the breakers, PLCs, and relays, in conjunction with improved coordination settings made possible with these digital controls, will continue to improve Garkane's reliability indices.

SY	STEM AVERA	GE INTERR	UPTION DU	RATION INDE	X (SAIDI) BY	CAUSE
Year	Power Supplier	Planned	All Other	Total Excluding Major Events	Major Events	All Events
2017	17.0	20.3	223,9	261,2	60.3	321.5
2018	0.0	47.5	344.2	391.7	0.1	391.8
2019	39.6	82.1	475.7	597.4	270.2	867.6
2020	76.5	1.2	294.7	372.4	81.0	453.4
2021	11.2	33.3	97.1	141.6	3.7	145.3
Five-Year Average	28.9	36.9	287.1	352.9	83.1	435.9

Exhibit 16, Garkane's Last 5 Years of Reliability Indices

SYS	STEM AVERA	GE INTERRU	JPTION FRE	QUENCY IND	EX (SAIFI) BY	CAUSE
Year	Power Supplier	Planned	All Other	Total Excluding Major Events	Major Events	All Events
2017	0.23	0.23	1.52	1.97	0.70	2.67
2018	0.00	0.48	1.98	2.45	0.00	2.45
2019	0.40	0.80	2.54	3.74	0.66	4.40
2020	0.48	0.05	1.07	1.59	0.08	1.67
2021	0.11	0.44	0.68	1.23	0.02	1.25
Five-Year Average	0.24	0.40	1.56	2.20	0.29	2.49

Year	Power Supplier	Planned	All Other	Total Excluding Major Events	Major Events	All Events
2017	75.2	89.8	147.6	132.7	86.4	120.6
2018	0.0	99.4	174,3	159.7	0.0	159.7
2019	100.0	102.9	187.1	159.9	408.2	197.2
2020	160.4	25.6	253.9	234.2	987.3	256.6
2021	101.3	76.1	142.5	115.3	168.2	116.1
Five-Year Average	87.4	78.8	181.1	347.2	330.0	170.0

# **REQUIRED CONSTRUCTION ITEMS BASED ON ANALYSIS**

### Service to New & Existing Customers

Garkane Line Extension Policy requires that project applicants pay for the line and service extension costs. This includes all facilities and equipment (including transformers and metering) constructed beyond the Cooperative's then-existing facilities reasonably required to supply electrical service to an applicant's point of delivery. In addition, a Line Extension may include necessary improvements, upgrades, and other changes to the Cooperative's existing facilities. As such, these items will not be included as part of this planning analysis.

# Transmission Lines, Distribution Lines, Substations, AMI Metering, SCADA Equipment Projects,

The 2023 Work Plan was developed using present loads and projections for expected loads in 2026, 2028, 2030, and 2033 on an individual feeder basis. Historical Non-Coincidental data was utilized from 1995 thru 2022 to develop a 'least squares best fit' projections. Where there were inconsistencies in the trend period, data projections based upon the past three years of history were looked at. A copy of the load data is provided in the report.

Projects were identified that were necessary to resolve voltage and capacity-related problems. A summary of the identified projects is included in the following exhibits. In addition, estimated cost of the individual projects is included in the project summary table, along with an estimated time frame as to when the project would need to be in service based on the severity of the issue.

# Exhibit 17, Transmission Line Projects

					TRANSMISSION LINE PROJECTS						-
PROJECT	MAX PAST 5 YEAR PEAK KW	ESTIMATED PEAK LOAD IN 5 YEARS	ESTIMATED PEAK LOAD IN 10 YEARS	LOAD (KVA) OR CONDITION REQUIRED TO PROMPT CONSTRUCTION	PROJECT NEED & SUMMARY	WORK TASK DESCRIPTION	PROJEC T LEAD	PROJECTE D IN SERVICE DATE	STATUS	PROJE	ECTE
Transmission Line Maintenance	N/A	NVA	N/A	N/A	Caritane owns, operates, and maintains roughly 420 miles 69 and 136 kV transmission lines. The majolity of these lines are 30 to 50 years of 3 and some of the components making up these structures have deteriorated to the point that requires that they be replaced. Garkane has an annual program of hispecting all our transmission lines. Based the observators made during these inspections (Garkane's transmission lines, Based the observators made during these inspections (Garkane's transmission lines) and replace faining components. Carkane basis 5100,000 00 do annuarly for the purchase of replacement, materials and faitor to install it.	Garkane has an annual program of inspecting all our transmission lines. Based the observations made ouring these inspections Garkane's crews identify and replace fating components.	Tranmission Crew Foremen	Annually\$100k	Ongoing	\$ 1)	.eoo ac
EUCKSKIN TO KANAB & FREDONIA, PHASE T, (BUCKSKIN TO SPAMANS)	26,467	26,455	28,261	Energize new 138 KV line	Transmission Study indicates new line needs to be constructed by time loading on Bucksion to Fredoria line reaches 30 MW - 2013 Peak load was 27MW Spring of 2022 the 188 KV Bucksing to Seamans Wash line section was completed. As part of the permitting requirements for reculiding at 136 KV Garkane pommitted to retire the 69 KV line.	Retire 13 miles @ \$15 winite plus \$16k for project environmental monitoring by a third party contractor	000	2023	Partialiy completed.	\$	210,00
BUCKSKIN TO KANAÐ & FREDONIA, PHASE 2, (EMG TO KANAS CITY)	26,467	26,455	28,261	COMPLETION OF PHASE 1 OF THE PROJECT	Transmission Studies noticates the Buckskin to Karrab & Precord transmission life needs to be constructed by the time loading on the line reaches 30 MW. Phase 1 (Buckskinho Seamans) implects complete: Phase 2 (EMG to Karab City) is in the initial stages of construction. Completing the project and keeping the line energized at 59 KV will mitigate with regulation issues for a time by increasing the conductor capacity. However the estimated that at roughly 40 MW of load voltage regulation will again become a size and will require that the line be operated at the constructed.	Construct 138 kV line from Ethnt Mile Gao Sunstation to Karati Cny Substation & miles @\$270k/mile Retire & miles @ \$16k/mile.	000	2023	Materials Procurement	\$ 1,	,450,00
BUCKSKIN TO KANAB & FREDONIA, PHASE 3. (SEAWANS TO JOHNSON)	25,467	26,455	20,261	COMPLETION OF PHASE 2 OF THE PROJECT	Transmission Gtudies indicates the Buckskin to Kanab & Fredoria transmission line needs to be constructed by the time loading on the line reaches 30 MW. Phase 1 (Buckskin to Seamans) project is complete. Phase 2 (EMG to Kanab City) is in the initial stages of construction. Completing the project and keeping the line energized at 68 MV will mitigate volt regulation issues for a time by increasing the conductor capacity. However, it is estimate that at rough 40 MW of total voltage regulation will equal become a lissue and will require that the line be operated at the constructed.	Construct 198 KV line from Eight Mile Gap Substation to Kanab City Substation 6 miles @ \$270k/mile Retire 6 miles @ \$16k/mile.	coq	2024	Materials Procurement	<b>S</b> 1/	.718,00
BUOISKIN TO KANAB'S FREDONIA, PHASE 4, (JOHNSON TO EMO)	25,467	26,455	20,261	COMPLETION OF PHASE 3 OF THE PROJECT	Transmission Studies noticities the Buckishin to Kanab & Fredom transmission fine needs to be constructed by the fine loading on the line reaches 30 MW. Phase 1 (Buckishin to Seamane) project is complete. Phase 2 (EMS Li kanab City) is in the initial stages of construction. Completing the project and keeping the line energized at 69 KV will initigate voli regulation is sues for a time by increasing the conductor capacity. However, it is estimated that at roughly 40 MW of load voltage regulation will again become a listue and will regulate that the line be expended at the constructed.	Construct 138 KV line from Eight Mile Gap Substation to Kanab City Substation 5 miles @ \$270k/mile Retire 5 miles @ \$15k/mile	000	2025	Materials Procurement	5 1,	,450,00
VALLEYMT CARMEL 34 5 TO 69 KV FEEDER UPGRADE	6,691	6,983	8,246	REDURRES ADDITIONAL SYSTEM ANALYSIS ESTIMATED AT 10 MVA CN VALLEY FEEDER	Loads served by the Valley Feeder of the Fredoria Substation continue to increase, year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate, it is anticipated triated vallage regulation is on the feeder will become an issue with the addition of noughty 2.5 more MVA for lotal load of 9.5 MVA. Valtage constitutions during peak loads should be closely maintained for chingliance with Garkane standards.	Rebuild line to upgrade the insulation level of the Fredome to Valley line from 34.5 to 69 KV. Construction 10 miles 68 KV line @ \$230kVmile. Retre 18 miles @ \$5kVmile.	000	2032 (AMEND SCHEDULE BASED ON ACTUAL LOAD GROWTH)	None	\$ d;	,230,00

Exhibit 18, Distribution Line Projects

				GA	RKANE ENERGY 2023 WORK PLAN PROJECT SUMM	IARY				
					DISTRIBUTION LINE CONSTUCTION PROJECTS					
PROJECT	5 YEAR	ESTIMATED PEAK LOAD IN 5 YEARS	PEAK LOAD	LOAD (KVA) OR CONDITION REQUIRED TO PROMPT CONSTRUCTION	PROJECT NEED & SUMMARY	WORK TASK DESCRIPTION	PROJECT LEAD	PROJECTE D IN SERVICE DATE	STATUS	PROJECTED
Distribution Line Maintenance	N/A	N/A	N/A	N/A		Garkane has an annual program of inspecting all our transmission lines. Based the observations made during these inspections Garkane's crews identify and replace failing components.	Tranmission Crew Foremen	Annually \$200k	Ongoing	\$ 2,000,000
BRYCE VALLEY SUBSTATION DOUBLE CIRCUIT DISTRIBUTION LINE CONSTRUCTION	3,494	2,422	2,392	RESULTS SHOWING CONTINIUED DETERIORATION OF TROPIC SUBSTATION		Build double circuit express feeder distribution line from the new Cedar Ridge Substation to connect the new facility to the existing distribution system. Construction 4 miles 12.5 kV line @ \$185k/mile.	coo	2024 2025	Transformer Ordered, Design Work Underway	\$ 740,000
CEDAR RIDGE (BIG WATER) 25 KV DISTRIBUTION LINE	2,465	2,239	2,288	SYSTEM ANALYSIS, ESTIMATED AT 4 MVA ON PARIA FEEDER		Build double circuit express feeder distribution line from the new Cedar Ridge Substation to connect the new facility to the existing distribution system, Construction 7 miles 25 kV line @ \$200k/mile. Retire 7 miles @ \$5k/mile.	c00	2032 (AMEND SCHEDULE BASED ON ACTUAL LOAD GROWTH)	Property Purchased 2015	\$ 1,435,000
					CWP TRANSMISS	ION & DISTRIBUTION LINE CONSTR	UCTION S	SUBTOTAL	\$ 4	,175,000.00

Exhibit 19a, Substation Projects

					SUBSTATION PROJECTS					
PROJECT	MAX PAST 5 YEAR PEAK KW		ESTIMATED PEAK LOAD IN 10 YEARS	LOAD (KVA) OR CONDITION REQUIRED TO PROMPT CONSTRUCTION	PROJECT NEED & SUMMARY	WORK TASK DESCRIPTION	PROJEC T LEAD	PROJECTE D IN SERVICE DATE	STATUS	PROJECTE
IGURD TRANSMISSION SUBSTATION ICE, PLC, AND RELAY REPLACEMENT, ICEAD ASSTEM UPDATE, AND ROMMUNICATION HARDENING	11,394	10,762	11,649	11,394	No real-time load data monitoring or SCADA control of a ortical transmission system source. The existing 3 bank OCB is physically too large for the structure. The OCB cannot be serviced due to confines of steel structure. Relays, PLC, and metering equipment is no longer supported by manufacture. Communications path for SCADA control is unrekable.	Remove existing OCB, relays, metering. Construct a replacement foundations and control cabinets. Install and commission vacuum breaker, replacement relaying, and metering, install and commission cellular communications equipment. Commission SCADA control scheme.	Engineering/ Substation Manager	2022 2023	in Progress	\$ 200,00
BUCKSKIN TRANSMISSION SUBSTATION PLC, RELAY REPLACEMENT, NEW SCADA CONTROL SCHEME INSTALLATION AND COMMUNICATION PATH HARDENING	45,148	50,895	56,046	45,148	No real-time load data monitoring or SCADA control of a critical transmission system source. P.C., relays and melening equipment are outdated and in some cases are no longer supported by the manufacture. Relay scheme settings and station controls need to be reconfigured to allow the station to be monitored and controlled by SCADA system, install CT/PT combo equipment on line side of station bus. Move station service to line side of station bus.	Remove existing relay, and metering equipment. Construct replacement foundations and control rabinets. Install and commission, replacement relaying, and metering-install and commission hardened communications equipment. Commission SCADA control scheme.	Engineering/ Substation Manager	2023	Design Completed, Equipment Purchased, Foundations Constructed	S 350,00
KANAB SWITCH RETIREMENT	N/A.	N/A	N/A	N/A	The switch yard is a relic facility of Kanab's Municipal electric utility which was purchased by Garkane several years ago. The merger of these two utility systems has removed the need for the facility and it's maintenance is a drain on resources that could be better used elsewhere.	Retire and reclaim the switch yard and equipment.	Engineering/ Substation Manager	2025	Start of project requires the completion of the Buckskin to EMG 138kV transmission line expected 2025	\$ 75,00
HENRIEVILLE TRANSMISSION SUBSTATION PLC, RELAY REPLACEMENT, NEW SCADA CONTROL SCHEME INSTALLATION AND COMMUNICATION PATH HARDENING	18,965	20,384	22,189	18,905	No real-time load data monitoring or SCADA control of a ortical transmission system source PLC, relays and metering equipment are outdated and in some cases are no longer supported by the manufacture. Relay scheme settings and station controls need to be reconspured to allow the station to be monitored and controlled by SCADA system: Install CTPT combo equipment on line side of station bus. Move station service to line side of station bus.	Remove existing relay, and metening equipment. Construct replacement foundations and control cabinets Install and commission, replacement relaying, and metering, install and commission hardened communications equipment. Commission SCADA control scheme.	Engineering/ Substation Manager	2024	Design Completed, Long Lead Time Equipment Ordered	S 350,00
AST VALLEY TRANSMISSION SWITCH PLC, RELAY REPLACEMENT, NEW SCADA CONTROL SCHEME NSTALLATION AND COMMUNICATION PATH HARDENING	6,681	12,351	14,331	6,881	No real-time load data monitoring or SDADA control of a critical transmission system source. PLC, relays and metering equipment are outdated and in some cases are no longer supported by the manufacture. Relay scheme settings and station controls need to be reconspured to allow the station to be monitored and controlled by SCADA system. Install CT/PT combo equipment on line side of station bus. Move station service to line side of station bus,	Remove existing OCB, PLC, relays, and metering, install vacuum breakers and replacement equipment. Harden commications path to SCADA	Engineering/ Substation Manager	2024	Design Completed, Long Lead Time Equipment Ordered	\$ 350,00
JOHNSON CANYON SUBSTATION RETIREMENT	898	N/A	N/A	1,000	The substation transformers are three 333 KVA units. Loads on the 3 substation feeds will have surpassed the nameplate capacity of the station. The substation steed forucine does not have sufficient space to need tV-SC code requirements should larger transformers be installed. It has been determined that the most economical alternative is serve the loads using the EMG substation and refine the undersized Johnson Substation.	Retire and reclaim the substation	Engineering/ Substation Manager	-2025	Start of project requires the completion of the Buckskin to EMG 138kV transmission line expected 2025	\$ 75,00
BRYCE VALLEY SUBSTATION CONSTRUCTION	3,494	2,422	2,392	BASED ON DGA TEST RESULTS SHOWING CONTINIUED DETERIORATION OF TROPIC SUBSTATION TRANSFORMER	The existing substation transformer has had consecutive Dissolved Gas Analysis teat results indicating the core is inculation deteriorating with internal faulting that is expected to bead to the failure of the und. The current substation support to support structure consists of aged wood transed components. The current clostion of the substation prohibits sectionalizing of the loads to more than one feeder; which inhibits the reliable and efficient operation of the distribution system in the area	Build a new substration with 13BKV clearances adjacent to the East Valley Transmission Switch meeting industry best practices and code requirements. The facility will initially be operated for 69 to 12.5 kV transformation.	Engineering/ Substation Manager	2024 2025	Transformer Ordered. Design Work Underway	\$ 1.500,00
TROPIC SUBSTATION RETIREMENT	996	N/A	N/A	BASED ON DGA TEST RESULTS SHOWING CONTINIUED DETERIORATION OF TROPIC SUBSTATION TRANSFORMER	The existing substation transformer has had consecutive Dissolved Gas Analysis test results indicating the core is insulation deteriorating with internal faulting that is expected to lead to the failure of the unit. The current substation support bus support structure consists of aged wood framed components. The current location of the substation prohibits sectionalizing of the loads to more than one feeder, which inhibits the reliable and efficient operation of the distribution system in the area.	Relire and reclam the substation,	Engineering/ Substation Manager	2026	Start of project requires the completion of the Bucksion to EMG 138kV transmission line expected 2025	<b>\$</b> 75,00

Exhibit 18b, Continued Substation Projects

					SUBSTATION PROJECTS						
PROJECT	MAX PAST 5 YEAR PEAK KW		ESTIMATED PEAK LOAD IN 10 YEARS	LOAD (KVA) OR CONDITION REQUIRED TO PROMPT CONSTRUCTION	PROJECT NEED & SUMMARY	WORK TASK DESCRIPTION	PROJEC T LEAD	PROJECTE D IN SERVICE DATE	STATUS	10.000	DJECTE COST
RUBYS SUBSTATION	3,807	3.050	-3.098	80%X7000=5600	As part of a deal with the property owner for a long section of 138 kV transmission right of way Cankane agreed to the retrement of the Bryce Substation when annual peak loads resident 80 percent of name plate capacity or earlier. Garkane is a ware of construction plans by others to build new facilities that may increase loads to the agreed intreshold requiring construction of the Ruby's Substation and retirement of the Bryce Substation	Build a new substation with 138 kV clearances in the Ruby's Transmission Switch meeting industry best practices and code requirements. The facility will initially be operated for 69 to 12.5 kV transformation.	Engineering/ Substation Manager	2026 2027	Transformer Ordered, Design Work Underway	\$	1,500,00
BRYCE SUBSTATION RETIREMENT	3,464	2.422	2,392	80%X7D00=5600	As part of a deal with the property owner for a long section of 13B KV transmission right of way Garkame agreed to the relimment of the Bryce Substation when annual peak loads reached BD percent of name pilate tapacity or teatifier. Garkame is a ware of construction plans by others to build new facilities that may increase loads to the agreed threachoid requiring construction of the Ruby's Substation and retirement of the Bryce Substation.	Retire and restaint the substation.	Engineening/ Substation Manager	2028	None	\$	75,00
DUCK CREEK SUBSTATION 345/125 KV TRANSFORMER CAPACITY UPGRADE TO 10/14 MVA	6,138	7,132	9,132	6,850	Loads served by the Duck Creek Substation continue to increase year over year. Based on the cuirent growth trend it is anticipated that the peak loads will reach 95% of the substation transformer Force Air Rating in 2028.	Procure a replacement 34 5/12.5 KV 10/14 KVA transformer and retire current transformer for use else Where on system. Update relaying and coordination settings.	Engineering/ Substation Manager	2028	None	47	500,00
TOD'S SUBSTATION 69/34.5 KV RANSFORMER CAPACITY UPGRADE TO 10/14 MVA	7,289	8,441	28/251	8,500	Loads served by the Tod's Substation BB/34 5 kV transformer continues to increase year over year. Based on the current growth trend it is anticipated that the peak loads will reach 95% of the substation transformer Force Air Rating in 2030.	Procute a replacement 88/34.5 KV 10/14 KVA transformer and refive current transformer for Use else where on system. Update relaying and coordination settings.	Engineering/ Substation Manager	2050	None	5	500,00
EIGHT MILE GAP SUBSTATION 138 KV CONVERSTION	25,467	26,455	28,251	SYSTEM ANALYSIS,	Transmission Studies indicates the Buckskin to Kanab transmission line needs to be constructed by the time loading on Buckskin to Fredoma ine reaches 30 MW. This project is currently under construction. Completing the line will mitigate volt regulation issues for a time. However it is estimated that at roughly 40 MW of load voltage regulation will again become a lissue and will regular that the line be operated at 138 kV. Doing so will require the construction of a 138 kV substation bus at EMG.	Build a new substation bay and foundation with 139 KV clearances in the adjacent to the existing EMG Substation meeting industry best practices and code requirements.	Engineering/ Substation Manager	2032 (AMEND SCHEDULE BASED ON ACTUAL LOAD GROWTH)	Property Purchased 2022	5	2,500,00
VALLEYINT CARMEL SUBSTATION	6.601	6,983	8.246	ESTIMATED AT 10 MVA	Loads served by the Valley Feeder of the Fredonia Substation continue to increase year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate. It is anticipated that voltage regulation is on the feeder will become an issue with the addition of roughly 2.5 more MVA for total load of 9.5 MVA. Voltage conditions during peak loads should be closely monitored for compliance with Garkane standards.	Upgrade the insulation level of the Fredoria to Valley (ne from 34.5 to 69 kV, Construct a new transmission substation in the MC carmel/Order/ille area. Build the new substation with 138 kV clearances. The facility will initially be operated for 69 to 34.5 kV transformation.	Engineering/ Substation Manager	2032 (AMEND SCHEOULE BASED ON ACTUAL LOAD GROWTH)	None	5	1.500.00
EDAR RIDGE (BIG WATER) 138/25 KV SUBSTATION	2.509	2.399	2.500	SYSTEM ANALYSIS, ESTIMATED AT 6 MVA	Loads served by the Big Water Feeder of the Panu Substation continue to increase year over year. Garkane is aware of construction plans by others to build new facilities that will accelerate the load growth rate. It is anticipated that voltage regulation is on the feeder will become an issue with the addition of roughly 1.5 more MVA for total load of A MVA. Voltage conditions during peak loads should be closely monitored for compliance with Garkane standards.	Build a new 138 to 25 kV substation on property previously purchased. Build double circuit express feeder distribution line from the new Cedar Ridge Substation to connect the new facility to the existing distribution system.	Engineering/ Substation Manager	2032 (AMEND SCHEDULE BASED ON ACTUAL LOAD GROWTH)	Property Purchased 2015	5	1.500.00

**APPENDICES** 

### GARKANE ENERGY

2015 Work Plan Summary - Updated November 2017

Substation	Feeder	Historical Peak Load	2019 Projected Load	Issue	Sclution		Vorkplan ected Cost	Capital Budget Approvals		ount	Amount Spent to Date (Oct 17)	Project Lead	Work Order Number	Projected In Service Date	Current Status
Parker Sub	Koosharem/Antimony Feeder	2,205	2,315	1. 112v in Mormon Peak Area 2. 117v in Monroe Peak Area 3. 116v South of Greenwitch	I. Install 3 - 100a V Reps South of Koosharem at Section OH25613 2. Install 1 - 50a V Rep East of Morroe Mrt at Section OH25790 3. Install 1 - 50a V Rep East of Morroe Park at Section OH2342 4. Install 3 - 100a V Reps North of Greenwitch at Section OH29023	s	120,000		\$	120,000	S 85,000	Loa Area Manager	various	2015	Antimony, Monroe and Angle Vregs Completed
Lyman Sub		4,887	2,801	No Load Issues in Loa or Lyman Feeders. Need to correct customer phasing data in model.	Need to update and correct model data with correct conductor phasing and sizes.	s	10,000		\$	10,000		Loa Area Manager		2017	Completed
Bicknell Sub	Bicknell Town Feeder	1,441	1.513	No Loed Issues in Loe or Lyman Feeders. Need to correct customer phasing data in model.	Need to update and correct model data with correct conductor phasing and sizes.	s	10,000		\$	10.000		Loa Area Manager		2017	Completed
Bicknell Sub	Torrey Feeder	2,668	2,802	Line between Sub and Torrey is loaded in excess of 75% capacity. 103v in Teasdale Area. 109v in Grover Area.	2010 Workplan Project: New Torrey Sub is being constructed and load will be transferred from Bickneil Sub to Torrey Sub. This project was started in 2010 Workplan as a reconductor of Bickheil to Torrey Line.	s	1,500,000		\$	1,500,000	S 1,411,255	Loa Area Manager	12109	2015	New Torrey Substation is energized and in service.
Torrey Sub	Torrey Feeder	2,668	2,802	117v in Teasdale Area. Need to look at phase balance at new substation. #2 ACSR Conductor on 12.5 KV line between new substation and Torrey will be loaded to 73% capacity at 25% of the substation transformer capacity.	Need to reconductor existing line to at least 477 or build new parallel line into Torrey toen	s	200,000		ş	200,000		Loa Area Manager		2017	
Bicknell Sub	Hanksville Feeder	1,593	1,672	115v in Notom Ranch Area	Add 3 - 50a V Regs on Notom Tap at Section OH27016	s	42,000		\$	42,000		Loa Area Manager		2016	Completed
Eight Mile Gap Sub		706	742	Single Circuit from Sub cannot balance load. Almost all load is on single phase. Need to move remainder of load from Johnson Sub to Eight Mile Gap Sub to permit decommissioning of Johnson Sub.	Extend 4/0 approximately 2500 ft from Substation to UG24150. This will permit balancing of existing loads and moving of remaining Johnson Sub loads.	s	188,000		\$	168,000		Kanab Area Manager		2015	Completed
Johnson Sub				Retire Johnson Sub once load is transferred to Eight Mile Gap Sub.		s	50,000		\$	50,000		Engineering Manager		2016	Partially completed.
Fredonia Sub	Fredonia West Feeder	5,267	5,530	107v at Moccasin and 116v at Hack Canyon	Install 3- 100 a V Regs on 35kV line between takeoff and Pipe Spring Step Transformer. If Mine continues operation or expands operations install 3 - 100 a Vregs on Hack Canyon Tap.	s	90,000		\$	90,000		Kanab Area Manager		2016	Mining operations have stopped, Regulators have been procured and scheduled for installation 2023
KCR Sub	KCR Feeder	3,944	4,141	No Load Issues on feeder. Need to correct customer phasing data in model.	Need to update and correct model data with correct conductor phasing and sizes.	s	10,000		\$	10,000		Kanab Area Manager		2017	Partially completed.
Boulder Sub	Boulder Town Feeder	1,510	1,586	113 v in Lower Bouilder Area	Install 3 - 100a V Regs near Town OCR	s	45,000		\$	45,000		Hatch Area Manager		2015	
Escelante Sub	Escalante Town Feeder	2,702	2,573	No Load Issues on feeder. Need to correct customer phasing data in model.	Need to update and correct model data with correct conductor phasing and sizes.	s	10,000		\$	10,000		Hatch Area Manager		2017	Partially completed.
Hatch Sub	Hatch South Feeder	4,409	4,630	111 v in Mammoth Area.	Install 3 - 50a V Regs at Section OH17057	s	42,000		\$	42.000	\$ 40,000	Hatch Area Manager		2017	Completed
Tad Sub	Strawberry Feeder	1,899	1,994	117 V at end of Swain Creek Subdivision. Load Balance issues at Swain Creek Step.	Install 3 -50a V Regs at Swain Creek Step. Correct customer phasing data in model.	s	42,000		\$	42,000		Hatch Area Manager		2016	
Tod Sub	Elk Ridge Feeder	1.334	1.401	MODEL DATA??	Need to update and correct model data with correct conductor phasing and sizes.	s	10,000		\$	10.000		Hatch Area Manager		2017	Partially completed.

### GARKANE ENERGY

### 2015 Work Plan Summary - Updated November 2017

Substation	Feeder	Historical Peak Load	2019 Projected Load	lssue	Solution	Workplan Projected Cost	Capital Budget Approvals	Total Approved Amount	Amount Spent to Date (Oct 17)	Project Lead	Work Order Number	Projected In Service Date	Current Status
Duck Creek Sub	Duck Creek Feeder	2,112		117v at end of line north west portion of subdivision. Load Balance issues at Substation	Need to correct customer phasing data in model and rerun analysis.	S 10,000		\$ 10,000		Hatch Area Manager		2017	Partially completed.
Duck Creek Sub	Color Country Feeder	2,499	2,624		Add 400 feet 4/0 URD from end of OH45564 to the start of UG18662 and UG19408. Split URD between phases.	\$ 17,000		\$ 17,000		Hatch Area Manager		2015	
Twin City Sub	Utah Avenue Feeder	4,197		No Load Issues on feeder. Need to correct customer phasing data in model.	Need to correct customer phasing data in model and rerun analysis.	\$ 10,000		\$ 10,000		Kanab Area Manager		2017	Partially completed.
Twin City Sub	Redwood Road Feeder	4,366	4,584		Need to balance loads and eilher replace existing 40 URD with 500 mcm URD OR build OH line from sub to OH40425 Total distance is about 3 miles.	\$ 425,000		\$ 425,000		Kanab Area Manager		2016	Partially completed.
· · · ·						\$ 2,831,000		\$ 2,831,000					

### TRANSMISSION AND SUBSTATION PROJECTS

PROJECT	ISSUE	PROJECT DESCRIPTION	Workplan Projected Cost	Capital Budget Approvals	Total Approved Amount	Amount Spent to Date (Oct 17)	Project Lead		Projected In Service Date	STATUS
Tropic to Halch Transmission	Capacity and Voltage problems in Hatch and	2003 Workplan Project. Construct Tropic to Hatch 138 kV line to replace the existing 44/59 kV line in Red Canyon to increase delivery capacity to Hatch and Tod Subs.	\$ 6,000,000	\$ 2,000,000	\$ 8,000,000	\$ 7,661,870	Engineering Manager	11113	2017	r S b S S Completed S O
Retire Bryce to Hatch Mountain 69 kV Line		2003 Workplan. Permit requirement for Tropic to Hatch line requires the physical removal of the step transformer and yard on north side of road	\$ 500,000		\$ 500,000		Engineering Manager		2018	Completed
East Valley Substation	Substation needed to interconnect new Tropic to Hatch transmission line	2003 Workplan Project. Construct East Tropic Substation	\$ 1,500,000		\$ 1,500,000	\$ 1,096,640	Engineering Manager	13071	2015	Completed
Ruby Switching Station	Substation needed to interconnect new Tropic to Hatch transmission line	2003 Workplan Project. Construct Ruby Station	S 825,000		S 825,000	S 629,209	Engineering Manager	13072	2017	Completed
Retire Hatch Mountain Step Yard	Permit for Tropic to Hatch Line requires removal of existing 69 / 44 kV Step Bank and yard on north side of FS Road	2003 Workplan. Permit requirement for Tropic to Hatch line requires the physical removal of the line from Bryce to Hatch Mountain.	\$ 112,000		\$ 112,000	S 343	Engineering Manager	14107	2015	Completed
Buckskin to Fredonia Transmission		2010 Workplan Project. Construct 138 kV line from Buckskin to Fredonia. 31.5 miles @ \$150k/mile plus \$575k permitting costs	\$ 5,300,000		\$ 5,300,000	S 242,873	Engineering Manager	10018	2017	Partially completed.
Cedar Ridge to Big Water Transmission	additional 1000 kW expected at Canyon Lands	2010 Workplan Project. 138 kV line to Big Water and Substation when load grows to 3.5 MW at Paria Sub (Dec 2009 peak 2.3 MW).	\$ 300,000		\$ 300,000	\$ 210,000	Engineering Manager	84116	Load Growth Dependent	Right of Way has been obtained. Project on hold until load requires construction.
Sigurd Substation OCB Replacement		Remove existing 3 tank OCB and install single tank OCB retired from Bryce Substation after completion of Tropic to Hatch Project	\$ 30,000		\$ 30,000		Engineering Manager		2018	Completed

### GARKANE ENERGY

### 2015 Work Plan Summary - Updated November 2017

Substation	Feeder	Historical Peak Load	2019 Projected Load	Issue	Solution	orkplan cted Cost	Capital Budget Approvals	Total Ap Amo		Amount Spent to Date (Oct 17)	Project Lead	Work Order Number	Projected In Service Date	Current Status
	Install 69 KV tie from PAC to GKE at S	pry Substation		substation at Panguitch and Spry is limited to 1 MW interchange until such time as Garkane converts 44 kV line from Hatch	The Emergency Services Agreement between PAC and GKE calls for the existing 12.5 KV lie to be replaced with a 69 KV lie when GKE upgrades the Spry transmission 69 KV. This upgrade was completed in 2014. The lie will require installing a 69 KV OCB to be installed at Spry Station. Use OCB and relay panel removed from Hatch Mountain.	\$ 125,000		s	125,000		Engineering Manager		2018	Partially completed.
						\$ 14,692,000		\$ 14,	,692,000					

### NON CAPACITY RELATED PROJECTS (SYSTEM IMPROVEMENT ITEMS)

Substation	Feeder		Issue	Solution	Workplan Projected Cost	Capital Budget Approvals	Total Approved Amount	Amount Spent to Date (Oct 17)	Project Lead	Work Order Number	Projected In Service Date	STATUS
Hatch	Hatch South		URD Cable in Bryce Woodlands Subdivision was originally direct buried in the roadway and borrow ditch.	Approximately 8000 feet of URD cable needs to be replaced and buried to proper depths.	\$ 60,00	S 100,000	\$ 160,000	\$ 95,846	Hatch Area Manager	15032	2015	Partially completed.
Bryce	Barney Top Feeder			This section of cable was not installed as part of the original project due to right of way issues with the Forest Service.	\$ 150,00	í.	\$ 150,000	\$ 99,962	Hatch Area Manager	15349	2015	Completed
Torrey	Torrey		Convert single phase line south of Teasdale to three phase to allow better load balance in Teasdale area				s -		Loa Area Manager			
Torrey	Torrey		Replace Teasdale OCR				\$-		Loa Area Manager			
					\$ 210,00		\$ 210,000					

17,733,000 17,733,000

Grand Totals