

December 6, 2022

Utah Public Service Commission
160 East 300 South, 4th Floor
Salt Lake City, UT 84062

Re: 2022 Wildland Fire Protection Plan Annual Compliance Report

To Whom It May Concern

Utah Code 54-24-203(3) establishes the process for electric cooperatives to prepare a wildland fire protection plan. In 2020, Garkane Energy Cooperative Inc. (GEC) prepared a wildland fire protection plan and had it approved by its governing authority. A copy of that action, and the wildland fire protection plan itself, was subsequently filed with the Public Service Commission for public inspection in accordance with 54-24-203(5)(a). Our plan filing was reviewed by the Public Service Commission on September 3, 2020

Additionally, Utah Code 54-24-203(4) states that an electric cooperative must file an annual report detailing the electric cooperative's compliance with the approved wildland fire protection plan. This filing is to confirm that GEC presented the attached compliance report to its governing authority at a regular board meeting held on October 25, 2021 and subsequently filed the report with its governing authority in accordance with 54-24-203(5)(b).

GEC has complied with the statutory requirements of 54-24-203 and is available for further questions from the Commission if needed.

Sincerely,

Bryant Shakespear

Bryant Shakespear P.E,
COO, Garkane Energy

Enclosures (1)

Garkane Energy Cooperative Board, 2022 Wildland Fire Protection Plan Report

Garkane Energy Cooperative Board, 2022 Wildland Fire Protection Plan Report

Garkane Board Meeting

October 31, 2022

Prepared by: April Johnson, Bryant Shakespear

Wildland Fire Protection Plan Requirements

- Utah Code § 54-24-203(4) requires electric cooperative to (a) file with the governing authority an annual report detailing the electric cooperative's compliance with the WFPP; and (b) file with the Commission a copy of the annual compliance report.
- Given recent increases in wildfire frequency and severity throughout Utah, on March 28, 2020, the Governor signed House Bill 66, Wildland Fire Planning and Cost Recovery, a law that grants the Public Service Commission rulemaking authority to enact rules establishing procedures for the review and approval of wildland fire protection plans. The law requires qualified utility and electric cooperatives to prepare and submit for approval a wildland fire protection plan in accordance with the requirements outlined in the Bill.
- This Wildland Fire Protection Plan (Plan) describes the range of activities that GEC is taking or considering to mitigate the threat of power line-ignited wildfire, including the protocols and procedures that GEC would undertake, as well as industry best practices. The Plan complies with the requirements outlined under House Bill 66 to prepare a wildland fire protection plan by July 1, 2020, and every 3 years thereafter. The final plan has been reviewed by all pertinent agencies, including a third-party review by subject matter experts. The plan was adopted by the GEC Board of Directors on June 1, 2020. All sections of the Plan will be reviewed and revised on an annual basis, and the findings will be presented to the Board of Directors. The Plan will be fully revised every 3 years, which will include a revised risk analysis and development of plan recommendations to incorporate new technology and industry best practices.

Elements of Garkane's Wildland Fire Protection Plan

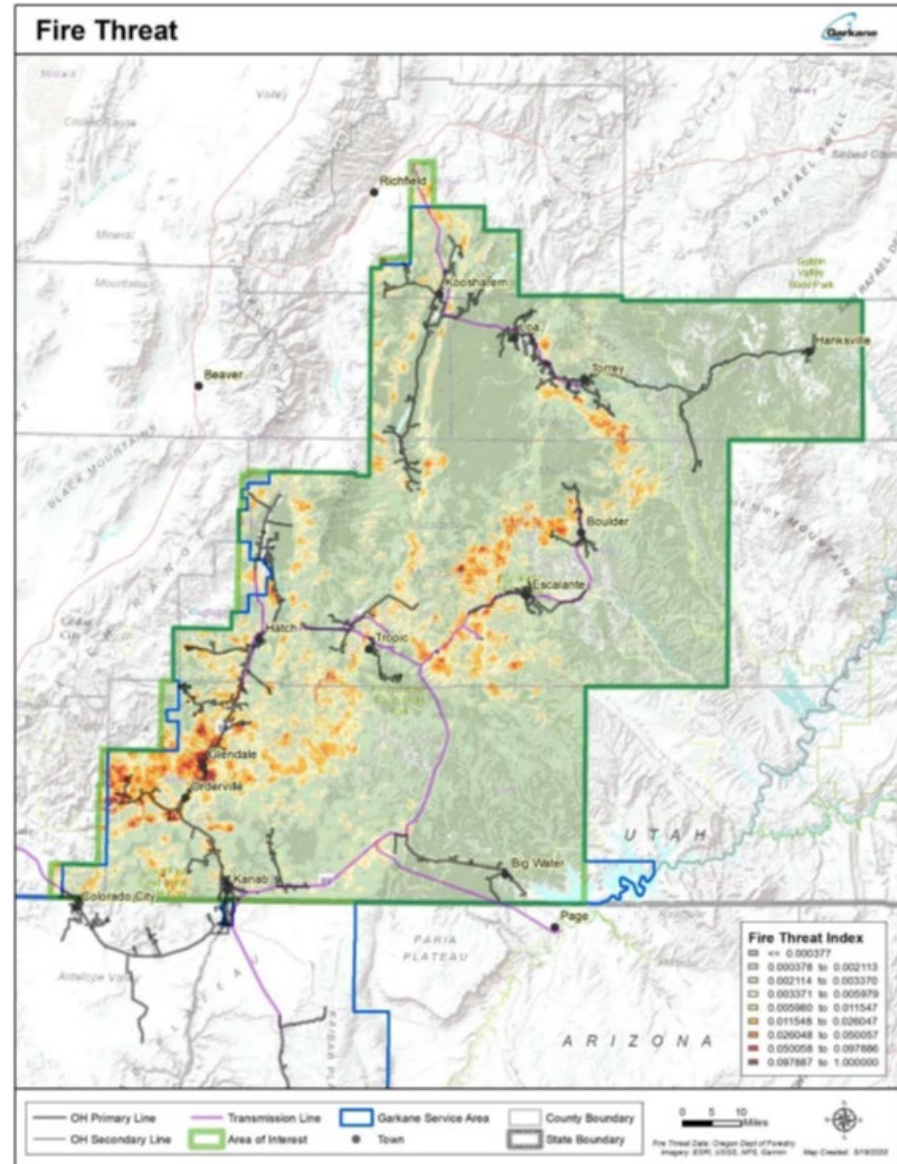
1. Wildfire Risk Analysis

- A. Fire History
- B. Vegetation Communities
- C. Fuels
- D. Topography
- E. Weather
- F. Fire Behavior
- G. Analysis Approach
- H. Wildfire Threat and Wildfire Risk

2. Objectives

- A. Minimizing Sources of Ignition
- B. Resiliency of the Electric System
- C. Wildfire Prevention Strategies and Protocols
 - 1. Inspection Procedures
 - 1. Patrol Inspections
 - 2. Detailed Inspections
 - 3. Intrusive Inspections
 - 2. Vegetation Management Protocol
 - 3. Modifications and Upgrades to Infrastructure
 - 4. De-energizing Protocols
 - 5. Restoration of Service
- D. Identifying Unnecessary or Ineffective Actions

Wildfire Risk Analysis



Summary Of Objectives Completed

Objective	Targets Completed
Minimizing Sources of Ignition	Yes
Resiliency of the Electric System	Yes
Wildfire Prevention Strategies and Protocols	Expected by years end
Identifying Unnecessary or Ineffective Actions	Yes



Minimizing Sources of Ignition

Vegetation Management, Garkane continues to work to get all cycles current. Vegetation Contractor budgeted for 2023 to lead effort to get current.

Resiliency of the Electric System

2. Actions Completed to Improve Resiliency of the Electric System
 - ✓ Cedar Mtn Fault Locator and System Coordination
 - ✓ Kaibab Mtn Fault Locator and System Coordination
 - ✓ Kanab City Fault Locator and System Coordination
 - ✓ Spencer Bench SCADA Communications Upgrade Project
 - ✓ Fredonia Substation Breaker and Relay Upgrade Project

Wildland Fire Protection Plan, Annual Targets

- 554 poles within Medium Wildfire Threat should be patrolled each year (50% of total)
- 162 poles within High Wildfire Threat should be patrolled each year (100% of total)
- 221 poles within Med/High Wildfire Threat should receive a detailed inspection each year (20% of Fire target)
- 110 poles within Med/High Wildfire Threat should receive an intrusive inspection each year (10% of Fire target)



2022 WFPP Inspection Summary

Summary Table **This includes distribution AND transmission. 30ft buffer given to patrol lines to capture poles.*

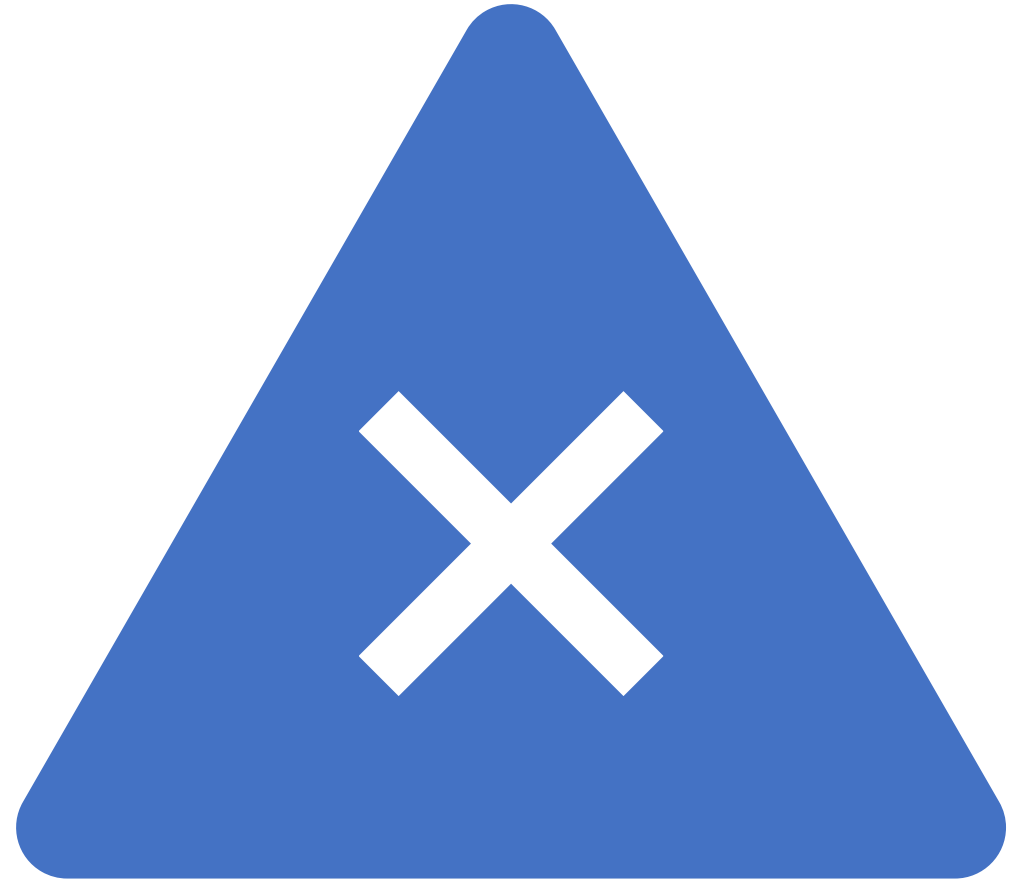
	ANNUAL TARGET <i>(% of TOTAL)</i>			% COMPLETED in 2022 <i>(1/1-9/13)</i>		
	System-wide <i>(% of TOTAL)</i>	Wildfire Threat		System-wide <i>(% of TOTAL)</i>	Wildfire Threat	
		Med	High		Med	High
		<i>(% of Wildfire Total)</i>			<i>(% of Wildfire Total)</i>	
Pole inspections: Patrol	13,375 <i>(50%)</i>	550 <i>(50%)</i>	162 <i>(100%)</i>	9635 <i>(36%)</i>	619 <i>(55.8%)</i>	86 <i>(53%)</i>
Detailed*	5350 <i>(20%)</i>	221 <i>(20%)</i>	32 <i>(20%)</i>	2934 <i>(11%)</i>	322 <i>(29%)</i>	51 <i>(31.5%)</i>
Intrusive*	2675 <i>(10%)</i>	110 <i>(10%)</i>	16 <i>(10%)</i>	1583 <i>(5.9%)</i>	153 <i>(13.8%)</i>	9 <i>(5.6%)</i>

**There is cross-over between these inspection types.*



Identifying Unnecessary or Ineffective Actions

After two years of plan implementation Garkane has identified areas that can be added or removed from the High Threat areas identified in the plan. That update will occur during the 2023 plan update



Engineer Compliance Statement

Based on my review of the reports prepared by my staff it is my opinion that in all material respects Garkane has complied with the terms of the Garkane Energy Cooperative Wildland Fire Protection Plan.

Bryant Shakespear, P.E. 10/29/2022

January 1, 2022 – September 13, 2022

Highlighted values were used to calculate percentages

Highlights

- We patrolled a little more than half of poles in High Wildfire Threat areas and will finish up the rest in late 2022.
- We exceeded our annual targets for DET & INT inspections in Medium & High Wildfire Threat areas.
- We are short on our patrol target for the system overall (~3740 more poles need patrolled or ~214 more miles)
- We are 9% short of our DET annual target and 4.1% short of our INT annual target (DET = ~2416 more needed, INT = ~1092 needed).
- We did better on underground inspections than last year (8.8% completed in 2022) but have room for improvement if we hope to inspect ~1492 per year (our target = 20% annually).
- **To extrapolate for the complete calendar year, multiply any count or percentage by 1.4. (12 months / 8.5 months = 1.4)**

Annual Targets *These are ballpark totals, but the particular life history of a pole will dictate specific circumstances.

System-wide

- 13,375 poles/802 miles should be patrolled each year (50% of total)
- 5350 poles should be detail inspected each year (20% of total)
- ~2675 poles should be intrusive inspected each year (10% of total)
- ~1492 UG cabinets/pedestals should be inspected per year (20% of total)

Wildfire-Specific

- 554 poles within Medium Wildfire Threat should be patrolled each year (50% of total)
- 162 poles within High Wildfire Threat should be patrolled each year (100% of total)
- 221 poles within Med/High Wildfire Threat should receive a detailed inspection each year (20% of Fire target)
- 110 poles within Med/High Wildfire Threat should receive an intrusive inspection each year (10% of Fire target)

Inspections Completed

System-wide

- 655 Underground Inspections completed (8.8%, 418 DET, 237 INT/New)
- 4517 DET/INT Overhead Inspections completed overall: 2934 DET (11%), 1583 INT (5.9%)
- Of these 4517 OH inspections: 1664 were Transmission poles, 2853 were Distribution poles
- UG & OH inspections combined = 5172. 185 attention needed, 12 immediate attention needed, 4975 OK
- Of those needing attention or immediate attention, there are 34 in Hatch, 149 in Kanab, and 14 in Loa
- ~595 miles of Overhead Line (transmission & distribution) patrol inspected overall: ~37% of total OH line
- ~9635 poles (transmission & distribution) patrol inspected overall: ~40% of total poles

Wildfire-Specific

- 1109 poles in Medium Wildfire Threat: 619 PAT (55.8%), 322 DET (29%), 153 INT (31.5%)
- 162 poles in High Wildfire Threat: 86 PAT (53%), 51 DET (31.5%), 9 INT (5.6%)

Summary Table *This includes distribution AND transmission. 30ft buffer given to patrol lines to capture poles.

	ANNUAL TARGET (% of TOTAL)			% COMPLETED in 2022 (1/1-9/13)		
	System-wide (% of TOTAL)	Wildfire Threat		System-wide (% of TOTAL)	Wildfire Threat	
		Med (% of Wildfire Total)	High (% of Wildfire Total)		Med (% of Wildfire Total)	High (% of Wildfire Total)
Pole inspections: Patrol	13,375 (50%)	550 (50%)	162 (100%)	9635 (36%)	619 (55.8%)	86 (53%)
Detailed*	5350 (20%)	221 (20%)	32 (20%)	2934 (11%)	322 (29%)	51 (31.5%)
Intrusive*	2675 (10%)	110 (10%)	16 (10%)	1583 (5.9%)	153 (13.8%)	9 (5.6%)

*There is cross-over between these inspection types.

Patrol Inspections (Overhead only) *This includes distribution AND transmission. 30ft buffer given to patrol lines to capture poles.

	Pole Count TOTAL	Pole Count Percent of Total <i>*26,750 used as total*</i>	Projected Pole Count <i>(adds 9/14 -12/31)</i>	Line Length TOTAL (mi)	Line Length Percent of Total <i>*1604.7 used as total*</i>	Projected Line Length <i>(adds 9/14 -12/31)</i>
Hatch	3830	14.3	5362	231.3	14.4	20.2
Kanab	2734	10.2	3827	166.7	10.4	14.6
Loa	2944	11.0	4122	190.2	11.9	16.6
GARKANE TOTAL	9508	35.5	13,311	588.2	36.7	51.4
<i>Fredonia</i>	<i>127</i>	<i>0.5</i>	<i>n/a</i>	<i>7.5</i>	<i>0.5</i>	<i>n/a</i>
TOTAL	9635	40.0	56.0	595.7	37.2	52.0

Detailed & Intrusive Inspections (Overhead only) *Intrusive includes new poles just installed.

	Detailed	Intrusive	TOTAL	Projected <i>(adds 9/14 -12/31)</i>	Percent of Total (%) <i>*26,750 used as total*</i>
Hatch	1288	898	2186	3060	8.2
Kanab	1472	478	1950	2730	7.3
Loa	166	207	373	522	1.4
GARKANE TOTAL	2926	1583	4509	6312	16.9
<i>outside of service area*</i>	<i>8</i>	<i>0</i>	<i>8</i>	<i>n/a</i>	<i>0.03</i>
TOTAL	2934	1583	4517	6323	16.9

* Fredonia, small portions of Glen-Buck line, and around Panguitch

Detailed & Intrusive Inspections (Underground only) *Intrusive includes new cabinets/pedestals just installed.

	Detailed	Intrusive	TOTAL	Projected <i>(adds 9/14 -12/31)</i>	Percent of Total (%) <i>*7464 used as total*</i>
Hatch	115	111	226	316	3
Kanab	291	98	389	544	5.2
Loa	12	28	40	56	0.5
GARKANE TOTAL	418	237	655	916	8.8

Wildfire Threat-Specific

PAT = patrol inspection

DET = detailed inspection

INT = intrusive inspection

30ft buffer given to patrol lines to capture poles.

	Medium Threat (count)				High Threat (count)				Percent of Wildfire Threat TOTAL (%)					
	Poles Total	Inspected in 2022			Poles Total	Inspected in 2022			Medium			High		
		PAT	DET	INT		PAT	DET	INT	PAT	DET	INT	PAT	DET	INT
Hatch	463	238	212	110	0	0	0	0	51.4	45.8	23.8	100	100	100
Kanab	575	322	109	43	162	86	51	9	56	19	7.5	53.1	31.5	5.6
Loa	71	59	1	0	0	0	0	0	83.1	1.4	0	100	100	100
TOTAL	1109	619	322	153	162	86	51	9	55.8	29	13.8	53.1	31.5	5.6

System-Wide Summary of Garkane Assets

~27,691 poles total: ~23,548 distribution, ~4143 transmission

~1666 miles total Overhead line

~819 miles total Underground line

~7464 UG cabinets (~1842 sectionalizers, ~3446 pad mount transformers, ~2176 pedestals)

Overhead System Stats – Pole Count & Line Length

	Distribution			Transmission		TOTAL	
	Poles	Line (miles)		Poles	Line (mi)	Poles	Line (mi)
		Primary	Secondary				
	-			-	-	-	-
Hatch	7497	363.8	48.0	1510	139.4	9007	551.2
Kanab	8284	405.9	44.9	1640	127.1	9924	577.9
Loa	6901	366.4	50.6	918	58.6	7819	475.6
GARKANE TOTAL	22,682	1136.1	143.5	4068	325.1	26,750	1604.7
<i>outside of service area*</i>	866	29.2	11.1	75	21.1	941	61.4
GRAND TOTAL	23,548	1165.3	154.6	4143	346.2	27,691	1666.1

* Fredonia, small portions of Glen-Buck line, and around Panguitch

Underground System Stats – Line Length (miles)

	Distribution		TOTAL	Change from 2021
	Primary	Secondary		
			-	-
Hatch	180.3	120.1	300.4	+9.3
Kanab	236.5	140.0	376.5	+7.9
Loa	87.4	49.5	136.9	+3.9
GARKANE TOTAL	504.2	309.6	813.8	+21.1
<i>outside of service area*</i>	2.1	2.9	5.0	0
GRAND TOTAL	506.3	312.5	818.8	+21.1

Overhead + Underground Stats – Line Length (miles)

	OH	UG	TOTAL
Hatch	551.2	300.4	851.6
Kanab	577.9	376.5	954.4
Loa	475.6	136.9	612.5
GARKANE TOTAL	1604.7	813.8	2418.5
<i>outside of service area*</i>	61.4	5.0	66.4
GRAND TOTAL	1666.1	818.8	2484.9

Additional caveats:

- These totals do not include the new Buckskin-Fredonia transmission line.
- There may be poles missing that are part of multi-part structures not properly represented on the map.
- **There is significant cross-over between inspection types.** For example, if an intrusive inspection is done on a pole, this is a higher level of inspection that precludes but also includes a detailed and patrol inspection at that pole. However, a drive-by patrol inspection does NOT mean these poles received a detailed or intrusive inspection. Performing a detailed inspection of a pole also counts for a patrol inspection, but is not included in the patrol counts.

Additional Summary Table

Inspection Type	2021 Target	2021 Results	2022 Results (1/1-9/13)
System-wide PATROL	13,330 poles (50% of system)	11,811 poles (44%)	9635 poles (36%)
System-wide DETAILED	5332 poles (20% of system)	1005 poles (3.8%)	2934 poles (11%)
System-wide INTRUSIVE	2666 poles (10% of system)	2589 poles (9.7%)	1583 poles (5.9%)
System-wide UNDERGROUND CABINETS	1035 cabinets (20% of system)	72 cabinets (1.4%)	655 cabinets (8.8%)
Wildfire Threat PATROL – MED THREAT	550 poles (50% of Medium Threat)	746 poles (67.8%)	619 poles (55.8%)
Wildfire Threat PATROL – HIGH THREAT	158 poles (100% of High Threat)	158 poles (100%)	86 poles (53%)
Wildfire Threat DETAILED – BOTH MED/HI	231 poles (20% of all Wildfire Threat)	45 poles (4%)	373 poles (34%)
Wildfire Threat INTRUSIVE – BOTH MED/HI	127 poles (10% of all Wildfire Threat)	305 poles (24%)	162 poles (13%)