



ENGINEERING & OPERATIONS DEPARTMENT

November 5, 2021

State of Utah,
Department of Commerce
Division of Public Utilities
P.O. Box 146751
Salt Lake City, 84114-6751

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 Shakespeare

Bryant C Shakespear, PE
COO & Engineering Manager

Enclosures (1)

Garkane Energy Cooperative Board, 2021 Wildland Fire Protection Plan Report

Garkane Energy Cooperative Board, 2021 Wildland Fire Protection Plan Report

Garkane Board Meeting

October 25, 2021

Prepared by: Casey Glover, 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

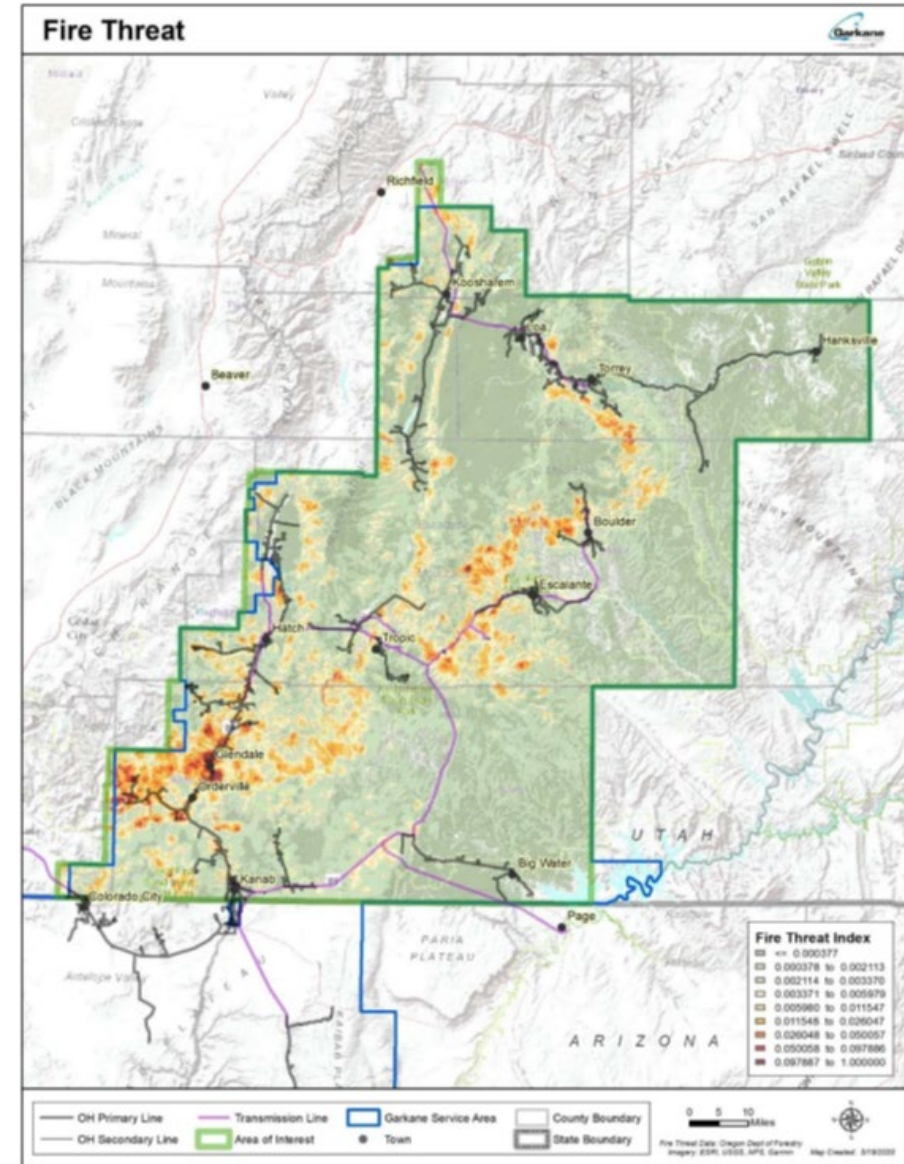
1. Wildfire Risk Analysis

- 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 is on schedule with all
ROW cycles current.

(Casey Glover, GARKANE
ENERGY COOPERATIVE
WILDLAND FIRE PROTECTION
PLAN PROGRESS REPORT FOR
SECTION 5)



Resiliency of the Electric System

Actions Completed to Improve Resiliency of the Electric System

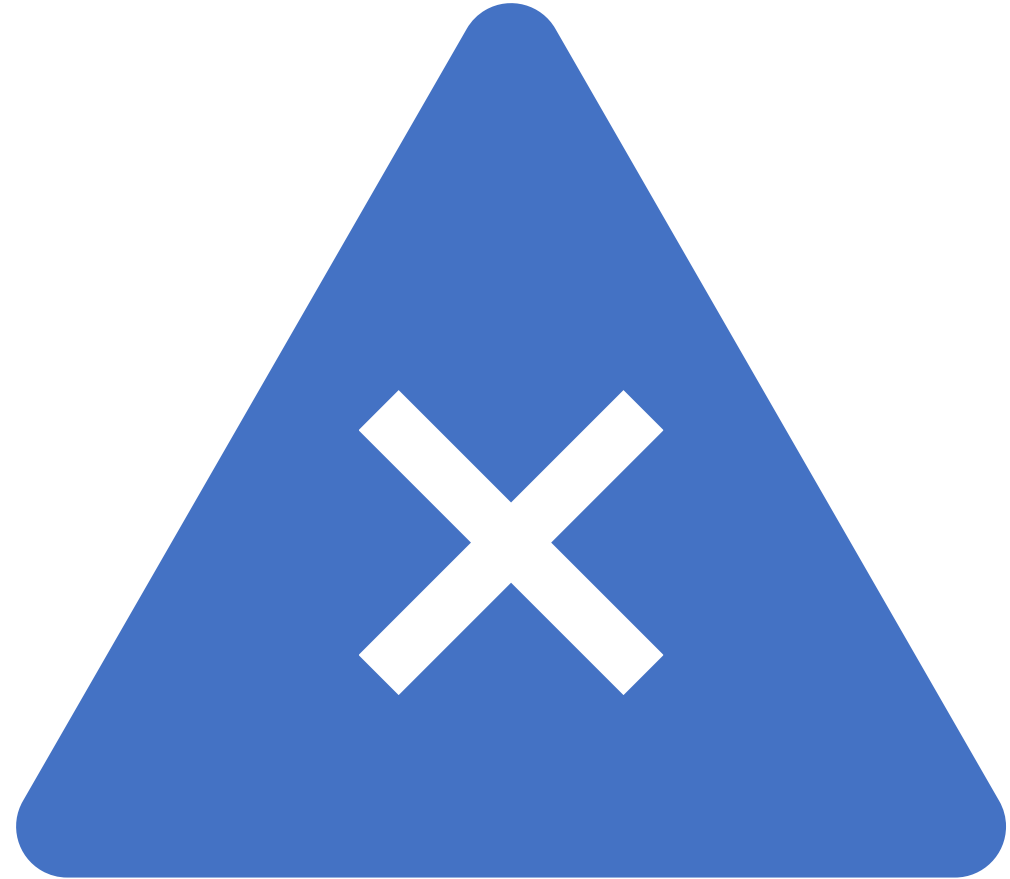
- ✓ Cedar Mtn Recloser Replacement & System Coordination Project
- ✓ Mammoth Creek Recloser Replacement & System Coordination Project
- ✓ Kaibab Mtn Recloser Replacement & System Coordination Project
- ✓ Spencer Bench SCADA Communications Upgrade Project
- ✓ TV Hill SCADA Communications Upgrade Project
- ✓ Tropic to Hatch Fiber Optic SCADA Communications Upgrade Project
- ✓ Fredonia Substation Recloser Replacement & System Coordination Project

Facility Inspections

Inspection Type	Analysis Area	WFPP Annual Target	Completed as of 10/18/2021	Target Met (Yes/No/Anticipated)
Pole Patrol Inspection	System Wide	13,330 (50% of Poles)*	11,811 (44%)	Anticipated 12/31/2021
Pole Patrol Inspection	High Wildfire Threat	158 (100% of Poles)	158 (100%)	Yes
Pole Patrol Inspection	Medium Wildfire Threat	550 (50% of Poles)	746 (68%)	Yes
Detailed Pole Inspection	High Wildfire Threat	32 (20% of Poles)	52 (33%)	Yes
Intrusive Pole Inspection	High Wildfire Threat	32 (20% of Poles)	51 (32%)	Yes

Identifying Unnecessary or Ineffective Actions

As this is the first year
of WFPP
implementation no
unnecessary or
ineffective actions have
been identified in the
current plan.



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 Shakespeare, P.E. 10/22/2024

2021 Garkane Energy Inspection Report

10/20/2021

January 1, 2021 – October 18, 2021

Highlighted values were used to calculate percentages

Annual Targets*

**Caveat: These are ballpark totals in a perfect world, but the particular life history of a pole will dictate specific circumstances.*

System-wide

13,330 poles/802 miles should be patrolled each year (50% of total)

5332 poles should be detail inspected each year (20%)

~2666 poles should be intrusive inspected each year (10% of total)

Wildfire-Specific

550 poles within Medium Wildfire Threat should be patrolled each year (50% of total)

158 poles within High Wildfire Threat should be patrolled each year (100% of total)

220 poles within Med/High Wildfire Threat should receive a detailed inspection each year (20%)

110 poles within Med/High Wildfire Threat should receive an intrusive inspection each year (10%)

Summary

System-wide

~26,700 poles total: ~22,500 distribution, ~4200 transmission

~1600 miles total Overhead line

~800 miles total Underground line

33 Underground Inspections

3040 Overhead Inspections overall: 1050 DET (3.9%), 1990 INT (7.5%)

~850 miles of Overhead Line (transmission & distribution) patrol inspected in 2021 overall: ~53% of total OH line

~11,800 poles (transmission & distribution) patrol inspected in 2021 overall: ~44% of total OH poles

Wildfire-Specific

1100 poles in Medium Wildfire Threat: 746 PAT (67.8%), 58 DET (5.3%), 234 INT (21.2%)

158 poles in High Wildfire Threat: 158 PAT (100%), 1 DET (0.6%), 51 INT (32.3%)

Summary Table

	ANNUAL TARGET <i>(% of TOTAL)</i>			% COMPLETED in 2021 <i>(1/1-10/18)</i>		
	System-wide	Wildfire Threat		System-wide	Wildfire Threat	
		Med	High		Med	High
Pole inspections: Patrol	13,330 <i>(50%)</i>	550 <i>(50%)</i>	158 <i>(100%)</i>	11,811 <i>(44%)</i>	746 <i>(67.8%)</i>	158 <i>(100%)</i>
Detailed*	5332 <i>(20%)</i>	220 <i>(20%)</i>		1050 <i>(3.9%)</i>	58 <i>(5.3%)</i>	1 <i>(0.6%)</i>
Intrusive*	2666 <i>(10%)</i>	110 <i>(10%)</i>		1990 <i>(7.5%)</i>	234 <i>(21.2%)</i>	51 <i>(32.3%)</i>
Line length patrol inspected	802 mi <i>(50%)</i>	n/a		847 mi <i>(53%)</i>	n/a	
*If an intrusive inspection is completed, that counts as a detailed and patrol inspection. Patrol inspection counts include most intrusive inspections, but detailed inspection counts do not.						

Overhead System Stats – Pole Count & Line Length

	Distribution			Transmission		TOTAL	
	Poles	Line (miles)		Poles	Line (mi)	Poles	Line (mi)
	-	Primary	Secondary	-	-	-	-
Hatch	7445	364.0	49.2	1512	139.4	8957	552.6
Kanab	8248	405.0	45.3	1640	127.1	9888	577.4
Loa	6793	366.6	48.6	1021	58.6	7814	473.8
GARKANE TOTAL	22,486	1135.6	143.1	4173	325.1	26,659	1603.8
<i>outside of service area*</i>	863	29.2	11.1	75	21.2	938	61.5
GRAND TOTAL	23,349	1164.8	154.2	4248	346.3	27,597	1665.3
* Fredonia, Windy Ridge, small portions of Glen-Buck & around Panguitch							

Underground System Stats – Line Length (miles)

	Distribution		TOTAL
	Primary	Secondary	-
Hatch	172.7	118.4	291.1
Kanab	230.5	138.1	368.6
Loa	84.7	48.3	133.0
GARKANE TOTAL	487.9	304.8	792.7
<i>outside of service area (Fredonia)</i>	2.1	2.9	5.0
GRAND TOTAL	490.0	307.7	797.7

Overhead + Underground Stats – Line Length (miles)

	OH	UG	TOTAL
Hatch	552.6	291.1	843.7
Kanab	577.4	368.6	946.0
Loa	473.8	133.0	606.8
GARKANE TOTAL	1603.8	792.7	2396.5
<i>outside of service area (Fredonia)</i>	61.5	5.0	66.5
GRAND TOTAL	1665.3	797.7	2463.0

Patrol Inspections (Overhead only)

**This includes distribution AND transmission.*

	Pole Count TOTAL	Line Length TOTAL (mi)	Pole Count Percent of Total (%) <i>*26,659 used as total*</i>	Line Length Percent of Total (%) <i>*1603.8 used as total*</i>
Hatch	4701	344.8	17.6	21.5
Kanab	4539	330.0	17.0	20.6
Loa	2501	172.6	9.4	10.8
<i>Fredonia</i>	70	<i>n/a</i>	0.3	<i>n/a</i>
TOTAL	11811	847.4	44.3	52.8

Detailed & Intrusive Inspections (Overhead only)

- Detailed includes inspections not marked detailed or intrusive in the DI module
- Intrusive includes new poles just installed

	Detailed	Intrusive	TOTAL	Percent of Total (%) <i>*26,659 used as total*</i>
Hatch	522	540	1062	4.0
Kanab	181	1065	1246	4.7
Loa	344	356	700	2.6
<i>outside of service area</i>	3	29	32	0.1
TOTAL	1050	1990	3040	11.4

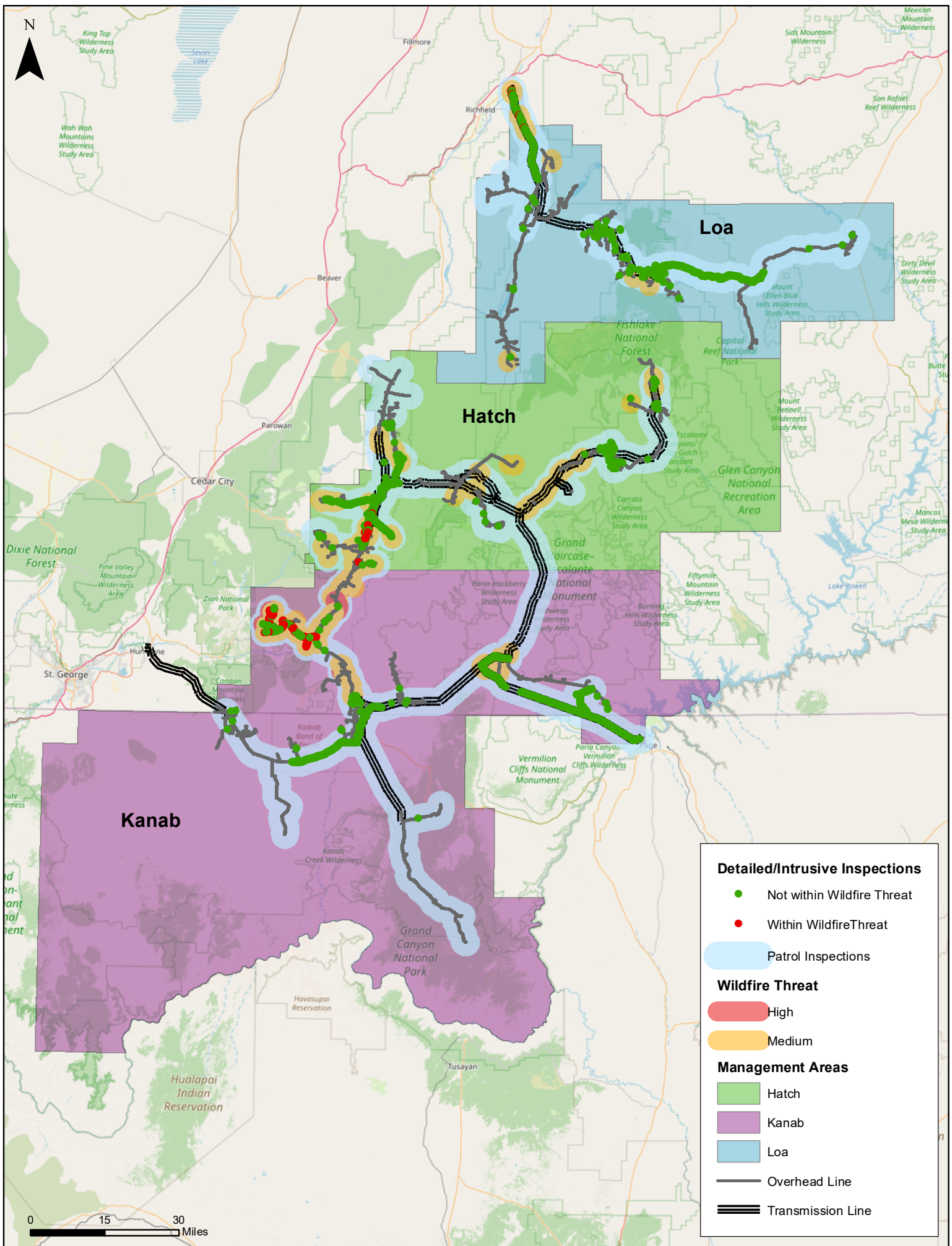
Wildfire Threat-Specific

PAT = patrol inspection

DET = detailed inspection

INT = intrusive inspection

	Medium Threat (count)				High Threat (count)				Percent of Wildfire Threat TOTAL (%) <i>*values in "Poles Total" used as total*</i>					
	Poles Total	Inspected in 2021			Poles Total	Inspected in 2021			Medium			High		
		PAT	DET	INT		PAT	DET	INT	PAT	DET	INT	PAT	DET	INT
Hatch	462	421	17	24	0	0	0	0	91.1	3.7	5.2	0	0	0
Kanab	566	340	16	210	158	158	1	51	60.1	2.8	37.1	100	0.6	32.3
Loa	72	47	25	0	0	0	0	0	65.3	34.7	0	0	0	0
TOTAL	1100	746	58	234	158	158	1	51	67.8	5.3	21.2	100	0.6	32.3



GARKANE ENERGY COOPERATIVE WILDLAND FIRE PROTECTION PLAN PROGRESS REPORT

Casey Glover, Operations Superintendent

10/20/2021

5.1.1 PATROL INSPECTIONS

Patrol inspections are continuously performed by qualified personnel as they traverse GEC's service territory when performing work. Personnel are trained to do patrol inspections as they focus on safety and reliability, identifying conditions that may pose a hazard or risk of ignition. If a hazard is discovered, it is documented using GEC's partner distribution software. Overhead patrols of equipment and conductors are required to be completed every year in high fire threat areas and biennial. system wide.

Progress: As of 10/18/21 GEC has patrolled and documented 100% of our overhead equipment and conductor that exist in the designated high fire threat areas as describe in our Wildfire Protection Plan.

GEC, as of 10/18/21 patrolled and documented 53 % of our total overhead equipment and conductor. Each of these data points meet the criteria that is set in our plan.

Observation: In our original plan the word biennial was replaced with biannual. this was an error as our patrol inspections must be completed every 2 years system wide instead of twice a year as biannual would indicate. 53% is not an accurate reflection of GEC's total patrol inspections. Our reporting process needs to improve the detail of information collect for these types of inspections.

5.1.2 DETAILED INSPECTIONS

Detailed inspections are generally done by a qualified contractor or a designated inspector but can be done by any qualified person. These inspections involve systematically visiting and inspecting every pole and documenting the findings. If a problem is discovered, it is documented using our Partner software. Detailed inspections are performed on a 5-year cycle in high fire threat areas and a 10-year cycle system wide.

Progress: Currently GKE has 158 total structures in the high fire threat areas of our system. As of 10/18/21 GKE has completed detailed inspections on 52 of those structures. That number equates to 33% complete which puts us well within our 5-year cycle on detailed inspections in our high fire threat areas.

GKE has approximately 26,700 total overhead structures (22,500 distribution, 4,200 transmission). GKE has completed a total of 3040 detailed inspections which is approximately 11.4% of our total system. At this pace GKE will meet the required 10-year cycle set forth in our Wildfire Protection Plan.

Observation: It is currently our process to fix "attention needed" (yellow dot) problems on our system within 1 year of documenting the problem.

5.1.3 INTRUSIVE INSPECTIONS

Intrusive inspections are generally done by a qualified contractor or a designated inspector but can be done by any qualified person. These inspections involve systematically visiting and inspecting every pole and documenting the findings. This type of inspection involves moving soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading. For wood poles that are over 15 years old and have not been previously subjected to intrusive inspections, an intrusive inspection must be performed. For wood poles that have previously passed an intrusive inspection. The follow-on intrusive inspection interval is 10 years.

Progress: Currently GKE has 158 total structures in the high fire threat areas of our system. As of 10/18/21 GKE has completed intrusive inspections on 51 of those structures. That number equates to approximately 32% complete which puts us well within our 5-year cycle on intrusive inspections for our high fire threat areas.

GKE has done 1990 total intrusive inspections on our entire system which equates to 7.5% YTD. We need to do approximately 700 more by the end of the year to get to our 10-year cycle goal.

Observation: GKE is using IML resistograph pole testing equipment and has hired a full-time employee to accomplish our intrusive pole testing goals. We currently own 3 IML machines and have had good success with them.

5.2 VEGETATION MANAGEMENT

The objective of vegetation management is to maintain GEC's property and ROWs in a manner that reduces the risk of wildland fires; ensures the safety of landowners, employees, and the public; and complies with National Electric Safety Code, Rural Utility Service, Federal, state, and local laws, and regulations pursuant to the operation of electric facilities. GKE is on a 3-year cycle for all circuits except for localized areas of fast-growing species or where limited trimming is permitted by the landowner.

Progress: GKE maintains a good working relationship with the National Forests, BLM, and NPS. GKE is on schedule with all ROW cycles currently

Observation. In 2018 GKE started using some contracted help with some heavily wooded sections of line. The use of large masticators greatly improved our process and has been well worth the investment as we have seen a drop in tree related outages.