

BEFORE THE WASHINGTON

UTILITIES & TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,
Complainant,

v.

AVISTA CORPORATION D/B/A/ AVISTA UTILITIES
Respondent.

DOCKETS UE-220053, UG-220054, and UE-210854 (Consolidated)

**AARON TAM
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT AT-10

Avista's Response to Public Counsel Data Request No. 177

July 29, 2022

**AVISTA CORP.
RESPONSE TO REQUEST FOR INFORMATION**

JURISDICTION:	WASHINGTON	DATE PREPARED:	04/21/2022
CASE NO.:	UE-220053 & UG-220054	WITNESS:	David Howell
REQUESTER:	Public Counsel	RESPONDER:	David James
TYPE:	Data Request	DEPT:	Wildfire Resiliency
REQUEST NO.:	PC – 177	TELEPHONE:	(509) 495-4185
		EMAIL:	dave.james@avistacorp.com

**SUBJECT: Wildfire Plan
Howell, Exh DRH-1T at 7:15–17**

REQUEST:

Avista states that its Wildfire Plan is comprised of four major categories. Avista states that the first element of the Plan “is grid hardening to reduce spark ignition events and make the system more resilient.”

- a) Please explain how grid hardening reduces spark ignition events, including an explanation of whether grid hardening reduces the risk that the utility infrastructure will ignite a fire.
- b) Please explain how grid hardening makes the system “more resilient.”

RESPONSE:

- a) **and b)** Avista’s Grid Hardening Program has four primary elements, all of which add both reduced spark potential and resiliency:
 - a. Distribution Infrastructure Upgrades which includes: replacing wood crossarms with fiberglass units, replacing end-of-life wood poles (and at times replacing them with steel poles), changing out obsolete small copper wire with modern steel reinforced aluminum wire, the installation of wildlife guards to reduce animal related events, eliminating open wire secondary districts, installing wedge connected stirrups to provide protection and additional strength at hot tap connection points, and undergrounding conductor when cost-justified. All of these efforts reduce the potential for sparks. On average, Avista experiences approximately 90 pole fires annually, and the vast majority are related to wood-on-wood contact between crossarms and poles. Over time insulators and wood crossarms become contaminated by dust and dirt creating a path for leakage current. When a period of hot-dry weather is followed by a light rain, leakage current increases, creating the right conditions for pole fires.¹ Failed poles and small copper wire can both lead to dropped conductor, which has the potential to land in combustible materials and create a fire. Wildlife guards protect equipment from animal interactions, a sad but common cause of spark events. A typical failure mode of open wire is for it to slap together and this causes it to arc/spark. Many times this arcing and sparking is substantial enough to drop sparks on the ground, thus eliminating open wire secondary districts reduces risk. This program also adds resiliency by replacing old equipment that is more likely to fail and cause a disruption to service.
 - b. Transmission Steel Pole Replacement is primarily related to making Avista’s transmission system resilient to the impacts of wildfire. Replacing wood poles with steel poles will allow fires to pass by them without burning, meaning lines can either remain in service

¹ Steve Torres, “Utility Extinguishes Risk for Pole-Top Fires,” T&D World, January 27, 2014, <https://www.tdworld.com/electric-utility-operations/tools-and-technologies/article/20963905/utility-extinguishes-risk-for-poletop-fires>

during a fire, or experience much shorter outages to de-energize the line while a fire passes. While Avista has been slowly converting wood lines to steel through wood pole replacement programs, the Wildfire Plan recommends accelerating that process in the high threat fire districts. Approximately 20% of Avista transmission lines are located in these high fire threat districts. We expect improved reliability performance of steel poles versus wood, as well as meeting the objective of fireproofing these critical infrastructure assets.

- c. Transmission Wood Pole Fire Mesh Wrap is being used to protect wood transmission poles in areas subject to routine grassland or sage-shrub fires. It is more durable than the fire-resistant paint and is considerably less expensive than replacing a wood pole with steel. Fire wrap mesh is designed to protect wood poles from fire damage so they do not fail if subjected to a fire event, so again are primarily designed to add resiliency to our transmission system.
- d. Enhancing Transmission Inspections. The Wildfire Plan adds LiDAR inspections to the existing transmission inspection methods, which will be able to specifically identify and mitigate vegetation-related risk and additional issues such as corroded attachment hardware, ground profile changes, excessive sag, and thermal issues. By identifying defects before they present as equipment failures, inspections help to minimize fire ignition events. This piece of the Grid Hardening program reduces the potential for sparks and makes the system more resilient by identifying equipment issues, vegetation-related or manmade encroachments, etc. before they can create issues.