

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-22_____

EXH. AMB-2

ANNETTE M. BRANDON

REPRESENTING AVISTA CORPORATION



Avista Corp.
1411 East Mission P.O. Box 3727
Spokane, Washington 99220-0500
Telephone 509-489-0500
Toll Free 800-727-9170

August 4, 2021

Mark L. Johnson
Executive Director and Secretary
Washington Utilities & Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Via Email - Jacque.Hawkins-Jones@utc.wa.gov

Re: Docket No. U-210484 – Business Practices Investigation Related to Extreme Heat Events of June 26, 2021 through July 6, 2021

Dear Mr. Johnson,

Avista Corporation, dba Avista Utilities (Avista or the Company), submits the following responses to the questions posed by the Commission in its July 21, 2021 request for information regarding the extreme heat Washington state experienced beginning June 26, 2021, through July 6, 2021.

Summary

Beginning on Monday, June 28, 2021, Eastern Washington began to experience a record heatwave, with temperatures reaching and exceeding 110 degrees in some areas. The heatwave placed an unprecedented strain on Avista's electrical distribution system. During the course of the heatwave, Avista saw loads exceed all previous records; in fact, at the height of the event, Avista saw additional loads that were roughly equivalent to 40,000 additional homes on the system.

Avista prepared for these conditions considering potential impacts to supply, transmission and distribution. All areas postponed routine work to both minimize any disruptions and ensure that the system was fully available. Additional planning for Avista energy supply (included purchasing additional power in anticipation of increased load, decreased market supply, and wholesale price volatility), coordinating with power plants to put contingency plans in place, accelerating plans to return generation to service from scheduled maintenance and upgrades, and identifying load reduction opportunities. Additional planning for Avista distribution included proactively shifting electric load to accommodate increased usage in certain areas. In addition, on Monday, June 28, 2021, Avista began requesting that customers do what they could to help conserve electricity.

Although higher temperatures were anticipated, it was, and is, difficult to predict exactly where on the system dangerous load spikes might occur, or what parts of the system will be placed under the greatest amount of strain. This is particularly true where the predicted temperatures are expected to break all historical records. Although the possibility of protective outages existed, it was also difficult to accurately predict if such outages would be necessary, and if so, where or when they would occur. All of these factors significantly limited Avista's ability to provide customers with accurate, actionable information until the actual effect of the heatwave on Avista's system could be seen.

Unfortunately, beginning on the afternoon of Monday, June 28, 2021, portions of Avista's system began to exceed system thresholds, triggering temporary, unplanned curtailments or outages of customers in some areas. The actions taken by the Company beginning on Monday, June 28, 2021, were done so to protect the Company's electrical system from any damage that may have occurred, which may have resulted in prolonged, wide-spread customer outages. Once the areas of impact were identified on Monday, the team put plans in place to provide more information and forewarning to customers for Tuesday and Wednesday.

When the system thresholds were triggered, Avista engaged with the media and in direct customer outreach. On Monday, June 28, 2021, Avista issued multiple press releases (including prior to the first outages), conducted on-air interviews, and proactively reached out to both impacted customers and other community stakeholders. As the heatwave persisted, on Tuesday, June 29, 2021, Avista communicated throughout the day with impacted customers, community stakeholders, and the media in an effort to provide up-to-date, actionable information. Avista continued to proactively shift electric load and otherwise manage its system to reduce impacts — efforts that significantly reduced the number of outages experienced on Tuesday compared to Monday, despite higher temperatures.

These efforts continued into Wednesday (June 30, 2021), which again had temperatures that exceeded 107 degrees. This again included proactive communication with customers about potential protective outages. However, through active system management and customer conservation, Avista was able to avoid any protective outages to customers on Wednesday in Washington.

Finally, a note on protective outages and why those were initiated. Power system equipment is rated to perform under a variety of conditions. Manufacturers test and officially rate their equipment and each segment of the power system has these 'nameplate' ratings. The ratings vary with temperature and Avista monitors these ratings in real-time against the ambient outdoor temperature in order to ensure we are not operating the equipment over its rated capacity. Power system equipment, when operated within its capacity ratings, is very reliable with long in-service lifetimes. It is very expensive and not quickly replaceable (with respect to both sourcing and customer outages) when it fails. Operating above rated equipment capacity increases the risk of catastrophic failure, which is always a very lengthy and costly repair – and would have led to much longer outages for our customers during less than ideal timing given the significant heat event. In addition, if equipment is operated over its capacity ratings, even for a short time, the equipment

incurs loss of life, which can leave the equipment suspect to normal operation moving forward. Under extreme operating conditions, including very high temperatures, it is even more critical to operate the equipment carefully within its rating to avoid failures because there is often limited capacity and ability to restore service from adjacent feeders and substations due to their limited capacity ratings.

1. How did the utility prepare for the extreme heat temperatures?

a. Did the utility identify areas of concern within its service territory? If so, what were they? How did the utility determine those risks? What strategies were used to mitigate the risks in those areas?

b. What management strategies and actions were taken prior to June 26, 2021, to mitigate the risk and potential impact of the extreme heat in your service territory?

c. If no preparation was conducted, please provide an explanation with the utility's reasoning.

AVISTA RESPONSE:

Extreme temperatures typically can contribute towards two primary concerns for operating the electric system in a reliable manner. The first concern is the available generation resources to provide the higher energy demands. The Company was well positioned to cover forecasted energy demands through a combination of Company-owned assets and existing purchase agreements as well as the ability to acquire additional resources through the market. In preparation for the expected hot temperatures, effort was put into returning some generation back to production from scheduled maintenance sooner than previously scheduled. The second concern is the ability to transport the power from generation resources to our customers. Extreme heat causes equipment capacity to be reduced, all while customer usage increases.

Preparation for addressing the deliverability of power concern is addressed in the following subpart responses.

- a. The Company identified portions of its service territory where equipment loadings could approach their operating limit. Specific areas north of Spokane within Spokane County, the Hillyard, Lincoln Heights and Southgate neighborhoods in Spokane, and the areas between Post Falls and Coeur d'Alene have shown heavy equipment loading during recent peak summer scenarios. Equipment loading concerns are determined by continuously monitoring the status of the electric system. High temperatures leading up to the extreme temperatures beginning on June 26th revealed which equipment within Avista's service territory had high utilization of its total capacity. Strategies were developed to reduce loading on some equipment by transferring load to adjacent equipment with additional capacity.

- b. Prior to June 26th, the Company's Operations Engineers discussed the risk and potential impact of extreme heat within our service territory. Switching procedures were reviewed to transfer load on distribution feeders from areas of potential impact to adjacent feeders. The start of the extreme heat temperatures occurred on a weekend, June 26th and 27th, providing additional opportunity to monitor equipment loadings compared to operating limits with anticipation the following weekday loading would demonstrate higher demand on equipment. The additional monitoring during the weekend prompted the switching procedures transferring load between feeders to begin Monday morning, June 28th. The Company initiated its Emergency Operating Plan (EOP) providing a framework for guiding a response to emergency incident response and recovery.

Additionally, Avista's Power Supply department has been monitoring, since early Spring, market prices and liquidity, when wholesale prices started to increase for this summer. A small cross-functional group was formed to analyze potential summer supply issues and make recommendations to reduce risk. Several actions were taken in preparation for the summer that actually benefited the Company during the heat event that occurred at the end of June. Avista reached out to all of its larger customers to see if they were interested in participating in voluntary load reductions with compensation upon request. Our largest Washington customer was willing to participate in a voluntary load reduction effort in concept at that time (and as it turns out did agree to shut down a process that resulted in lowering their overall load by 30 MW for four hours on the afternoon of June 28).

In addition, Avista's Corporate Communication team, ahead of the heat event, drafted customer communications that requested they conserve energy in case supply issues were encountered during the summer. These communication plans were then modified for use in the heat event, given we did not have a supply issue but rather an equipment loading issue on the distribution system.

As discussed in response to Question #2 below, from the distribution system perspective, we did not anticipate any substations, feeder or specific equipment concerns ahead of this event. Routine maintenance and monthly inspections ensure the substations are operating as anticipated for any event at any time. With no indication of substation or equipment issues, we expected the equipment to perform. We believed that if anything were to happen due to the high temperatures, it would have been more on the power supply side of the business, given that the heat affected such a large area of the Northwest.

2. How did the extreme heat event impact the utility's ability to serve its customers?

a. What was the customer service impact? Please provide heat-related outage locations, durations, and customer counts for June 26, 2021, through July 6, 2021.

b. Explain all infrastructure resiliency issues encountered during the heat event, including what infrastructure adjustments or investments were made in response to the heat wave, and what adjustments would be necessary to prevent heat-related infrastructure failures in the future?

c. What strategies did the utility employ, and what specific actions did the utility take, in response to the extreme heat? What were the results of those strategies and actions?

d. What were the lessons learned during this extreme heat event?

AVISTA RESPONSE:

- a. In response to the unprecedented heat event, Avista’s distribution system, which serves approximately 400,000 electric retail customers in Washington and Idaho, experienced equipment issues as customer usage reached, and exceeded, operational limits on some substation transformers and distribution circuits. Out of Avista’s 140 distribution substations and 201 distribution substation transformers (on a system basis), four transformers were responsible for some of the proactive outages made by Avista. Further, out of Avista’s 369 distribution feeders, only 2 feeders were responsible for Avista’s proactive outages, due to extreme loadings on those feeders. However, adjacent feeders were ultimately impacted with outages due to the (4) substation equipment issues and (2) distribution feeder overloads, which pushed these impacted elements of the system to their equipment ratings. The heat event and corresponding outages occurred on Monday June 28th, Tuesday June 29th, and Wednesday June 30th, although there were no outages on June 30th in the State of Washington.¹ Table No. 1 below summarizes the number of substation transformers or distribution circuits which were the main drivers for outages during the three-day heat event.

Table No. 1 – Number of Transformer and Distribution Feeders by Day (System)

Date	Substation Transformers Main Driver	Distribution Feeders Main Driver
Monday June 28, 2021	4	2
Tuesday June 29, 2021	3	2
Wednesday June 30, 2021	0	1

Avista’s distribution feeders and corresponding customers impacted by the unprecedented heat event are illustrated on the attached feeder maps (See **Attachment 2A – Spokane June 28th** and **Attachment 2B – Spokane June 29th**). The maps represent the total number of customers by feeder which were impacted by an outage. The feeder map renders each feeder by a unique color and labels the feeder name and total customer outages. The feeder extent impacted by an outage is highlighted to illustrate the outage extent by feeder. The total number of customers which experienced an outage for each day of the heat event is summarized in Table No. 2.

¹ Note that Avista did have protective outages in Lewiston, Idaho on June 30, 2021, affecting 603 customers between 3:45 pm and 5:59 pm.

Table No. 2 – Customer Outages (Washington)

Date	Customer Outage
Monday June 28, 2021	15,699
Tuesday June 29, 2021	5,006
Wednesday June 30, 2021	0

Avista’s distribution feeder outage durations were impacted by system load increasing while equipment ratings declined with the increasing temperature. The feeders experiencing outages due to the three-day heat event are summarized in Table No. 3 below. Also included in the table is the number of customers impacted and duration of the outage by feeder. The total unique Washington customer outages in this event was 17,164. Of these customers, 3,541 experienced more than one outage.

Table No. 3 – Customer Outages by Day, by Feeder (Washington)

Date	Feeder Name	Customer Outage	Outage Duration
Monday June 28, 2021 Total Unique Customer Outages: 15,699	Northeast 12F1	3,864	1:43PM – 4:30PM: 167 minutes
	Northeast 12F2	739	1:42PM - 6:00PM: 248 minutes
	Northeast 12F5	243	1:43PM – 3:12PM: 89 minutes
	Sunset 12F1	3,150	7:47PM – 11:45PM: 238 minutes
	Sunset 12F2	2,682	4:12PM – 5:30PM: 78 minutes
	Fort Wright 12F2	2,065	3:00PM – 4:24PM: 84 minutes
	Fort Wright 12F4	1,349	3:00PM – 5:30PM: 150 minutes
	Francis & Cedar 12F1	1,315	5:45PM – 8:00PM: 135 minutes
	Waikiki 12F2	292	3:20PM – 3:50PM: 30 minutes
Tuesday June 29, 2021 Total Unique Customer Outages: 5,006	Waikiki 12F1	1,465	1:00PM – 8:00PM: 420 minutes
	Francis & Cedar 12F1	1,315	2:08PM – 6:14PM: 246 minutes
	Fort Wright 12F4	659	11:44AM – 11:59AM: 15 minutes
	Sunset 12F2	1,567	12:20PM – 4:28PM: 248 minutes
Wednesday June 30, 2021	None	0	n/a

- b. The Company encountered infrastructure resiliency issues during the heat event. Reduced equipment operating limits due to higher ambient temperatures was the primary issue leading to resiliency concerns when compared to more typical peak summer conditions. Substation distribution transformers and feeders have equipment operating limits based on measured ambient temperature. As the ambient temperature increases, the operating limits

are lowered. On Monday, June 28th, the distribution system had 11 feeders and 9 transformers exceed 90% of their operating limit. Issues with four distribution transformers led to the Company disconnecting customers to reduce loading on the transformers. Three of the four transformers had major alarms which can be activated when internal temperatures of the transformer reach maximum design ratings. A major alarm alerts an operator to take action to avoid long term damage to the equipment (which, in some cases, have extremely long lead times from a supply chain perspective, and which always are very expensive). It was found one of the transformers exhibiting a major alarm did not have all cooling fans operating leading to reduced capacity from the established operating limit. Two transformers exhibiting major alarms had issues associated with gauges and instrumentation settings causing the alarm to be premature. The fourth transformer was relieved just prior to reaching its rated limit due to the load continuing to rapidly increase on the two feeders served from that transformer.

The substation resiliency issues we encountered during the heat event were all related to transformers. At the Northeast Substation in Spokane, a major alarm was received on one transformer. The temperatures on the transformer indicated the transformer was overheating, so Avista's System Operator instituted a protective outage. Further investigation revealed three transformer fans failed, so they were replaced, and the transformer was put back into service within about three (3) hours. Once the repair was complete, there were no further issues with this transformer. As of the time of this response in early August 2021, we are currently constructing a small feeder tie to transfer one of the feeders from this transformer to the other transformer in this station. This will provide better capacity balance between the transformers.

The Fort Wright Substation in Spokane had a major alarm on one of the transformers which led to the offloading of the transformer for about one (1) hour. Then one feeder was picked up and about an hour later the transformer was carrying full load again. Upon investigation of the alarm, it was identified the temperature monitoring system had an incorrect setting and was immediately corrected. Once fixed, there were no further issues with this transformer.

The Sunset Substation in Spokane had a heavily loaded transformer, though not fully, when a major alarm came in on Monday, June 28th. It was determined the alarm was a result of the transformer temperature. To manage the transformer temperature, a feeder was offloaded for about two (2) hours and then returned to service. Roughly 2 hours later, another major alarm came in, so a different feeder was chosen to offload this time. It was offloaded for almost 4 hours before being returned to service. Given the multiple alarms on this transformer, the decision was made on Monday night, June 28th, to deploy a mobile substation to help deal with the loading and alarming issue. By Tuesday, June 29th, at 3:10 pm the mobile substation was energized and carrying load, though the installation required a four-hour outage on one feeder. The mobile substation was in-service for the remainder of the event with no further issues on this transformer and remains in service as of the date of this response. After the heat wave event, testing and an investigation was performed on the transformer that revealed the transformer is capable of being in service but has a cooling

issue causing it to run hotter than expected before reaching full capacity. The source of the cooling issue would be very difficult if not impossible to identify, and given this substation is currently under construction for a full rebuild, the decision has been made to manage the cooling issue by keeping the load below 90%. A feeder project is scheduled to be in-service by September 2021 to shift load, and other switching has been identified for further load shifting ahead of this feeder being rebuilt. Additionally, a temperature monitoring device with SCADA will be added to this transformer to get remote visibility into the transformer temperatures and manage the loading. The long-term solution to rebuild the substation with additional capacity is slated to be energized by 2023.

The Waikiki Substation Transformer #11 in Spokane reached 80% of its rated capacity on Monday, June 28 at 11:04 a.m. This unit continued to operate below its rated limit, up to approximately 96% of its capacity, and had no minor or major alarm indication. Based on the increasing load trend through the early afternoon, the transformer was partially unloaded at 3:20 p.m. by opening a midline device on feeder WAK12F2. Power was restored to this feeder by 3:50 p.m. A crew was dispatched to the Waikiki substation to observe the transformer operation though no abnormal operating issues were identified. At 3:44 p.m. load was transferred from feeder WAK12F1 to adjacent feeder MEA12F2. The load transfer was reversed around 1:45 a.m. on June 29 due to concerns of loading feeder MEA12F2 for the upcoming afternoon. Without the ability to transfer load to feeder MEA12F2 on Tuesday, June 29, rotating outages from 1:00 p.m. to 8:00 p.m. were implemented at two different midline devices on feeder WAK12F1 to reduce the load on the Waikiki transformer, which remained in service throughout the heat event.

The transmission system performance during the heat event did not cause any direct customer impact. Three 230 kV circuit breakers did have issues causing transmission equipment outages, but again no customers were affected. The outages placed the transmission system in state where certain unplanned outages could have resulted in additional resiliency issues. These outages are summarized below:

Transmission Issues during June 2021 Heat Event

Rathdrum R403 230 kV Oil Circuit Breaker (OCB) equipment failure, 6/28 04:47

- Included Cabinet-Rathdrum 230 kV line outage (line restored after 1hr 52 min)
- Caused by failed bushing on Rathdrum R403 OCB (unknown if heat related)
- Breaker replaced due to other bushings testing poorly & additional damage
- Breaker restored after 4d 16hr 42min

Beacon R432 230 kV Oil Circuit Breaker (OCB) equipment failure, 6/28 23:39

- Included Beacon South 230 kV Bus outage (Beacon-Boulder 230 kV line, Beacon-Bell #4 230 kV line, Beacon 230/115 kV transformer #2 high side, and Beacon R427 230 kV bus tie breaker). Bus restored after 1hr 41 min
- Caused by failed bushing on Beacon R432 OCB (unknown if heat related)
- Bushing replaced due to other bushings testing good & no additional damage
- Breaker restored after 17hr 32min

Otis Orchards 115 kV Cap Bank #1 equipment failure, 6/29 22:34

- Blown fuse and leaking cap bank observed, removed from service
- Caused by failed capacitor units (unknown if heat related)
- Cap bank restored after 2hr 37min

Rathdrum R400 230 kV Oil Circuit Breaker (OCB) investigation, 6/30 09:05

- Leaking bushing observed, removed from service to test complete breaker
- Caused by failing bushing on Rathdrum R400 OCB (unknown if heat related)
- All bushings replaced due to 5 of 6 bushings testing poorly
- Breaker restored after 1d 12hr 12min

Beacon 230/115 kV #2 transformer major alarm, 7/1 18:12

- Transformer removed from service due to major alarm
- Caused by blown fuse to fan bank (heat event related)
- Transformer restored after 54min

c. Strategies were developed in response to the system impacts of the extreme heat event. The strategies included addressing unanticipated operating limit reductions on three of the four affected distribution transformers, optimizing available capacity of equipment through load transferring and phase balancing, and requesting customers to partner with the Company by reducing energy usage during afternoon and evening hours.

- Unanticipated operating limit reductions:** The distribution transformer which did not have all cooling fans operating was addressed by replacing the inoperable fans and adding additional portable cooling equipment to the transformer. The repairs and additional cooling equipment allowed the transformer to be operated to its expected operating limit during the remainder of the heat event. One of the transformers with gauge and instrumentation issues was resolved by making appropriate corrections to the equipment. The remaining transformer with gauge and instrumentation issue was unloaded by the installation of a mobile transformer occurring on Tuesday, June 27th prior to the peak afternoon loading.
- Optimizing available capacity:** Twenty-two (22) switching notices were executed during June 28th to June 30th to transfer load off heavily loaded feeders to adjacent feeders. Additionally, twelve (12) feeders had load transferred between electrical phases to balance the usage across all three phases.
- Customer partnership:** General communication to customers as outlined in response to Question No. 4 below included a request for reduction in energy usage to aid in reducing equipment loading. In some instances, specific customers served by equipment with heavy loading were contacted to discuss possible voluntary conservation and load reduction efforts. Some customers were able to run on their own onsite backup generation to support the load reduction efforts.

- iv. **Customer communications:** As discussed later, Avista proactively communicated information to our customers during the heat event, some of which were focused on customer conservation. The result of the above actions reduced the number of customers experiencing outages as the heat event progressed. On Wednesday, June 30th, outages were limited to one distribution feeder in Lewiston, Idaho.

- d. Several lessons were learned from the outcome of the heat event, and we are continuing to review the event. Long term strategies deployed on the transmission system resulting in capacity available during typical peaking events with equipment out of service as required, in part by federal standards, led to adequate system performance during the heat event. Customer outages caused by issues on the distribution system did not meet the expectations of the Company. Strategies to address distribution system performance and the related customer experience include emergency operations planning enhancements, near-term, mid-term, and long-term operational processes and system infrastructure efforts, and long-term planning updates.
 - a. Emergency Operations Planning
 - i. In addition to taking action post event utilizing lessons learned, we also applied learnings real-time as the heat event progressed to lessen the impact to customers and the system. The established procedure to reduce loading on distribution transformers when a major alarm is exhibited was followed. The first transformer major alarm on Monday, June 28th, was addressed by disconnecting all feeders connected to the transformer. Later in the day, when a different transformer major alarm was received, only one of three feeders connected to the transformer was disconnected, allowing the transformer to cool under reduced loading, while also minimizing outages to customers.
 - ii. The team is refreshing the overall Emergency Operations Planning process for these types of grid constrained situations, including triggers for additional pre-planning, and actions to improve system preparedness, customer communication and community communication.

 - b. Near, Mid, and Long-Term Operational Processes and System Infrastructure
 - i. Avista re-established a feeder phase balancing program, where we are developing and updating near-term operational planning procedures,
 - ii. While our transformer cooling operating practice functioned quite well during the event, a system wide analysis will be undertaken to evaluate and document how to operate transformer cooling by area and/or season and other considerations such as high heat events. In the meantime, the plan is to manually activate transformer fans and pumps for a high heat event rather than rely on automatic activation. The transformer fan stocking levels were reviewed after the event. The current stock level was sufficient for this event, but the levels were extremely low after the event. As a result, the stocking levels have been increased to ensure sufficient on-hand quantity for future events. Finally, a design deficiency has been identified when

retrofitting digital transformer temperature monitoring on older transformers. The design issues led to incomplete settings causing the false alarm on the Fort Wright transformer. Communicating and updating the design requirements is underway to prevent this issue with future installations. Furthermore, a review is underway on existing installations to verify settings.

- c. Long-term Planning - The distribution system planning assessment process is being refreshed, including review of the distribution system planning criteria assumptions.

3. What is the utility's plan to prepare for the next extreme heat event?

AVISTA RESPONSE:

The Company is still reviewing the system performance and actions taken during the heat event, so that we can continue to learn from those actions and be better situated should an event like this one happen again. That said, we have taken short-term actions to prepare for similar events if they were to occur during the 2021 summer. Additional internal communication procedures have been established to inform necessary stakeholders of upcoming concerns based on weather forecasts. Known equipment issues, such as cooling fans not functioning and instrumentation settings, have been mitigated and further work is underway for older transformers especially. Maintenance practices to help identify unanticipated capacity reductions are being considered.

In addition, targeted infrastructure upgrades are being evaluated to add capacity to equipment heavily loaded during the heat event. In some instances, feeder station regulators can be upgraded to larger sizes, adding up to approximately 100 Amps of capacity on 13.2 kV feeders at 104°F ambient temperature. The actions taken during the heat event to address feeder phase imbalance has improved the utilization of available capacity. Near-term capacity concerns are reduced because of the improved utilization of available capacity.

The Company is also developing a long-term planning response to prepare for future extreme heat events. The heat event occurring between June 26th and July 6th could be categorized with a probability of reoccurrence based on historical weather data. The Company is re-establishing distribution system planning performance criteria which will be evaluated using model simulations representing future expected system demand and configuration. When the criteria is not met in the planning horizon, corrective actions will be evaluated. The performance criteria will include capacity margins to provide continuity of service to customers following equipment outages under typical peaking scenarios. Typical peaking scenario will be defined by a probability of occurrence. During extreme weather events, the capacity margins could be utilized when all equipment is in service.

Additionally, load forecasting and localized growth rates are being re-evaluated based on what we learned about customer electric usage. Changes in customer usage, due to the impacts of more customers working from home during COVID-19, as well as increased electrification efforts from

a social and environmental perspective, are changing the diversity and profile of our electric system utilization and performance. These are new factors that need to be added to load forecasts and subsequent studies to determine impacts to the electric system that will require capacity and resiliency upgrades.

4. Please provide all communication sent to utility customers and Emergency Management stakeholders beginning June 21, 2021, related to extreme heat temperatures.

AVISTA RESPONSE: Please see the following summary and attachments that provide the broad, proactive customer communications sent/published during the heat event:

Totals – Proactive Communication 6/28-7/2

- News releases: 5
- News conferences: 2
- Media alerts: 2
- Customer emails sent: 921,582
- Social media posts (Facebook and Twitter): 13
- Ongoing website updates, every day

Day	Media/social media/website/other communication	Direct customer email communication
Monday, June 28	<p>Heat wave and conservation request news release distributed across electric service territory 12:59 p.m.</p> <p>Web page created to provide single source of information for customers. This was linked from the banner on the home page.</p> <p>Special web alert with conservation and outage information published on website.</p> <p>Heat wave and conservation message posted on social media at 2:11 p.m.</p> <p>External statement used to respond to pending media inquiries and posted on social media between 4-5 p.m.</p> <p>News conference with local media 8:10 p.m.</p> <p>News release with update on situation and Tuesday operations sent to WA/ID media 11:15 p.m.</p>	<p>Heat wave and conservation request customer email sent to WA/ID electric customers 1:56 p.m., 227,255 emails</p>
Tuesday, June 29	<p>6.28 news release with update on situation and Tuesday operations posted on social media in the morning, 8:36 a.m.</p> <p>News conference with local media 2 p.m.</p>	<p>Customer email sent to WA/ID electric customers with update on Tuesday operations, 9:47 a.m., 216,059 emails</p> <p>Proactive email notification sent to customers anticipated to be impacted by outages, 11:32 a.m., 13,574 emails</p> <p>5 additional proactive email notifications sent to specific customer groups prior to their expected outages occurring.</p> <p>12:47 p.m., 769 emails</p>

		<p>1:24 p.m., 207 emails</p> <p>2:23 p.m., 990 emails</p> <p>2:44 p.m., 324 emails</p> <p>3:22 p.m., 2,005 emails</p> <p>Customer email sent to customer group whose outage was longer than 1 hour, 6:42 p.m., 1,856 emails</p>
<p>Wednesday, June 30</p>	<p>News release with update on Wednesday operations sent to WA/ID media 10:29 a.m.</p> <p>Website updated with operations update approximately 10:30 a.m.</p> <p>Maps created and posted on website, with updates to the maps as the day unfolded and new information learned</p> <p>Update posted on social media with content from morning news release and customer email, 10:42 a.m.</p>	<p>8 customer emails sent to specific customer groups, including those who are anticipated to be impacted by an outage, those whose outages were going to occur and those who were no longer expected to experience an outage.</p> <p>9:12 a.m., 3,005 emails</p> <p>10:44 a.m., 521 emails</p> <p>12:52 p.m., 181 emails</p> <p>1:24 p.m., 441 emails</p> <p>3:19 p.m., 1,011 emails</p> <p>4:37 p.m., 3,258 emails</p> <p>6:21 p.m., 441 emails</p> <p>6:30 p.m., 1,134 emails</p>
<p>Thursday, July 1</p>	<p>News release with update on Thursday operations, no planned outages, sent to WA/ID media 8:45 a.m.</p> <p>Website updated with operations update approximately 8:45 a.m.</p> <p>Maps updated on website</p> <p>Update posted on social media with update on Thursday operations and no planned outages, 8:49 a.m.</p>	<p>Customer email with update on no additional outages planned and ongoing conservation message sent to all WA/ID electric customers, 10: 40 a.m., 216,114 emails</p>
<p>Friday, July 2</p>	<p>News release thanking customers and update on operations sent to WA/ID media 3:57 p.m.</p> <p>FAQ posted on myavista.com/conserva</p> <p>Customer thank you message using news release and email content posted on social media 3:57 p.m.</p>	<p>Customer thank you email sent to WA/ID electric customers at 7:32 p.m., 232,437 emails</p>
<p>Wednesday, July 7</p>	<p>Customer thank you print ad begins running in WA/ID service territory</p>	

The referenced broad, proactive communications can be found in the following attachments:

- Attachment 4A – Avista Heat Wave Customer Emails
- Attachment 4B - MyAvista.Com Avista Heat Wave Customer FAQ

- Attachment 4C - 06.28 Avista acknowledges heat related outages and plans for operations Tuesday
- Attachment 4D - 06.28 Avista requests its customers conserve electricity
- Attachment 4E - 06.30 Avista expects reduced number of outages Wednesday
- Attachment 4F - 07.01 No protective outages planned for Avista customers Thursday
- Attachment 4G - 07.02 Avista thanks its customers following protective outages during heat wave
- Attachment 4H - Website and Social Media Communications 2021
- Attachment 4I - IVR Outbound Phone Scripts

Targeted Communications to Large Customer, Communities, and Emergency Management

Avista also had significant communications with our key customers, communities, and other stakeholders during the heat event. For our key customer Account Executives (AEs), we immediately had them utilize their knowledge of impacted service areas to identify critical commercial and industrial customers. AEs attempted to make direct contact to guide our customers through the process of existing outages, future protective outages, and they kept them abreast of outages that potentially took longer than anticipated. The AE team made themselves available to customers 24/7, responding to a number of emails, phone calls, and text inquiries. In addition, the AE team collaborated with Avista's largest energy consumers in the impacted areas to identify conservation efforts that would alleviate pressure on the grid. The strong, trusted partnerships AEs have developed with customers were leveraged, and we asked them to take steps to reduce energy load and even use backup generation to supply a portion of their needs. As a result of these efforts, outages were minimized and even completely avoided in some areas. After the event and continuing even today, the AEs are in direct contact with large commercial accounts impacted by the outages. The goal of these conversations is to listen to and learn about the unique challenges each of these customers faced as a result of the event. AEs are taking note of specific frustrations and suggestions for improvement, obtaining updated contact information for emergency situations, and learning of any existence of back-up generation that could be leveraged should events like this occur again.

During the event, Avista's Regional Business Managers (RBMs) and Community Development teams coordinated with internal and external partners to listen to the needs of municipal and vulnerable customers and respond with attainable immediate solutions. Our RBMs communicated planned outage and restoration updates to city council representatives, city and county emergency management, and mayors. Throughout the days of the event, we consistently asked for feedback and ways we could support customers. For example, upon hearing from the staff of a Spokane City Council member that transportation was an impediment for customers needing to get to cooling shelters, we immediately developed a partnership with our local transit system to provide free rides to vulnerable customers that lacked this critical need.

Our Consumer Affairs Program Manager sent daily updates along with outage preparation information to community action agencies, public health, city fire department, and other service organizations. Spokane County EMS sent out information through Nextdoor Public Safety account that reaches about 225,000 people. Both an Account Executive and our Consumer Affairs Program

Manager participated in daily meetings of the Regional Emergency & Disaster Healthcare Coalition. Additionally, we communicated often with Spokane Public Schools who was running summer programs. We developed a partnership with the District to ensure their cooling center operations extended well past normal business hours, so families were provided access into the early evening.

After the heat event we called community leaders personally. Our team also sponsored a telephone town hall event for all impacted customers. Members of our Executive team answered several calls live on the phones. We then worked with our Customer Service department to follow up with each customer that didn't have the opportunity to engage in the townhall but that had asked for a callback. We're currently compiling the data from the town hall and scheduling a follow up to provide an update on our progress based on the inputs we've received. We are committed to continually improving our processes and expanding our networks.

Communications to the Washington Utilities and Transportation Commission and Washington Department of Commerce

During the event Avista also provided updates to the UTC with a copy to the Department of Commerce, to keep leadership in both agencies abreast of what Avista was facing leading up to and during the heat event. Those communications are provided as follows:

- Attachment 4J - 6.25.21 246 pm Avista - UTC Email
- Attachment 4K - 6.28.21 1116 am Avista - UTC Email
- Attachment 4L - 6.28.21 430 pm Avista - UTC Email
- Attachment 4M - 6.29.21 856 am Avista - UTC Email
- Attachment 4N - 6.29.21 202 pm Avista - UTC Email
- Attachment 4O - 6.29.21 454 pm Avista - UTC Email
- Attachment 4P - 6.30.21 852 am Avista - UTC Email
- Attachment 4Q - 6.30.21 726 pm Avista - UTC Email

5. Please provide a copy of the company's customer complaint record for the period of June 26, 2021, through July 6, 2021, including the complainant's name and address, date and nature of the complaint, action taken, and the final result. Please only include complaints related to extreme heat temperatures or related outages.

AVISTA RESPONSE: Avista received one UTC Complaint related to the event, which is attached as Attachment 5B. The disposition was "Company Upheld". In addition, Avista received one complaint through the Better Business Bureau (Attachment 5C) where the complaint was closed after Avista responded (which is also included in that attachment). As it relates to more generic "complaints", Avista of course received many phone calls during the heat event. Avista does not necessarily track each and every "complaint", as customers may have called simply to inquire as to the purpose and length of an outage, and generally demonstrate unhappiness or displeasure. That stated, CONFIDENTIAL Attachment 5A provides a summary of complaints that were more specific in nature and documented in our system. That attachment provides the name and address of the customer, the nature of the "complaint", and resolution, if any, as some

of the comments would be deemed more of venting and not requiring a response back from Avista. Please note that the attachment is Confidential per WAC 480-07-160 and contains sensitive customer information.

- Attachment 5A CONFIDENTIAL - Avista Extreme Heat Event Customer Complaints
- Attachment 5B - WA UTC Complaint CAS-28622-D6J9M9 for Mark Newbold CRM0141938
- Attachment 5C - 2021 BBB Blackouts Complaint - Roger Habets

6. The name, title, telephone number, and e-mail address of the contact person that our staff can work with directly for questions that may arise concerning any details of the data.

AVISTA RESPONSE:

For general information related to this response, please contact Patrick Ehrbar (Director of Regulatory Affairs) at 509.495.8620 or Patrick.Ehrbar@avistacorp.com. For information related to the technical details of this response, please contact Mike Magruder (Director of Transmission Operations and System Planning) at 509.495.4187 or Mike.Magruder@avistacorp.com. For information related to Contact Center communications, please contact Mike Broemeling (Director of Customer Service) at 509.495.8590 or Mike.Broemeling@avistacorp.com.

Please direct any questions regarding these comments to me at 509-495-8620 or Patrick.Ehrbar@avistacorp.com.

Sincerely,



Patrick Ehrbar
Director of Regulatory Affairs