Washington City
Where Dixie Began

Power Board Meeting Schedule 2026

The Board will meet the first Tuesday of the month.
All meetings will commence at 5:00 P.M. unless otherwise announced.

Previously Approved by the Power Board | January 6, 2026

February 3, 2026

March 3, 2026

April 7, 2026

May 5, 2026

June 2, 2026

July 7, 2026

August 4, 2026

September 1, 2026

October 6, 2026

November 3, 2026 - No Meeting- Election Day- unless otherwise determined

December 1, 2026

January 5, 2027

2025 Southwest Utah Post-Peak Report

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1.0 Executive Summary

The annual Southwest Utah Post-Peak Report was initiated in 2008 following several consecutive years from 2001 to 2007 of substantial electrical load growth in the region. This 2025 Southwest Utah Post-Peak Report is a continuation of previous reports and is intended to review, understand, and assess the impacts of load growth, temperature and other factors affecting the capacity of the transmission and distribution system in Washington County. This report summarizes system utilization levels during the heaviest load period of the year from June 1st through August 31st, and provides information used to plan and develop the electrical system capacity necessary to meet anticipated future demand.

	2023	**2024**	**2025**
Peak (MW)	604.7	640.5	639.5
Day	Friday July 21	Thursday July 11	Monday July 14
Time of day	Between 5:00 and 6:00 pm	Between 5:00 and 6:00 pm	Between 6:00 and 7:00 pm
Single Year Growth	2.5%	5.9%	-0.1%

Table 1. Washington County area peak

The Washington County area peak consists of loads typically fed from the Red Butte and Central 345 kV substations and is a gross total accounting for local generation that was on-line and any loads transferred temporarily during the summer months.

The 2025 Washington County Load and Resource forecast load was estimated to be 54% Utah Associated Municipal Power Systems load, 34% Deseret Power load, and 12% Rocky Mountain Power load (See Figure 9).

2.0 Background Area Information

The Southwest Utah area, comprised mostly of Washington and Iron Counties, is a unique region that has become a destination retirement location that includes urban and industrial developments in and around St. George City and Cedar City, a vast area of mostly rural or agricultural communities, Zion National Park, Dixie National Forest, protected desert tortoise habitat regions and Native American reservations. This report focuses on Washington County.

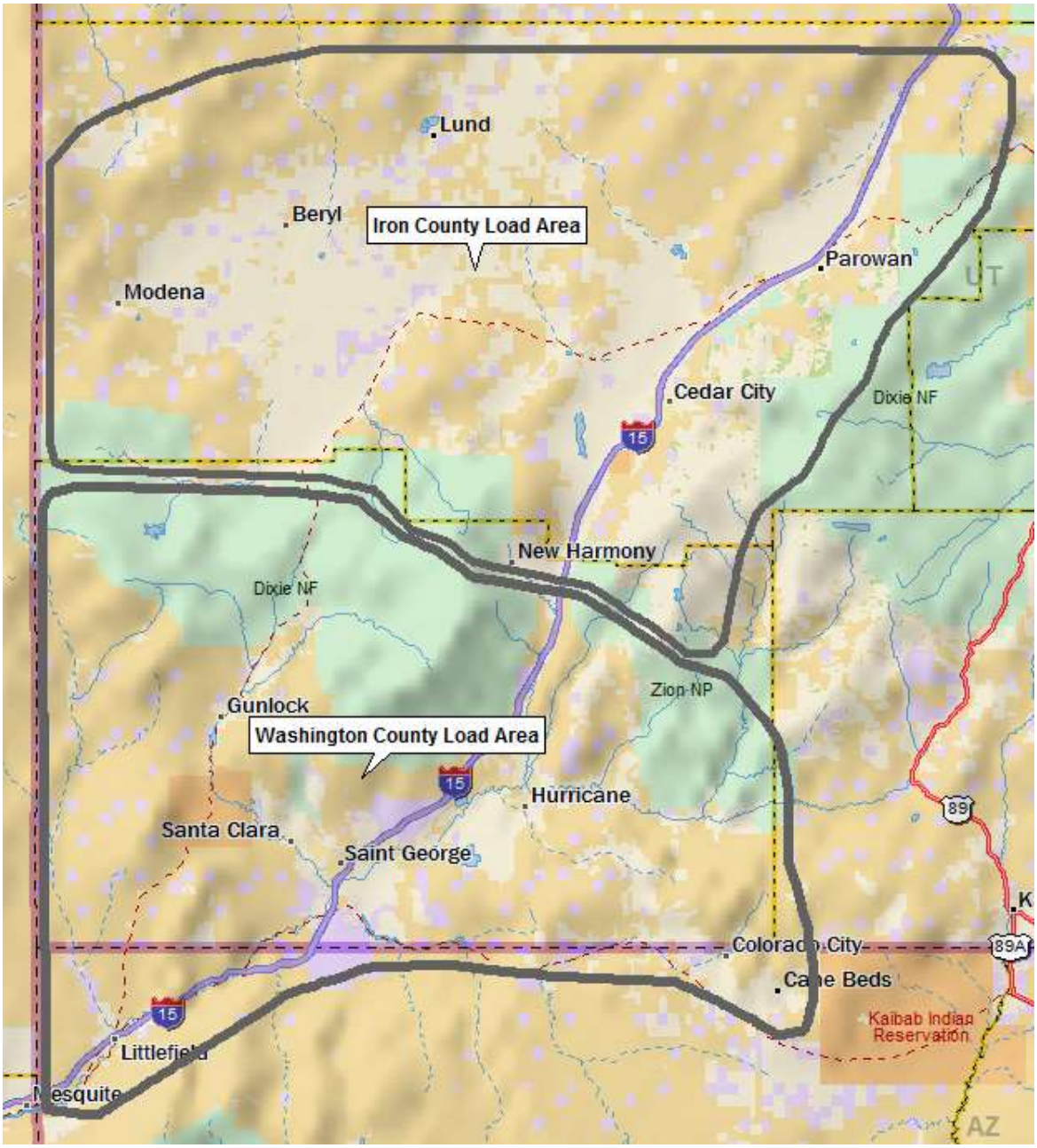


Figure 1. Area Geographic Map

Within this portion of the state of Utah there are several electric utility companies or municipalities serving the electrical needs of the population. These include:

Rocky Mountain Power

Deseret Power
- **Dixie Power**
- **Garkane Energy**

Utah Associated Municipal Power Systems (UAMPS)
- **St. George City**
- **Hurricane City**
- **Washington City**
- **Santa Clara City**

The load within the Washington County area is primarily served from the adjacent Red Butte (Rocky Mountain Power) and Central (UAMPS) 345-138 kV substations located approximately 20 miles north of St. George City. These two substations are connected to three 345 kV lines, one from Hickory which then connects to Sigurd substation near Richfield, Utah, one from Harry Allen substation just north of Las Vegas, Nevada and another from Three Peaks substation near Cedar City, Utah which also connects to Sigurd substation.

Generation sources in the area include a variety of sizes and types. See Table 2.

	Source	**Total Capacity (MW)**	**Units**
Cove Mountain 1	Photovoltaic	58	1
Cove Mountain 2	Photovoltaic	122	1
Enterprise Solar	Photovoltaic	80	1
Mill Creek	Natural gas	80	2
Red Rock	Diesel	12	2
Bloomington	Diesel	9	6
Hurricane	Diesel	4.5	3
Hurricane	Natural gas	10	5
Santa Clara	Natural gas	9	4
Veyo Compressor	Heat recovery	7.8	1
Washington City	Natural gas	6	3
Phil Solomon	Natural gas	15	5

Table 2. Washington County Generation

3.0 Historical Transmission Improvements and 2025 System Capability

Table 3 provides a summary list of recent transmission capacity improvement projects that were completed from 2015 to 2025.

Year	Completed Projects
2025	Install 138 kV Loop and associated Red Butte RAS modifications
2024	2024 New Red Butte RAS (Logic) Addition
2024	St. George-Purgatory Flat line reconductor with advanced conductor (ACCC)
2022	Red Butte/Central Transformer RAS
2018	Purgatory Flat 138-69 kV transmission substation
2018	Installation of 4th 138 kV line from Red Butte substation to St. George substation
2015	Sigurd-Red Butte #2 345 kV line with series capacitor energized

Table 3. Recently Completed Southwest Utah Projects

Additional details about each of the recent projects from Table 3 are included below.

3.1 2025 New Red Bute RAS modifications for the new 138 kV loop

Construction of the new 138 kV loop from Purgatory Flat substation to St George substation was completed during the summer of 2025. This new transmission path required modification of the Red Butte remedial action scheme (RAS) to shed load if the Red Butte/Central to St. George load flows are above the emergency limit of the two UAMPS-owned 138 kV lines during an outage where both 345 kV constructed lines are out of service. The modifications to the RAS were completed in October of 2025.

3.2 2024 New Red Butte RAS (Logic) Addition

Currently there are four 138 kV lines feeding into the St. George 138kV substation from Red Butte and Central 138 kV substations. Two Red Butte to Saint George 138 kV lines, D36 and D141, share the same structure with 1 x 1272 ACSR. The ratings for the two lines D36 and D141 are 201/245/245 MVA (normal/ 4-hour/ 30-minute). The Central to Saint George 138 kV lines, D140 and D152, share a common structure with 2 x 1272 ACSR but are constrained by 1 x 1272 ACSR jumpers at Central. The ratings for the two lines D140 and D152 are 265/294/333 MVA (normal/ 4-hour/ 30-minute). N-1-1 (NERC TPL-001-5 contingency category P6) or N-2 (NERC TPL-001-5 contingency category P7) of those four lines potentially causes overload issues on the remaining lines based on the TPL-001-5 study. Therefore, a new RAS logic was installed September 10, 2024 in addition to the existing Red Butte transformer RAS (existing RAS was placed in service May 2022).

3.3 2024 St. George-Purgatory Flat 138 kV transmission line reconductor

During the 2023 summer, the St. George – Purgatory Flat 138 kV line loaded to 95% of its 203 MVA rating based on the thermal limit of 2.57 miles of 795 ACSR conductor. This is a radial line and the loading occurred with the transmission system in its normal configuration. On February 14, 2024, the 2.57 mile segment of 795 ACSR was reconductored to 1020 ACCC increasing the line rating to 272 MVA based on the thermal limit of segments built with 1272 ACSR. The 1020 ACCC is an advanced conductor also known as a High Temperature Low Sag (HTLS) conductor allowing the conductor to be operated at higher temperatures with low sag increasing the capability of the transmission line.

3.4 2022 Red Butte Remedial Action Scheme

The loss of any 345-138 kV transformer at Red Butte or Central substations leaves two available transformers. Existing reliability procedures test the system for issues resulting from the next possible outage. Since the next transformer outage would leave the entire system fed from a single transformer causing an overload during heavy loading, a pre-emptive load shed may be required after the loss of a single transformer even though two transformers are still available. To avoid this potential pre-emptive load shed, a remedial action scheme (RAS) was placed in service on 06/03/2022 that would only shed load if two transformers are out under heavy loading conditions. The RAS is named "Red Butte/Central Transformer RAS". The RAS is armed when either one of the three transformers (Red Butte 345/138 kV Transformer # 1, Central 345/138 kV Transformer # 1, and Central 345/138 kV Transformer #2) is out-of-service and the combined flow on the remaining transformer/s exceeds 275 MVA. Once the RAS is armed, the RAS will initiate load shed when any of the remaining transformer's emergency rating is exceeded for more than 5 seconds. To alleviate the overload on the transformer/s, the RAS sends trip signals to the following lines in order as listed below at an interval of 2 seconds until the overload on the transformer/s is mitigated:

(1) St. George – Purgatory 138 kV line
(2) St. George – Middleton 138 kV line
(3) St. George – Church Farm 138 kV line
(4) St. George – River 138 kV line

3.5 **2018** The 138-69 kV Purgatory Flat substation was placed in service. This substation supplies one 138 kV line and five 69 kV lines in the west side of Hurricane, Utah.

3.6 **2018** The 4th 138 kV line from Red Butte substation to St. George substation was energized spring 2018. This addition provides additional transmission capacity for the loss of a 138 kV structure between Red Butte and St. George.

3.7 **2015** The Sigurd-Red Butte #2 345 kV line was energized spring 2015. This increases the capacity of the transmission path feeding Washington County. A series capacitor was installed on this line at Red Butte substation.

4.0 2025 Peak System Utilization

The gross peak load for the Washington County area was **639.5 MW** on **Monday, July 14th between 6:00-7:00 pm**., which was 0.15% lower than the 2024 all-time peak of 640.5 MW (see Figure 2).

The peak on the following day was 612 MW. The peak on the previous day was 614 MW (see Figure 3). The peak value consists of loads typically fed from the Red Butte 345 kV substation and is a gross total which accounts for local generation that was on-line and any load that was temporarily transferred. In 2025, there were no transferred loads during the peak day.

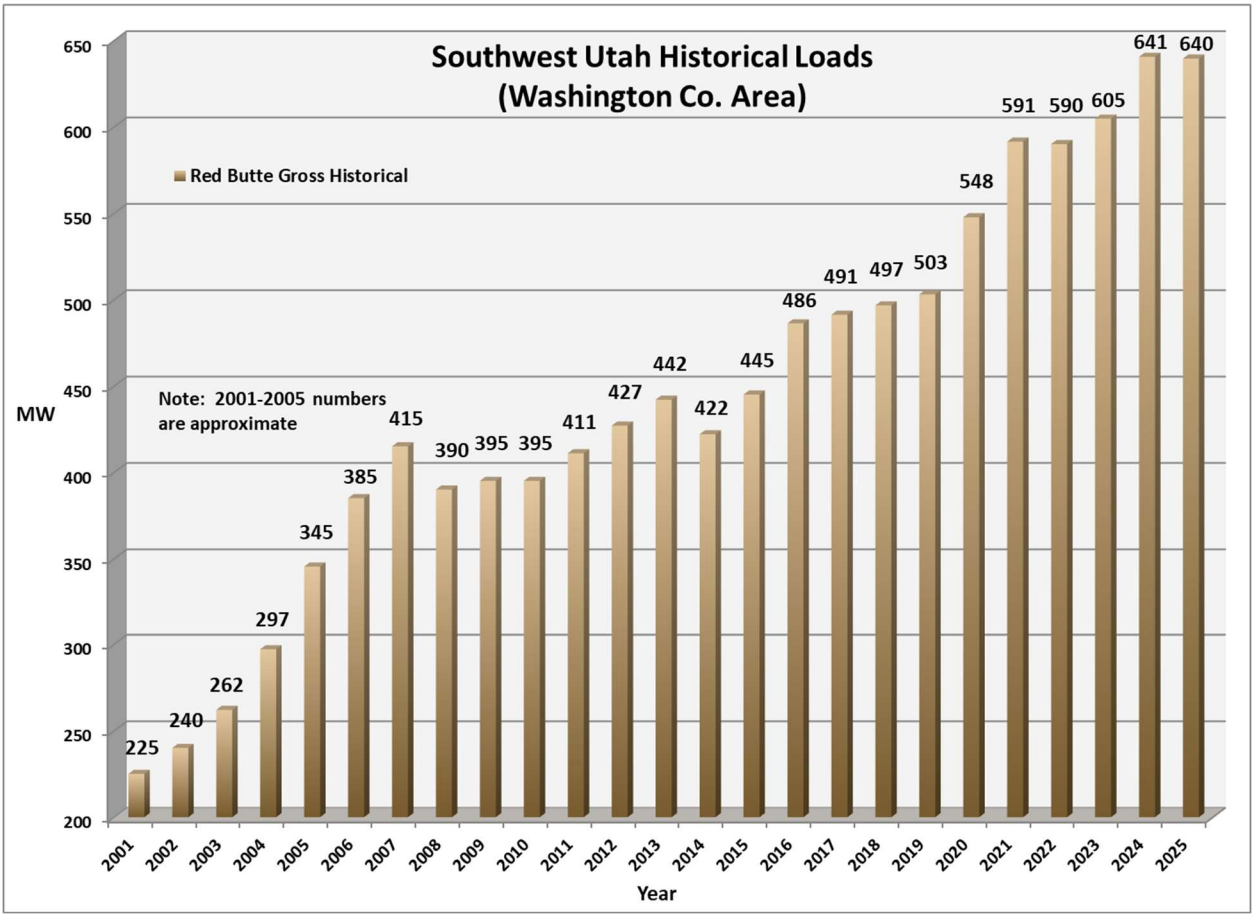


Figure 2. Washington County Historic Loading

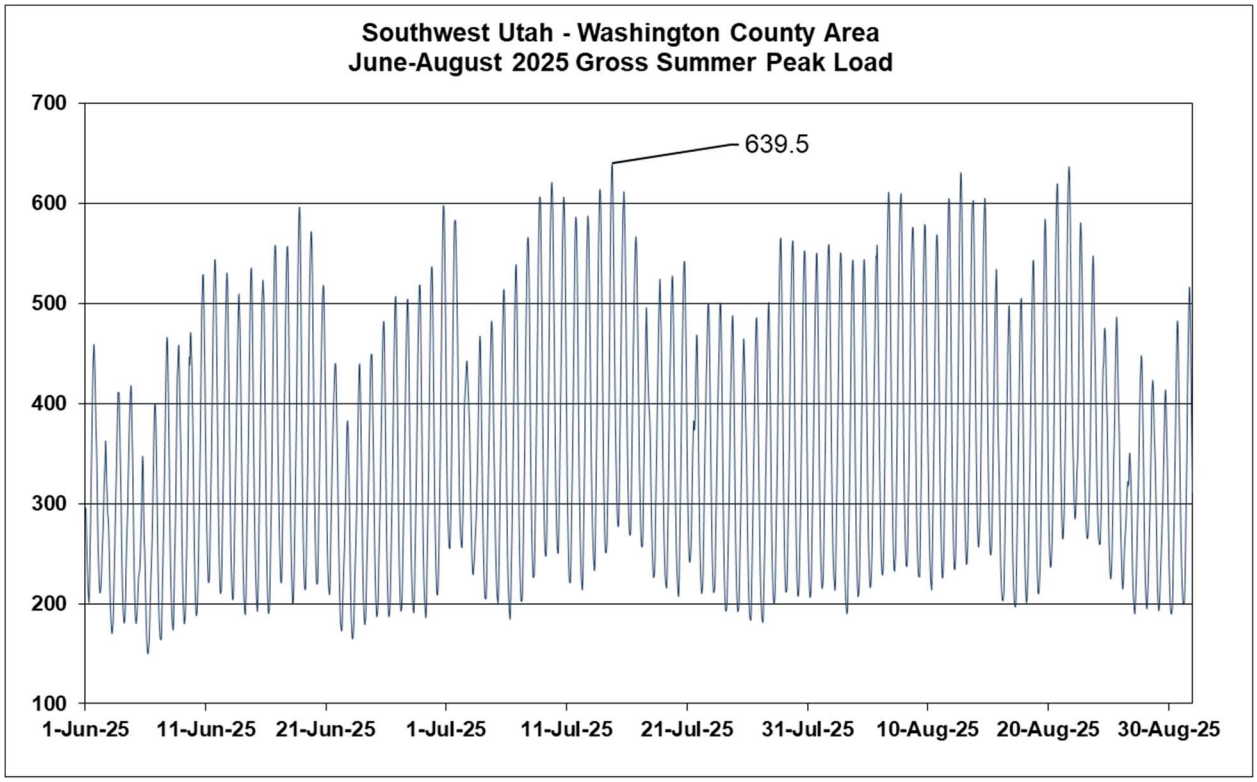


Figure 3 – June through August Washington County Area Load

Projections based on the 2024 peak expected 669 MW (non-coincidized) for 2025 (see Table 4). As shown in Figure 4 and considering the historical trend, the Washington County area peak load was lower than expected. Of the 639.5 MW of load, 111 MW were served by local generation (generation not delivered from the Red Butte – West Cedar 138 kV line), and 186 MW of other generation for a total of 297 MWs in the area.

If the 448 MVA transformer at Red Butte substation had failed during the 2025 net peak hour, the percent loading based on the worst case 570 MVA limit created by the transformer failure would have been 79%.

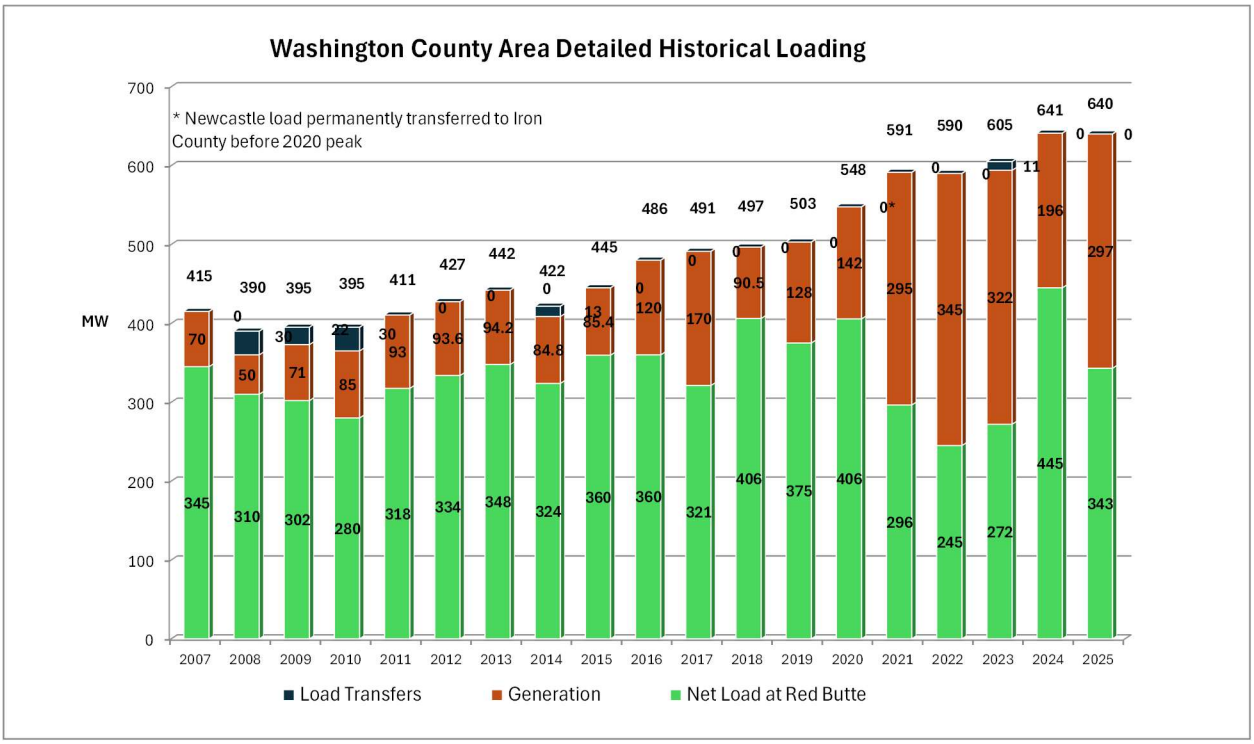


Figure 4 – Washington County Recent Detailed Load History

5.0 Weather Considerations

The climate during the 2025 summer experienced less extreme temperatures compared to previous years.

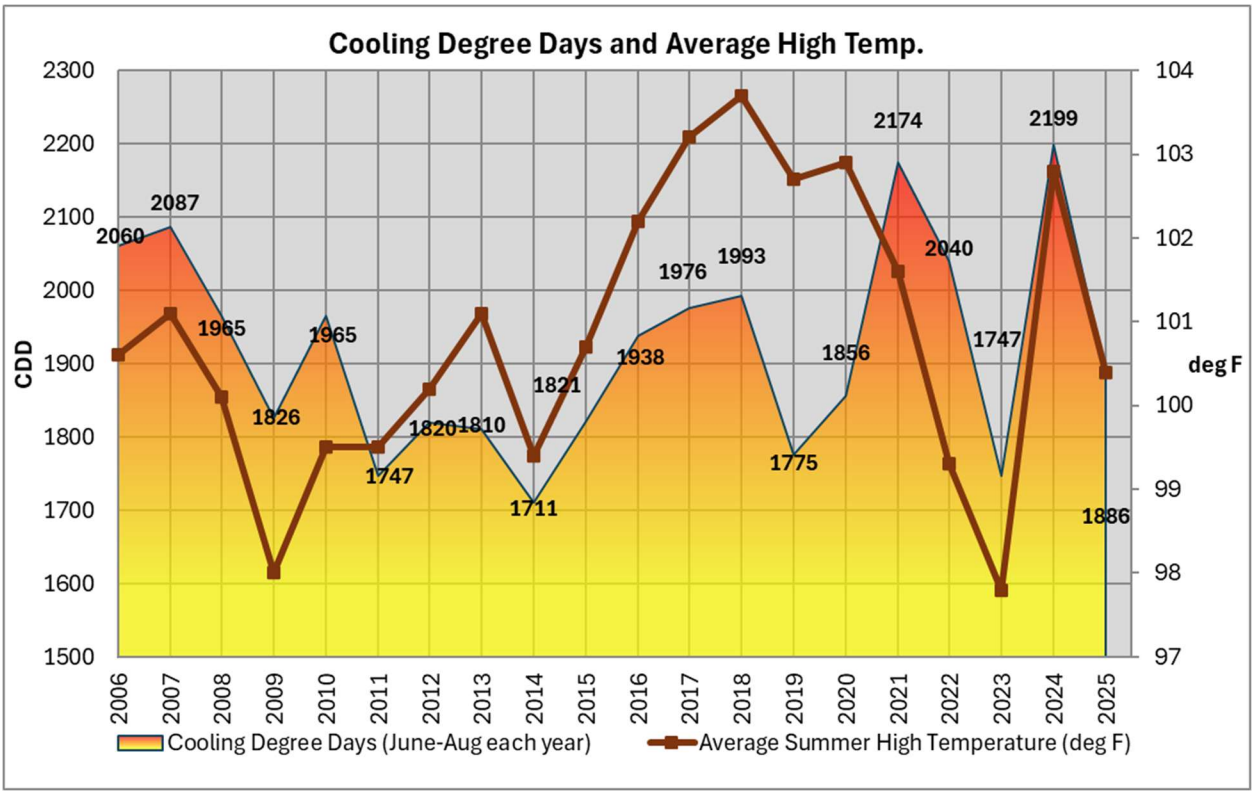
The industry practice for correlating temperature and electrical demand by using Cooling Degree Days (CDD) as a measurement tool was used. For details about the methodology of CDD, see Appendix A. In general, the higher the number of CDD in a given period, the more likely electrical demand will also be high.

Figures 5a and 5b compare the Washington County 2025 summer weather pattern to previous years. The average high temperature of 100.4 sits just below a rolling 5-year high-temperature average of 100.8 degrees. The average low temperature of 73.6 degrees was slightly above a rolling five-year low temperature average of 73.5 degrees. CDD totaled 1,886 in 2025, 4.9% lower than a rolling five-year average of 2,009 CDD. The maximum temperature was 109.4 degrees on the peak loading day, the hottest day of the year. The hottest day in 2025 was 2.72 degrees cooler than the rolling five-year average peak temperature.

The total precipitation accumulated through the summer months from June through August was 0.8 inches, down from a rolling five year average of 0.96 inches.

Another measurement in use to correlate temperature and electrical demand is tracking consecutive days where the temperature exceeds 100 degrees. If an extreme high temperature is surrounded by consistent high temperatures, a heavy load demand is expected.

There were three sets of double-digit consecutive days recorded in 2025 (18, 13, and 12) something not typically seen in previous years. While the total number of consecutive days in 2025 was lower than 2024, the total of these three double-digit sets (43) is comparable to the one double-digit run of days in 2024 (49). The total double-digit consecutive day groups in 2025 are considerable enough to have contributed to the system peak.



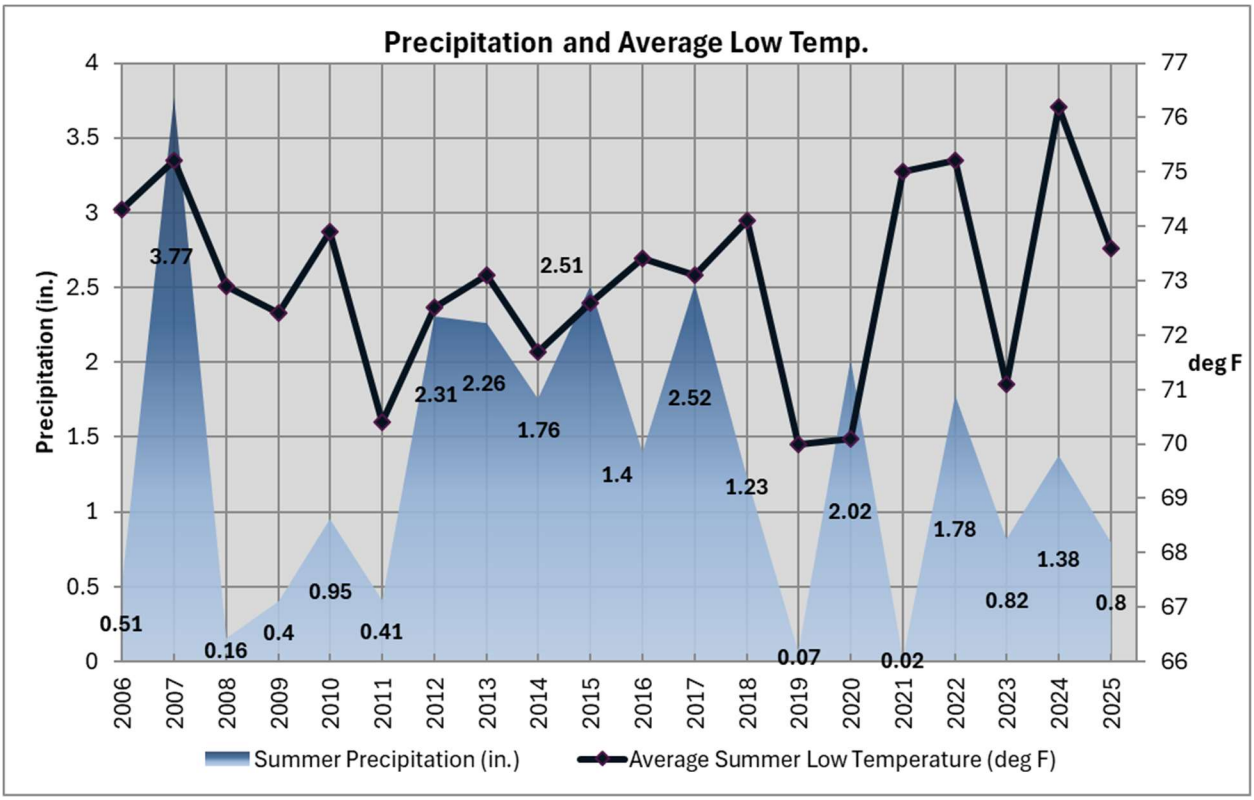
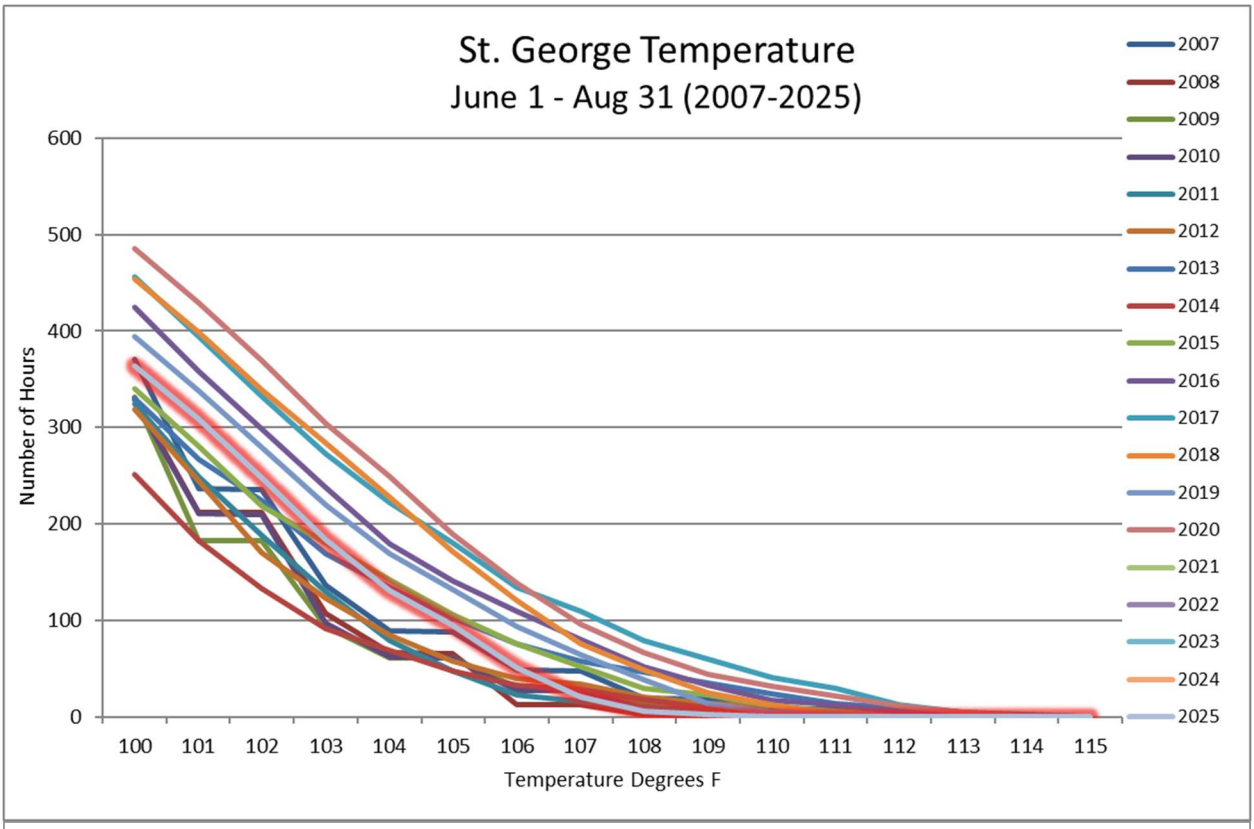
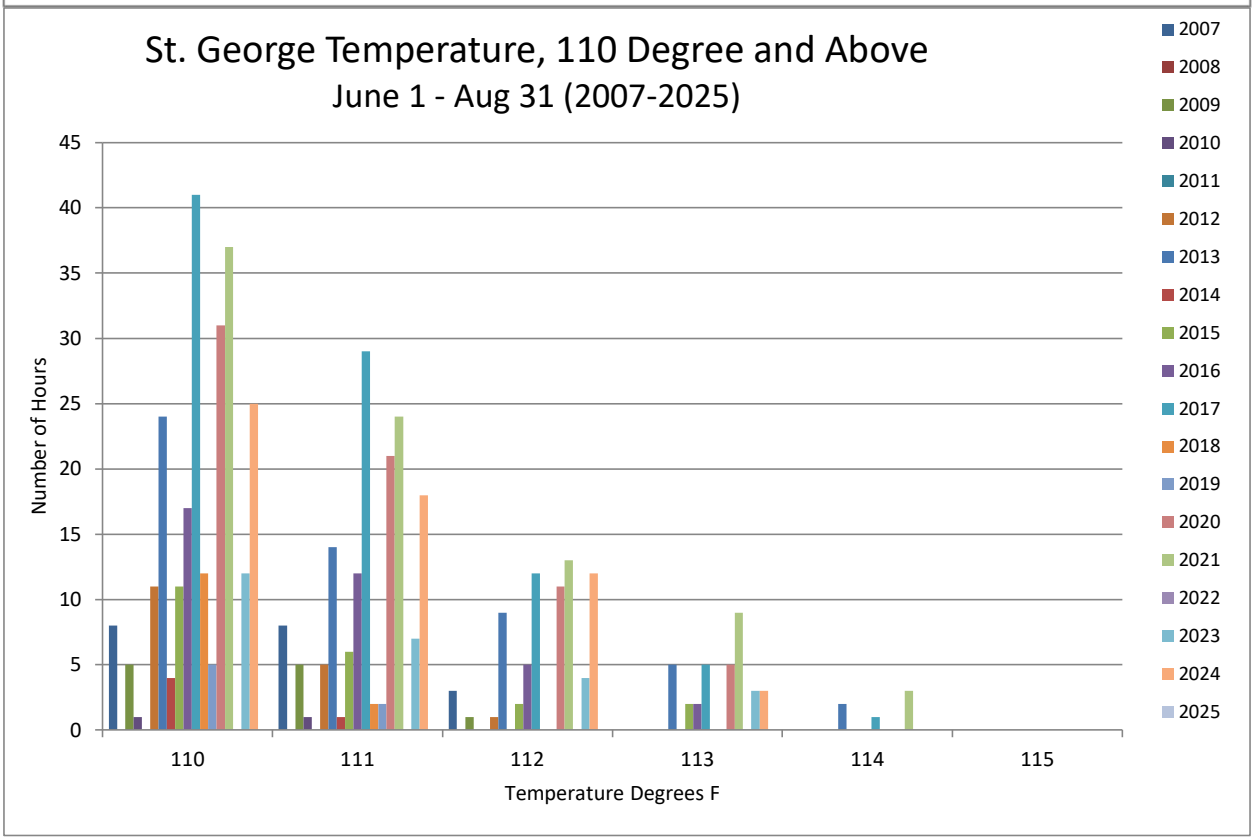
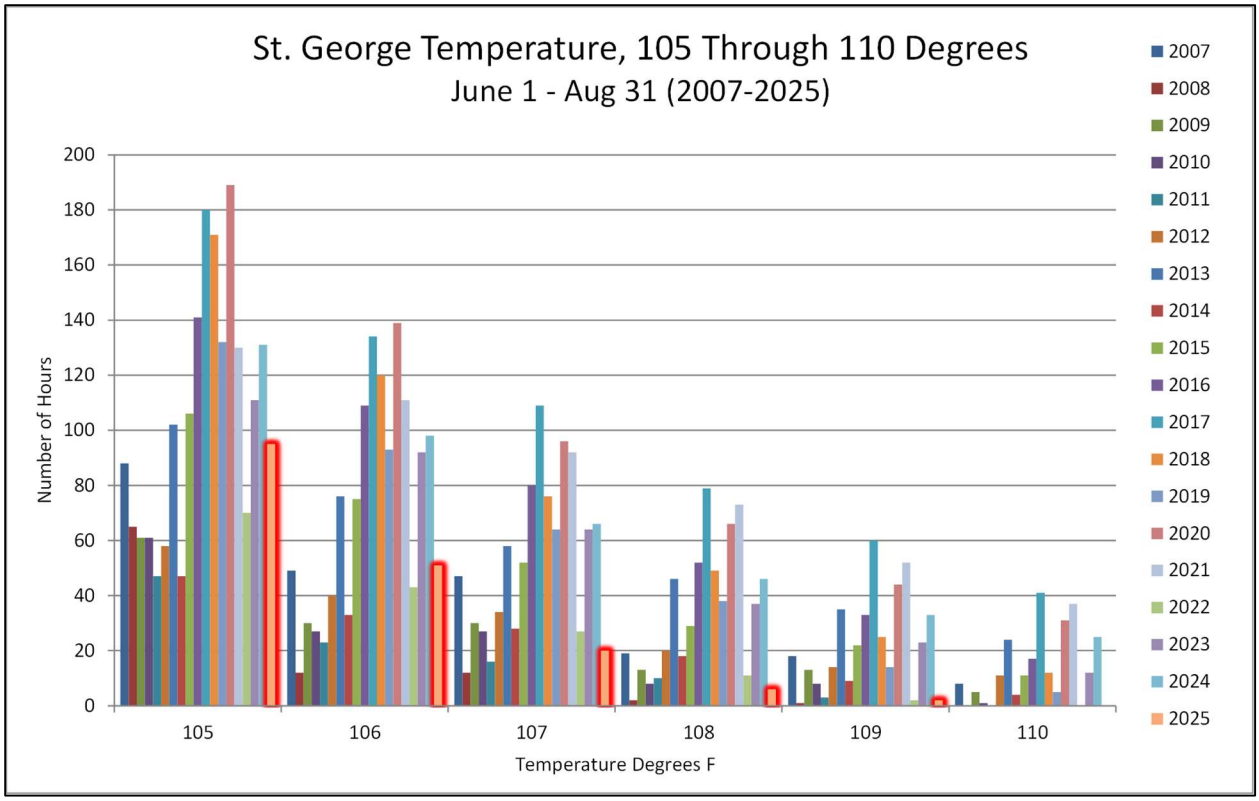


Figure 5a & 5b. St. George Historical Weather and Cooling Degree Days


St. George Temperature
June 1 - Aug 31 (2007-2025)
Number of Hours
600
500
400
300
200
100
0
100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115
Temperature Degrees F
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025


St. George Temperature, 110 Degree and Above
June 1 - Aug 31 (2007-2025)
Number of Hours
45
40
35
30
25
20
15
10
5
0
110 111 112 113 114 115
Temperature Degrees F
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025



Figures 6a, 6b & 6c– St. George Temperature Charts

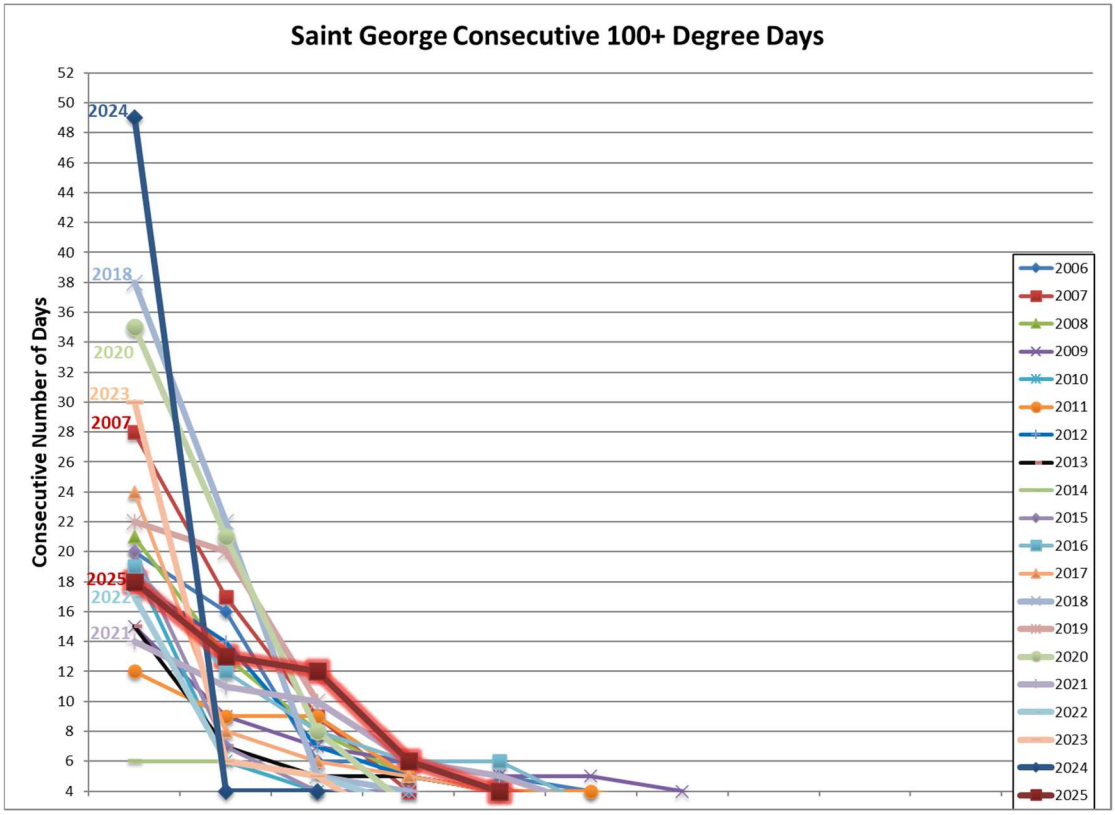


Figure 7 – St. George Consecutive 100+ Degree Days

Another aspect of weather considerations is the net impact of local solar generation on the system. The net load is the load served from the 345-138 kV transformers at Red Butte. The net load peak occurred on gross peak day during the 5-6pm hour. While the solar output experienced some variations, the resulting net peak was higher than the rolling five-year average net peak. Figure 8 shows the impact solar generation had on the net load of the system.

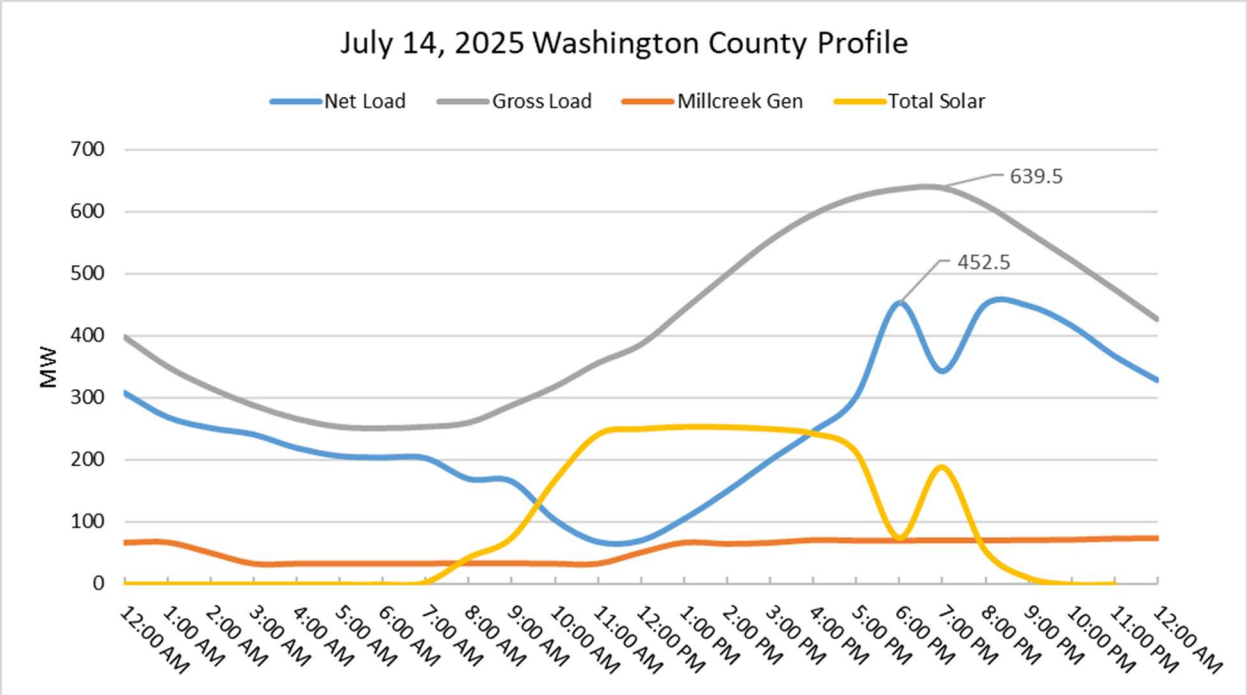


Figure 8 – Hourly Load Profile for Washington County Peak Day

6.0 2025 Summer Projections and Potential Issues

The load serving entities in the Washington County area provide 10-year load and resource projections each year to the PacifiCorp transmission services group. The forecasts received in the spring of 2025 are the most current as of this report. The loads served from the Red Butte substation were extracted from these forecasts and assembled in Table 4 below, which represents a non-coincidental total load forecast. For system planning purposes, reasonable coincident factors may be applied to the total load; however, based on experience the coincident factor has often been relatively high.

The 2025 coincident peak was 29.5 MWs less than the non-coincident forecast value. The peak temperature of 2025 was 2.7°F lower than the 5-year average and likely provides indication of why the 2025 peak was under the forecasted value. If it is assumed that half of the area load is cooling and applying a 2.7% increase to cooling load per 1°F, the 2025 peak would have been 662.8 MWs. This indicates that projections made in the 2024 Southwest Utah Post Peak Report of 669 MWs appear to be accurate (see Table 4). As such, it is recommended that load projection methodologies and processes used in forecasting projected loads in the southwest Utah area maintain course.

The 2026 projected total non-coincidental load for the Washington County area indicated in Figure 9 is 696 MW. The least amount of generation in the area in the last 5 years occurred in 2024 at 196 MWs. The resultant net load on the Red Butte transformers would be 500 MWs, which is 88% of the 570 MW limit for the worst-case transformer loss at Red Butte substation.

Washington County Area
Annual Load and Resource Projections
(received Spring 2025)

"Non-Coincidental" (MW)

	2025	2026	2027	2028	2029
St. George Sub - Skyline #1	85.6	87.2	88.5	89.9	91.1
St. George Sub - Skyline #2	85.6	87.2	88.5	89.9	91.1
St. George Sub - River	66.8	67.8	68.4	69.0	69.7
Purgatory - Anticline	27.5	28.8	30.1	31.4	32.6
Purgatory - Clifton Wilson	51.6	54.1	56.8	59.6	62.2
Purgatory - Millcreek	39.3	40.7	42.2	43.7	45.1
City of St. George (Ledges Sub)	5.9	6.8	7.7	8.6	9.7
UAMPS Total	**362.3**	**372.6**	**382.2**	**392.0**	**401.5**
Growth Rate		**3%**	**3%**	**3%**	**2%**
Middleton - Dixie REA	213.9	224.7	235.6	246.7	257.8
Twin Cities - Garkane REA	12.2	12.5	12.7	13.0	13.2
Deseret Total	**226.1**	**237.2**	**248.3**	**259.7**	**271.0**
Growth Rate		**5%**	**5%**	**5%**	**4%**
Enterprise	8.2	8.4	8.5	8.6	8.7
Gateway/Quail Creek/Toquerville	23.3	27.1	25.8	28.3	30.6
Ivins/Red Mountain	28.3	30.1	31.9	33.7	35.5
Middleton #4	14.3	14.8	15.2	15.7	16.1
PAC Total	**74**	**80**	**81**	**86**	**91**
Growth Rate		**8%**	**1%**	**6%**	**5%**
Total Area Projected Load (MW) (all loads typically fed from Red Butte Substation-6MW of Losses Added)	**669**	**696**	**718**	**744**	**770**
Total Area Growth Rate		**4%**	**3%**	**4%**	**3%**

Table 4. Washington County Area 2025-2029 Non-Coincidental Load Projections

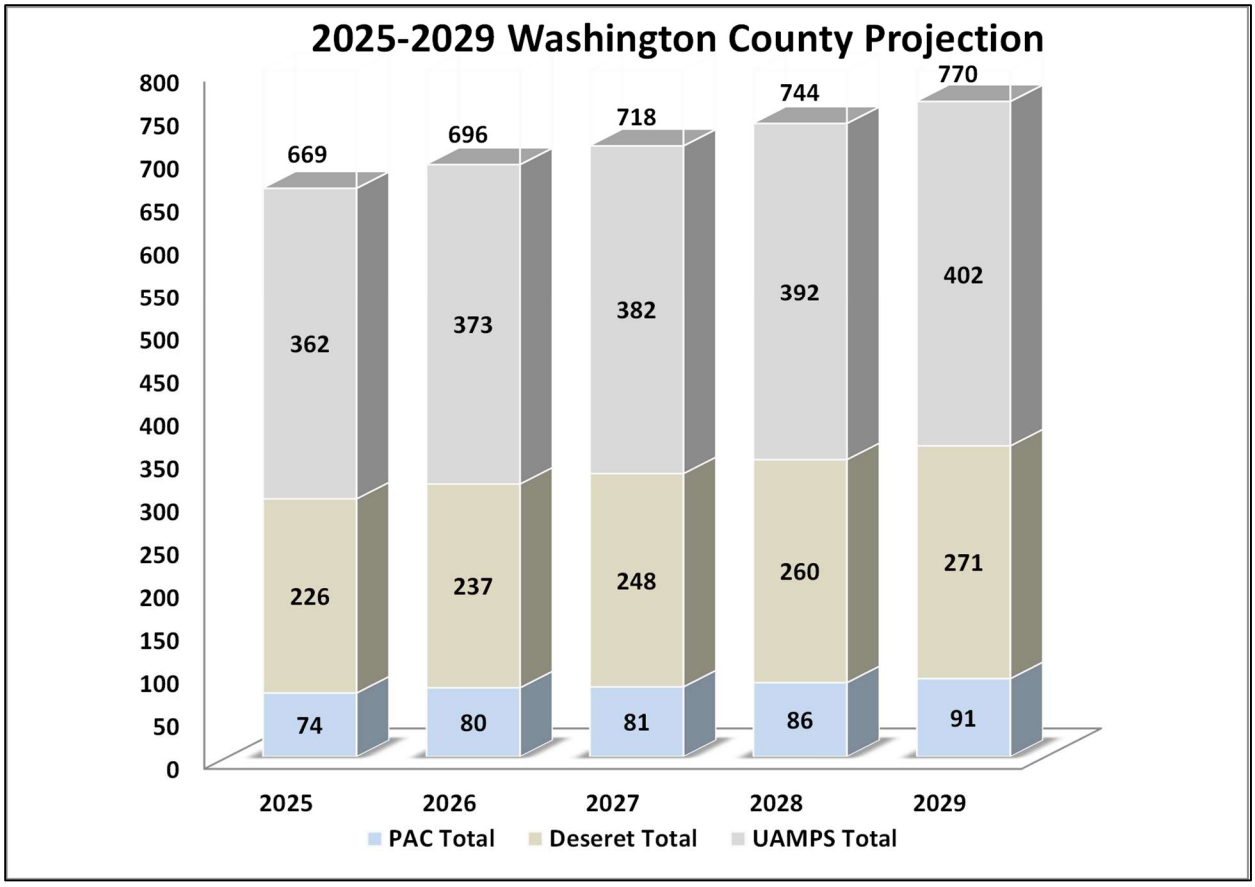


Figure 9. Washington County Area 2025-2029 Non-Coincidental Load Projections

7.0 Future Projects/Tasks

Since the transmission capacity will adequately support the projected load level for 2026, the list of tasks that will continue to be performed prior to the summer of 2026 includes the following items:

7.1 Southwest Utah Technical Studies Group Summer Prep Meetings
It is anticipated that under direction of the Southwest Utah Technical Task Force, the studies group comprised of planning engineers from the various utility companies will create an agenda to assemble projected 2026 system models, review potential system issues, and meet as needed to carry out preparations and address specific issues that are identified.

7.2 Local Generation Operation Agreements
An agreement between PacifiCorp and local generation owners should continue to be pursued that would allow operation of available local generators during a transmission event that requires transfer right reductions or exceeding the Red Butte load service limitation.

7.3 Dispatch Tabletop Exercise
Several exercises have been conducted, and it is proposed additional exercises to be conducted. These exercises have been instrumental in improving coordination among all the utilities.

7.4 2027 Convert Red Butte-St. George Line to 345 kV
A project to energize one of the two 345 kV constructed Central-St. George lines currently operating at 138 kV at 345 kV is scheduled to be completed summer of 2027. This project will re-terminate the line in the Red Butte 345 kV substation and the St. George substation will be expanded with a 345/138 kV transformer. The in-service date will be monitored and adjusted accordingly in relation to load and generation changes. This project will alleviate the 570 MW limitation at Red Butte substation for the worst-case transformer loss at Red Butte.

7.5 Steps should continue to be taken to prevent an incident on the transmission between Red Butte and St. George substations. Because all the major transmission serving the Washington County area is constructed in a common corridor, there exists the potential for significant outages. Vegetation management along the corridor should continue as needed. Inspection and patrol along this critical corridor should also continue to be conducted regularly, making sure that any concerns or potential issues are addressed as quickly as possible.

Conclusions

The Washington County peak of 639.5 MWs was less than the projection of 669 MWs. The 2025 peak occurred on July 14 with a temperature of 109.4 degrees. The previous nine days were over 100 degrees. Temperature adjusted peak data suggests the peak would have been 662 MWs, which is very close to the 2024 projection of 669 MWs.

It is anticipated that the Washington County area will continue to see moderate economic growth based on current load forecasts and recent requests for new development. The forecasted growth rate of 4% results in a 2026 system peak forecast of 696 MW if temperatures are typical.

APPENDIX A

Cooling Degree Day (CDD) Tutorial Reference

Degree Days are the most common and popular weather variable utilized for weather derivatives, energy trading, weather risk management and seasonal planning.

Degree Days are a practical method for determining cumulative temperatures over the course of a season. Originally designed to evaluate energy demand and consumption, degree days are based on how far the average temperature departs from a human comfort level of 65°F. Simply put, each degree of temperature above 65°F is counted as one cooling degree day, and each degree of temperature below 65°F is counted as one heating degree day. For example, a day with an average temperature of 80°F will have 15 cooling degree days.

The numbers of degree days accumulated in a day are proportional to the amount of heating/cooling you would have to do to a building to reach the human comfort level of 65°F. The degree days are accumulated each day over the course of a heating/cooling season, and can be compared to a long term (multi-year) average, or normal, to see if that season was warmer or cooler than usual.

- **Cooling Degree Day** (CDD): Defined as (T – 65) = daily Cooling Degree Days, where T is daily Average Temperature (F). If T is less than 65 degrees F, Cooling Degree Days=0.
- **Heating Degree Day** (HDD): Defined as (65 – T) = daily HDD, where T is daily Average Temperature (F). If T is greater than 65 degrees F, HDD=0.
- **Average (Mean) Temperature of the day**: (High Temperature + Low Temperature) / 2; High and Low Temperature are whole integer values.

This tutorial provided by www.weather2000.com.