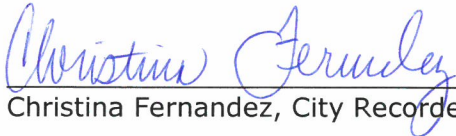


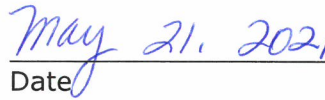
**NOTICE OF WORK MEETING OF THE
CITY COUNCIL OF THE CITY OF ST. GEORGE,
WASHINGTON COUNTY, UTAH**

Public Notice

Public notice is hereby given that the City Council of the City of St. George, Washington County, Utah, will hold a work meeting in the Administrative Conference Room, St. George City Hall, St. George, Utah, on Thursday, May 27, 2021 commencing at 4:00 p.m.

- 1. DISCUSSION REGARDING THE FISCAL YEAR 2021-2022 BUDGET.**
- 2. REPORTS FROM MAYOR, COUNCILMEMBERS, AND CITY MANAGER.**
- 3. REQUEST A CLOSED SESSION.**


Christina Fernandez, City Recorder


Date

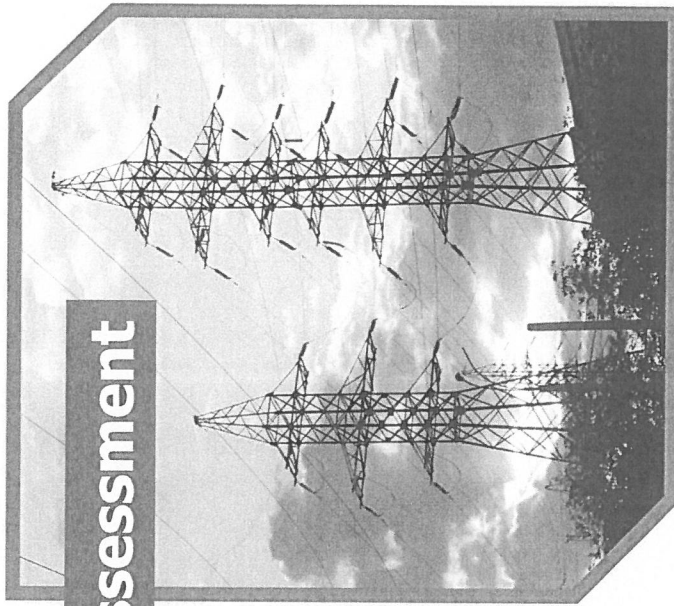
REASONABLE ACCOMMODATION: The City of St. George will make efforts to provide reasonable accommodations to disabled members of the public in accessing City programs. Please contact the City Human Resource Office, 627-4674, at least 24 hours in advance if you have special needs.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2021 Summer Reliability Assessment

May 2021



2021 Summer Reliability Assessment

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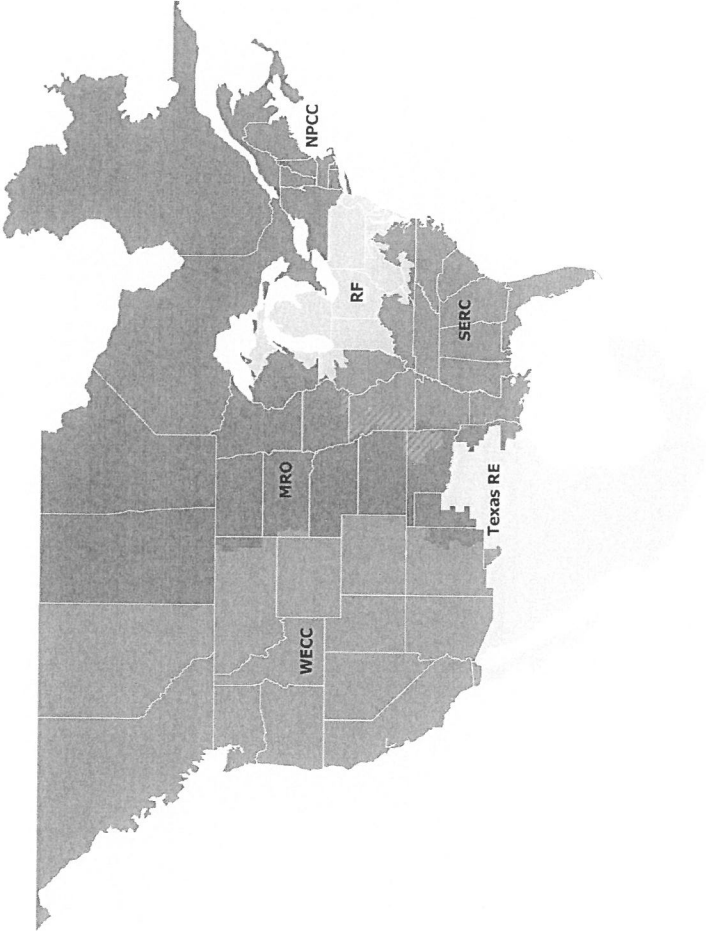
Preface

The vision for the Electric Reliability Organization Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (RE), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security

Because nearly 400 million citizens in North America are counting on us

The North American BPS is made up of six RE boundaries as shown in the map below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners/Operators participate in another. Refer to the Data Concepts and Assumptions section for more information. A map and list of the assessment areas can be found in the Regional Assessments Dashboards section.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

About this Report

NERC's 2021 *Summer Reliability Assessment* (SRA) identifies, assesses, and reports on areas of concern regarding the reliability of the North American BPS for the upcoming summer season. In addition, the SRA presents peak electricity demand and supply changes and highlights any unique regional challenges or expected conditions that might impact the BPS. The reliability assessment process is a coordinated reliability evaluation between the Reliability Assessment Subcommittee (RAS), the RE, and NERC staff. This report reflects NERC's independent assessment and is intended to inform industry leaders, planners, operators, and regulatory bodies so that they are better prepared to take necessary actions to ensure BPS reliability. This report also provides an opportunity for the industry to discuss plans and preparations to ensure reliability for the upcoming summer period.

Findings

NERC's annual SRA covers Summer 2021 (June–September). This assessment provides an evaluation of the resource and transmission system adequacy that is necessary to meet projected summer peak demands. In addition to assessing resource adequacy, the SRA monitors and identifies potential reliability issues of interest and regional topics of concern. The following key findings represent NERC's independent evaluation of electric generation and transmission capacity as well as potential operational concerns that may need to be addressed for the upcoming summer:

- Parts of North America are at elevated risk to energy emergencies (see Figure 1). Above-normal heat in summer can challenge grid operators by increasing demand from temperature-dependent loads (such as air-conditioning and refrigeration) and reducing electricity supplies as a result of lower-than-capacity resource output or increased outages. Wide-area heat events (such as the August 2020 heat wave that affected much of the Western United States and Mexico) are especially challenging as fewer resources are available for electricity transfers between areas because they are required to serve native load:
 - In **Texas RE**, on-peak Planning Reserve Margins have increased to 15.3% from 12.9% last summer with the addition of 7,858 MW wind, solar, and battery resources since 2020. However, extreme weather can affect both generation and demand and cause energy shortages that lead to energy emergencies in the Electric Reliability Council of Texas (ERCOT). Furthermore, with a significant portion of electricity supply coming from wind generation, operators must have sufficient flexible resources to cover periods of low-wind output.
 - Across most of **WECC**, resource and energy adequacy is a significant concern for the summer with overall capacity and demand projections for the area at similar levels to those seen in 2020 when a wide-area heat event caused energy emergencies and managed firm load loss. Though new flexible resources have been added in California, peak demand projections have also increased in many parts of the west, and overall resource capacity is lower compared to 2020. Increasing demand and lower resource capacity across WECC can mean the availability of surplus capacity for transfer into stressed areas is declining.
 - MISO** and **NPCC-New England** have sufficient resources for periods of peak demand. However, the above-normal levels of demand in the 90/10 forecast are likely to exceed capacity resources and require additional non-firm transfers from surrounding areas.
 - All other areas have sufficient resources to manage normal summer peak demand and are at low risk of energy shortfalls from more extreme demand or generation outage conditions. Anticipated Reserve Margins meet or surpass the Reference Margin Level, indicating that planned resources in these areas are adequate to manage the risk of a capacity deficiency under normal conditions.¹ Furthermore, based on risk scenario analysis in these areas, resources and energy appear adequate.
- WECC-California is at risk of energy emergencies during periods of normal peak summer demand and high risk when above-normal demand is widespread in the west.** Prior to summer, the planning reserve margin (which is based on existing and firm capacity) for the California-Mexico assessment area was below the 18.4% Reference Margin Level that WECC calculates is

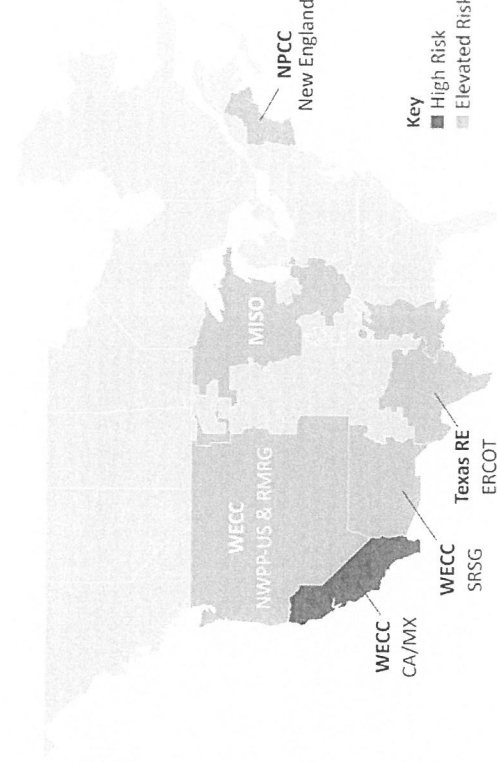


Figure 1: Energy Emergency Risk Areas

¹ For more information, see the description of the "Reference Margin Level" in the Data Concepts and Assumptions section of this report or refer to NERC's Long-term Reliability Assessment: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2020.pdf

needed for maintaining loss-of-load risk below a 1-day-in-10-year benchmark (a 400 MW shortfall at peak demand). Probabilistic studies indicate 10,185 MWh of energy in the area is expected to go unserved this summer. Over 3 GW of additional resources are expected for this summer with most coming in the form of new solar photovoltaic (PV) generation. These generation plants can provide energy to support peak demand; however, solar PV output falls off rapidly in late afternoon while high demand often remains.

Imports to the area are needed to maintain reliability when demand peaks in the afternoon and to ramp up even further for several hours as internal resources draw down. California will have 675 MW of new battery energy storage systems on-line at the start of the summer that can continue to supply stored energy for periods when needed. Reliance on non-firm imports to cover high demand or low resource output conditions heightens the risk that operators will need to use energy emergency alerts (EEA)—and trigger the shedding of firm load in above-normal heat conditions—to maintain a stable BPS at times. Planned resource additions of 1,300 MW over the summer, including 825 MW of new battery storage, are expected to help mitigate late-summer risks.

- **Protecting the critical electrical workforce from health risks during pandemic remains a priority.** Protocols put in place for reducing risks to personnel in control centers and on the front lines, including mutual assistance in hurricane-damaged areas, should be maintained as warranted by public health conditions. Also related to the coronavirus (COVID-19) pandemic, operators must continue to give attention to daily load shapes that can be sensitive to changing behaviors of the workforce and commercial loads. In 2021, there is remaining uncertainty in demand projections as governments adjust to changing public health guidelines and conditions and as the behavior of society adapts.
- **The Late-summer wildfire season in Western United States and Canada poses risk to BPS reliability.** Government agencies warn of the potential for above-normal wildfire risk beginning in July in parts of the Western United States as well as Central and Western Canada.^{2,3} Operation of the BPS can be impacted in areas where wildfires are active as well as areas where there is heightened risk of wildfire ignition due to weather and ground conditions (see Figure 3).

Implications and Recommendations

The summer of 2021 is shaping up to be a challenge for electric system operators in many parts of North America, combining the resource situation described above with significant drought, fire, and high temperature risk assessments by independent agencies. In the near term, NERC recommends the following:

- Load-serving entities (LSE) and regulators work with their Balancing Authorities (BA) and Reliability Coordinators (RC) to ensure that clear lines of communication are open for coordination during periods of system stress. RC, BA, and Transmission Operators review outage schedules well in advance and coordinate across the RC area.
- BA and RC conduct drills on their alert programs to ensure that they are prepared to signal need for conservative operations, restrictive maintenance periods, etc. BA and Generator Operators verify protocols and operator training for communication and dispatch.
- LSE prepare for demand-side conservation measures and potentially condition customers to their need and efficacy.
- RC and BA maintain the highest vigilance during peak risk hours and forecasted high temperature periods.
- LSE review non-firm customer inventories and rolling black out procedures to ensure that no critical infrastructure loads (e.g., natural gas, telecommunications, etc.) would be affected.

Finally, the potential for these conditions to emerge were reflected in NERC's 2018 and 2020 *Long-Term Reliability Assessments*; we recommend policy makers, system planners, LSE, and Generator Owners review these assessments and factor them into their integrated resource plans, and ISO/RTO factor them into their own generation queue management and long-range planning processes.⁴

² See North American Seasonal Fire Assessment and Outlook, April 2021: https://www.predictiveservices.nifc.gov/outlooks/NA_Outlook.pdf.

³ See Natural Resources Canada seasonal wildland fire forecasts: <https://cwfls.cfs.nrcan.gc.ca/maps/forecasts>

⁴ NERC's Reliability Assessments web page: <https://www.nerc.com/pa/RAPA/ra/Pages/default.aspx>

Summer Temperature and Drought Forecasts

Peak electricity demand in most areas is strongly influenced by temperature. Weather officials are expecting above normal temperatures for much of North America this summer (see Figure 2). Assessment area load forecasts account for many years of historical demand data, often up to 30 years, to predict summer peak demand and prepare for more extreme conditions. Above average seasonal temperatures can contribute to high peak demand as well as increases in forced outages for generation and some BPS equipment. Effective pre-season maintenance and preparations are particularly important to BPS reliability in severe or prolonged periods of above-normal temperatures.

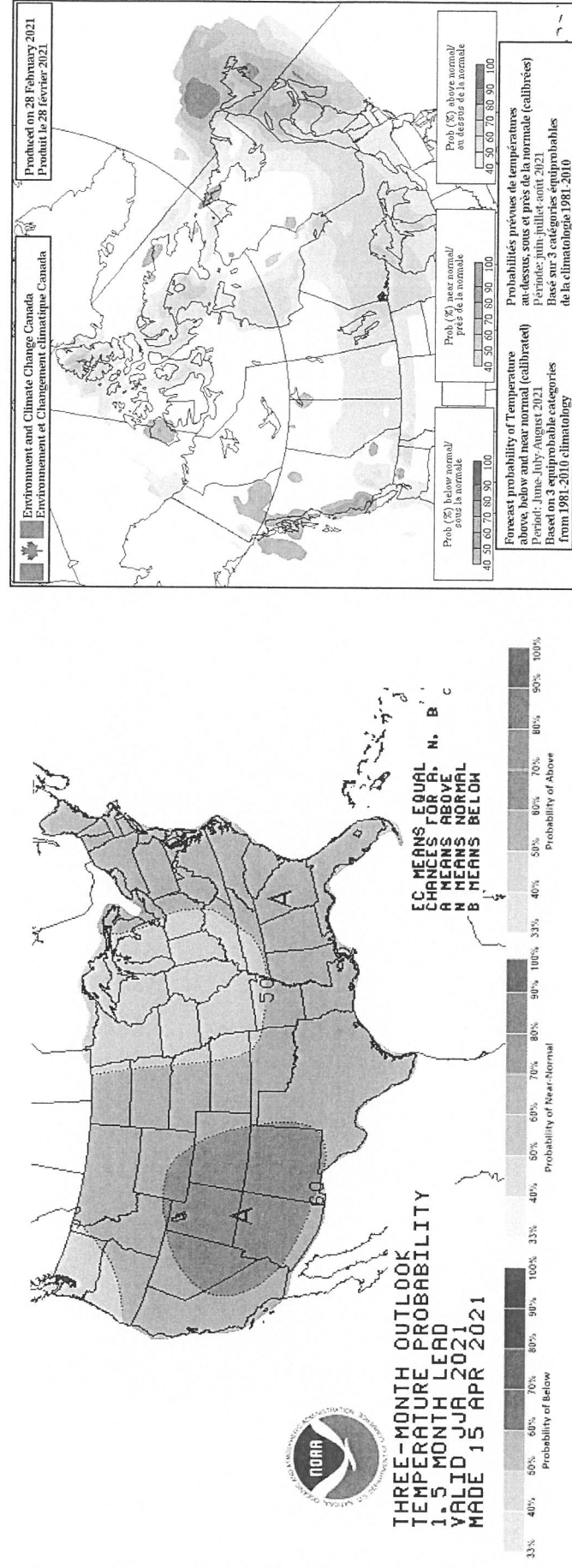


Figure 2: United States and Canada Summer Temperature Outlook⁵

⁵ Seasonal forecasts obtained from U.S. National Weather Service and Natural Resources Canada: https://www.cpc.ncep.noaa.gov/products/predictions/long_range/ and https://weather.gc.ca/saisons/prob_e.html

Wildfire Risk Potential and BPS Impacts

Drought conditions extend over the western half of the United States and the middle-third of Canada. Above-normal fire risk at the beginning of the summer exists in the Southwest United States and over the middle-third of North America in the spring, setting the stage for an active fire season at the beginning of the summer (see Figure 3). Government agencies predict an active early fire season in the Southwest United States as well as above-normal risk in the lower half of central Canada (Southern Prairies, Boreal forest, grassland and parkland areas).⁶ In late summer, hotter and drier conditions are expected to cause elevated fire risk in California and the United States West Coast. BPS operation can be impacted in areas where wildfires are active as well as areas where there is heightened risk of wildfire ignition due to weather and ground conditions (see Finding: Risk Discussion).

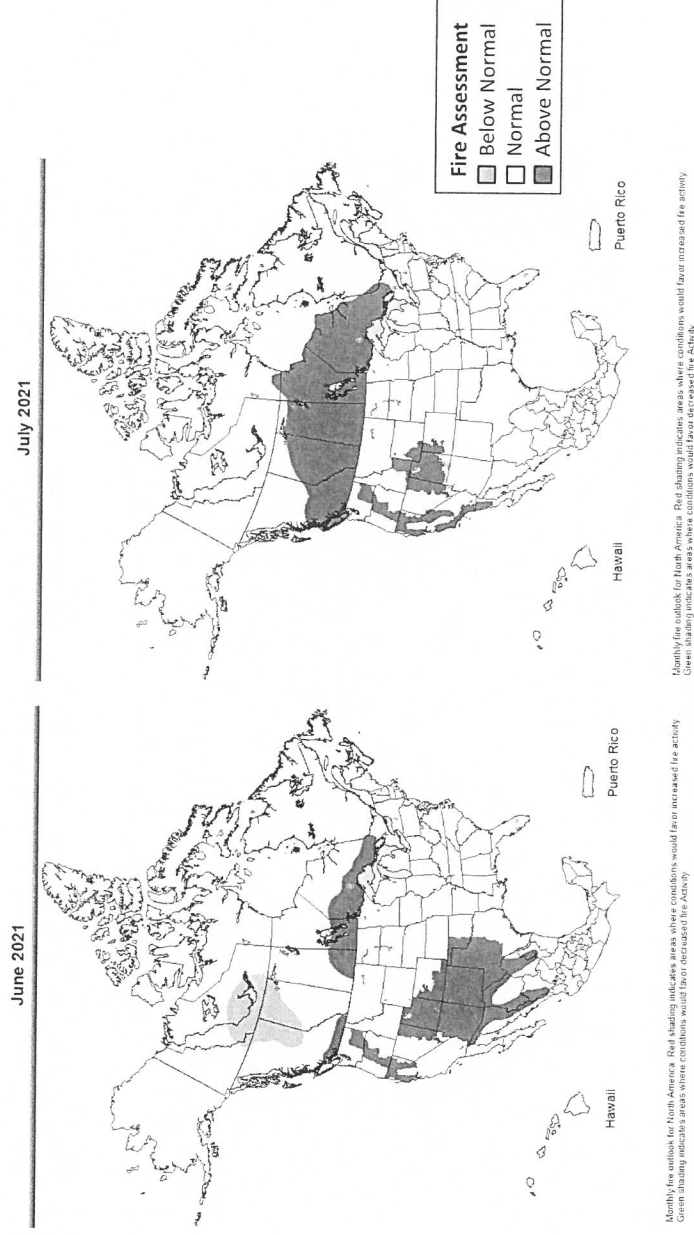


Figure 3: North American Seasonal Fire Assessment for June and July 2021

⁶ See North American Seasonal Fire Assessment and Outlook, April 2021: https://www.predictiveservices.nifc.gov/outlooks/NA_Outlook.pdf