



NARUC
National Association of Regulatory Utility Commissioners

Lessons Learned from the Ongoing Response to the COVID-19 Crisis



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Table of Contents

Disclaimer	1
Acknowledgments	1
Executive Summary	3
COVID-19 Key Lessons Learned for Public Utility Commissions	3
I. Introduction	6
II. Emergency Preparedness Strategies and Crisis Communications	8
Public Sector	8
Leadership and Communication	8
State-Federal Coordination Efforts	9
Private Sector	10
Leadership and Communication	10
Crisis Management and Coordination	10
III. Transition to New Business Protocols	13
Digitalization Trends	13
Cybersecurity Trends	14
Enhanced Worker Protection and Industry Guidelines	15
Essential Worker Status and Prioritization of PPE, Testing, and Vaccinations	16
IV. Assessing Public Sector Responses	18
Disconnection Moratoria Policies	18
Initial Assessment of Disconnection Moratoria Policies	19
V. Preliminary Analysis of Financial Impacts to Utilities and Consumers from the COVID-19 Crisis	22
Changes in Grid Economics	22
Electricity Sector	22
Natural Gas Sector	23
Water Sector	24
Financial Impacts to Utilities	24
Rate Recovery Considerations from COVID-19 Emergency Orders	25
Pronounced Impact on Vulnerable Populations	26
Disproportionate Effects on Historically Disadvantaged Communities	27
Recommendations to Support Customers in Crisis	28
VI. Conclusion	30
APPENDIX I – Subcommittee on COVID-19 Roster	31
APPENDIX II – Disconnection Moratoria Map	31

Executive Summary

The global COVID-19 pandemic has disrupted nearly every facet of daily life and forced state regulators, utilities, industry stakeholders, and customers to adjust to a rapidly changing landscape. At the initial onset of the pandemic, similar to other natural disasters, the immediate focus of response was on safety and life-saving measures. The utility industry implemented extensive new safety measures to protect its workforce. Many states relied on their emergency response plans and mechanisms to transform to digital and virtual work and maintain essential service to customers. Those emergency response mechanisms and new transformative workplace processes in most states are largely still in effect.

To understand the extent and effectiveness of the COVID-19 pandemic response, National Association of Regulatory Utility Commissioners' (NARUC) convened a Subcommittee on COVID-19 to gather and analyze regulatory and utility industry actions and to prepare lessons learned. (See [Appendix I](#) for a subcommittee roster.) The scope of the subcommittee's analysis included workforce issues, low- to moderate-income customer impacts, regulatory responses, utility financial approaches to the pandemic response, and other key challenges. The subcommittee also examined existing Emergency Operations Plans^a to gather a better understanding of emergency management procedures in the context of the continued wave of COVID-19 infections and to prepare for future public health crises.

The subcommittee found that the response to the COVID-19 pandemic was similar in many ways to the emergency response to natural disasters, such as hurricanes, severe storms, or winter freezes. For example, robust levels of collaboration and communication between private and public entities were required to keep the lights and heat on, water flowing, and communications systems online. Yet, the COVID-19 public health emergency presented unique challenges, notably the pandemic's scale, duration, and impact, that required special consideration and extraordinary action. This report focuses on the latter.

COVID-19 Key Lessons Learned for Public Utility Commissions

The Subcommittee on COVID-19 conducted a series of roundtable discussions in early April 2021 to allow commissioners, utility industry representatives, and key advocates an opportunity to identify shortcomings with the initial and ongoing response to the pandemic, detail successes, and highlight unique responses from commissions, state energy offices, and the utility and private sector. These discussions were held anonymously to allow participants greater flexibility in their responses.

The following are the key COVID-19 lessons for state public utility commissions (PUCs), utilities, and energy policy makers gleaned from those discussions. Capturing these lessons provides insights into the ongoing management of the COVID-19 response and areas to focus on to enhance response to future pandemics, including improvements to emergency management strategies and crisis preparedness planning.

Pandemic Planning

- *State PUCs should update their emergency preparedness plans to include a comprehensive pandemic response.* State PUCs' continuity of operations plans should reflect input from other state agencies and the governor's office. Updated emergency plans ought to give special consideration to the prolonged nature of a public health crisis. State PUCs, utilities, and emergency management partners operated in varying crisis conditions for over a year and often dealt with concurrent emergency situations with the added burden of pandemic mitigation protocols.

Emergency Communications

- *State PUCs should coordinate with utilities, state emergency management agencies, state energy offices, and governors' offices to improve emergency communication plans.* Emergency communication

^a Note: States may have different names for these.

planning should incorporate other key stakeholders, particularly community-based organizations, and other relevant advocates. Including these partners in emergency communication strategies alleviates certain challenges experienced by vulnerable customer classes and provides clarity on eligibility.

Digitalization Trends in the Workplace

- *State PUCs should explore continuations of remote work and business through and following the pandemic, if doing so has proven advantageous.* The COVID-19 pandemic has accelerated digitalization of the workplace. Remote work and business operations were adopted quickly at the outset of the pandemic. This is particularly true for in-office employees at state and federal utility regulators and in-office utility personnel. The digitalization trends affecting field utility workers are less pronounced, but there are noteworthy adaptive practices borne from digitization and social distancing requirements.
- *State PUCs should continue to facilitate digital business practices where it is prudent.* Practices such as electronic filings and virtual hearings at commissions likely will continue and proliferate, with the benefit that many consumers will have greater access to state PUC proceedings and more opportunities to participate. Additionally, automated regulatory processes such as online forms, filing, and permitting should be explored in an increasingly digital world. However, recognizing that not all residents have access to affordable telecommunications service, alternative, nondigital communications and engagement methods should also continue to be pursued.
- *States and state PUCs should review all applicable statutes, rules, and practices to allow PUCs to seamlessly transition to virtual operations,* including a review of filing procedures, deadlines, and waiver procedures.

Cybersecurity Practices

- Given the increasing nature of digital and remote work practices, *state PUCs and utilities should continue to enhance and practice vigilant cybersecurity practices.* A remote work environment creates new potential vectors for cyber attacks. Cybersecurity protocols should be updated to reflect the realities of a remote workforce and associated cybersecurity risks.

Essential Worker Status

- *State PUCs should work closely with their regulated utilities, other private sector energy suppliers, governors' offices, and federal partners to establish essential worker prioritization and guidelines.* Essential critical energy infrastructure workers (ECIW) were only designated as essential workers under federal guidelines after a concerted effort from the U.S. Department of Energy (DOE) and multiple trade associations in the industry. State PUCs should work in close concert with utility and private sector interests, federal partners, governors' offices, and state legislatures to predetermine appropriate essential worker designations in advance.
- *State PUCs should coordinate with federal and state emergency management agencies to prioritize protective equipment, testing, and vaccine distribution for those designated as ECIW.* Future continuity of operations planning should anticipate the scarcity of those resources. State PUCs, state governments, and regulated utilities should be encouraged to develop reserves of personal protective gear and clearly delineate ECIW prioritization needs for public health resources in the event of a future pandemic.

Public Policy Response—Disconnection Moratoria, Communication, and Public Assistance

- *State PUCs and utilities can work to align communication strategies and advise customers on the application and consequences of disconnection moratoria, repayment plans, and arrearage management.* There is a growing consensus from the industry, regulators, and key advocate communities that the size of outstanding bad debt will demand focus and creative solutions for years to come. Disconnection moratoria policies will be closely scrutinized if needed to respond to future public health or economic events.

- As we better understand federal assistance, it's important for state PUCs, utilities, and key stakeholders to *work collaboratively to create, manage, or monitor utility assistance programs.*

Economics of Grid Operations

- *State PUCs should assess research into the degree to which changing work behaviors have shifted demand curves and the potential implications and persistence of those shifts for policy outcomes.* Shifts in the shape of demand curves, and in the economics of grid operations likely will be a hot topic of analysis for the foreseeable future. This may facilitate consideration of alternative regulatory methodologies moving forward.

Long-term Impact on Vulnerable Customers

- *State PUCs should carefully consider the long-term economic impact to vulnerable customer classes and encourage utilities to expand outreach to connect those customers to state and federal assistance programming.* Lower- and moderate-income and historically disadvantaged communities were worst hit by both the pandemic and increased energy insecurity. Long-term impacts to vulnerable customer classes due to the economic fallout from the pandemic will continue to influence regulatory and energy policy decision making.

Although states continue to grapple with a new wave of infections and hospitalizations from the COVID-19 Delta variant, energy policy makers and regulators have begun to shift the focus away from immediate crisis management to broader financial impacts on states, utilities, and customers stemming from the pandemic. These impacts are still ongoing and complicate efforts to analyze the pandemic for lessons learned. New research is made available every day. Continued impacts from emerging strains of the COVID-19 virus, particularly the Delta variant, suggest that the public health crisis is far from over. State PUCs, private and utility sector organizations, and state and federal emergency management systems continue to grapple with the pandemic. The effects of the pandemic will continue to be studied for years, and PUCs will have to adapt accordingly as new information becomes available.

I. Introduction

The global COVID-19 pandemic has disrupted nearly every facet of daily life and forced state regulators, utilities, industry stakeholders, and customers to adjust to a rapidly changing landscape. Similar to other natural disasters, the immediate focus at the onset of the pandemic was on safety and life-saving measures. The utility industry implemented extensive new safety measures to protect its workforce. Many states relied on their emergency response plans and mechanisms to transform to digital and virtual work and maintain essential service to customers. Those emergency response mechanisms and new transformative workplace processes in most states are largely still in effect. Yet, the unique characteristics of the COVID-19 pandemic, namely its scope, scale, and duration, required extraordinary considerations and actions. The purpose of this report is to examine those considerations and actions for lessons that can be applied to enhance response to future pandemics.

To understand the extent and effectiveness of the COVID-19 pandemic response, National Association of Regulatory Utility Commissioners (NARUC) convened a Subcommittee on COVID-19 to gather and analyze regulatory and utility industry actions, and to prepare lessons learned. (See [Appendix I](#) for a Subcommittee roster.) The scope of the subcommittee's analysis included workforce issues, low- to moderate-income customer impacts, regulatory responses, utility financial approaches to the pandemic response, and other key challenges. The subcommittee also examined existing Emergency Operations Plans,^b with a keen eye toward the continued wave of COVID-19 infections as well as future public health crises.

This report reflects a review of existing documents and guides from the utility sector's response to the pandemic, responses from state public utility commissions (PUCs) and governors' offices, and the nexus between the industry and state efforts. The report details specific impacts to customers, impacts on vulnerable customers, and state and federal actions to address these impacts. It highlights enhanced worker protection requirements and examines best practices for identifying essential employees and their critical needs in a pandemic, such as allocation of personal protective equipment (PPE), testing, and vaccine distribution strategies. The report also develops an early assessment of the pandemic's impacts on customer demand and the financial condition of utilities and customers alike.

The Subcommittee on COVID-19 conducted a series of roundtable discussions in early April 2021 to allow commissioners, utility industry representatives, and key advocates an opportunity to clarify shortcomings with the initial and ongoing response to the pandemic, detail successes, and highlight unique responses from PUCs, state energy offices, and the utility and private sector. These discussions were held anonymously to allow participants greater flexibility in their responses.

The following are some key takeaways from those discussions. These points inform broad thematic lessons state PUCs, utilities, and energy policy makers are learning from the ongoing response to the COVID-19 pandemic. These are just a few examples of how states are tackling this important issue and are not meant to be comprehensive. These findings and recommendations are assessed in greater detail in the following. The intent of this report is to better prepare state PUCs and their critical partners for the continued COVID-19 response and for future pandemic situations, improving emergency management strategies and crisis preparedness.

This report focuses on four key thematic areas and addresses critical lessons learned under each topic:

- Emergency Preparedness Strategies and Crisis Communications
- Transition to New Business Protocols
- Assessing Public Sector Responses
- Preliminary Analysis of Financial Impacts to Utilities and Consumers from the COVID-19 Crisis

^b Note: States may have different names for these.

In this report, the Subcommittee on COVID-19 presents a set of existing resources and develops a set of best practices, both of which should assist state PUCs and the utility sector to enhance preparation and recovery activities and improve collaborative responses to future public health crises.

II. Emergency Preparedness Strategies and Crisis Communications

Public Sector

NARUC's examination of states' COVID-19 responses suggests that a key lesson learned for the public sector entities is to update continuity of operations and emergency preparedness plans with specific criteria for public health crises. Such action will better prepare state PUCs for future crises that have a public health component. This section describes some early steps that state PUCs and regulated utilities took to enhance emergency preparedness and adapt to the unique challenges stemming from the COVID-19 pandemic and highlights opportunities to institutionalize effective emergency response techniques.

Leadership and Communication

Most emergency management is conducted via a top-down approach, starting with executive leadership decision makers. During the COVID-19 crisis, emergency declarations were the primary tool that governors used to expedite emergency responses and temporarily waive regulations inhibiting recovery efforts (see Appendix III). Notably, executive authority to issue a declaration of emergency or disaster triggers a variety of enhanced powers to allow greater flexibility in government emergency response.¹

State PUCs received instruction from their states' executive branch on when to close their offices for in-person business, when to reopen, and how to implement enhanced safety measures. These decisions were often communicated through the executive director or equivalent administrative decision maker at the state PUC in conjunction with the chairman or president of the commission. Emergency communication hierarchies within states were firmly in place to share information internally in a judicious manner. Commission staff reported that emergency communications regarding office closures and other procedures were relatively effective, timely, and quickly implemented, enabling them to rapidly adapt to a changing work environment.

Most states have an emergency management agency that coordinates disaster relief efforts. These efforts are conducted in conjunction with the governors' offices and implemented by the emergency management agency. State PUCs typically follow directives from their states' executive branches and emergency declarations from the governor. While emergency management agencies are primarily activated to handle natural disasters, the COVID-19 pandemic emergency has gone beyond physical threats. The public health component to the crisis necessitated the involvement of public health departments in the emergency management decision-making process. Prior to the pandemic, the National Governor's Association (NGA) issued an in-depth look at executive authority specific to an energy emergency, but there are many key takeaways applicable to the ongoing response to the COVID-19 pandemic.^c Notably, executive authority to issue a declaration of emergency or disaster triggers a variety of enhanced powers to allow greater flexibility in government emergency response.²

Most emergency preparedness plans include provisions related to continuity of operations. State governments and specifically state PUCs are typically required to have some version of a continuity of operations plan as part of their overall emergency management systems. States reported that these plans worked relatively as intended and at least clearly delineated decision-making hierarchies within state government and identified critical agency functions and staffing.

However, many PUCs reported that their emergency preparedness plans were designed primarily for natural disasters and physical security threats. State PUCs report a variety of continuity of operations plans developed to address when if a man-made or natural disaster of a physical nature disrupts access to the commission building or other essential government and/or energy adjacent structures. Many states reported that public health crises were not specifically identified in their continuity of operations plans. The COVID-19 pandemic

^c Note: NGA is revising its [Executive Authorities for Energy Emergencies Roadmap for Governors](#) to include guidance on a concurrent public health emergency. NGA expects to publish its revised version in September 2021.

presented a variety of unique public health challenges that had physical security implications. For example, most physical office buildings closed, requiring PUC workforces to move to a fully virtual setting. Many emergency management plans and continuity of operations procedures did not often fully consider a pandemic scenario that would limit physical access to buildings and employees. Some states did have the foresight to plan for public health specific emergencies, but other states had no pandemic response plans. The COVID-19 pandemic has made it clear that state PUCs and emergency management agencies in state government should update all continuity of operations plans and implement procedures specific to responding to, mitigating, and continuing operations in the event of a public health crisis, including a prolonged crisis.

Some states had extensive collaborations at the regional level between gubernatorial task forces. The executive branches of these states and state emergency management agencies served as the nexus of information, collaboration, and resource coordination. Ample coordination provided opportunities for resource prioritization and deployment during the initial phases of the pandemic response and ongoing crisis management, particularly during natural disaster response like California's 2020 wildfire season response.

The response to the pandemic has proven multifaceted, and coordination within state government is essential. Representatives of all critical infrastructure sectors and state government agencies should be consulted in pandemic relief efforts if they have not been already. This is vital to coordination of efforts throughout the pandemic as essential utility services need to be maintained throughout the crisis.

State-Federal Coordination Efforts

The federal government primarily left decision making to governors' offices and state-level agencies responsible for conveying emergency information. Some states did report an initial lack of clarity between federal agencies and state emergency management systems, specifically on guidance for usage and availability of PPE prioritization and testing availability. The delivery of adequate resource prioritization and deployment between federal and state partners could be more efficiently streamlined in future public health crises. Further, coordination around definitions of essential workers and prioritization of critical resources are essential for future public health crisis management.

Information dissemination through apparatuses like the Emergency Support Function 12—Energy (ESF-12), regular DOE and Federal Emergency Management Agency (FEMA) emergency management calls, and frequent federal updates provided utilities with the latest information on protecting workers, ensuring continuity of business operations, and emergency response functionality. States activated many of their ESF groups, bringing together representatives from state agencies, volunteer organizations, and private partners.

While many states followed specific guidelines set by the federal Centers for Disease Control and Prevention (CDC) in determining when and how to resume their normal business operations, recommendations from the CDC on testing and vaccine prioritization were less forthcoming. During the early months of the pandemic, states were left to determine their own prioritization guidelines for essential workers in distributing PPE and allocating COVID testing. In the absence of specific top-down recommendations from the federal government, various trade associations, utility sector representatives, and key advocates lobbied intensively for federal guidance on designating critical infrastructure workers as "essential workers" to ensure access to PPE and testing.

As consensus developed around the importance of designating critical infrastructure workers as essential workers, DOE and other federal agencies began to issue clearer guidelines and recommendations that encouraged states to designate most critical infrastructure and energy sector utility workers as high priority workers for testing and vaccination. DOE's Office of Cybersecurity, Energy Security, and Emergency Response (CESER) published a frequently asked questions (FAQs) document detailing energy sector-specific COVID-19 updates and federal government recommendations to prioritize critical infrastructure workers for testing and vaccine prioritization.³ In the future, balancing the need for flexibility in state-specific responses with some uniform federal guidance to simplify prioritization needs will be useful to prepare for future public

health emergencies. Federal recommendations and industry guidance should be issued quickly to eliminate haphazard or contradictory response mechanisms at the state level.

Private Sector

For utilities, the COVID-19 pandemic response necessitated an immediate, profound rethinking of its normal business model. Almost overnight, utility operations had to change to ensure employee and customer safety while maintaining reliable service. The prolonged nature of the pandemic requires ongoing crisis management, informed by careful strategic planning and continual collaboration and communication between relevant partners and stakeholder groups. This section describes key steps that utilities took to enhance emergency response and adapt to the unique challenges stemming from the COVID-19 pandemic.

Leadership and Communication

The utility industry's coordinating bodies were quick to issue recommended guidelines for appropriate safety measures to continue operating utility businesses. The Electricity Subsector Coordinating Council (ESCC) released its resource guide in March 2020 and continued to add to guidance as new information became available from the CDC, Occupational Safety and Health Administration (OSHA), and other federal agencies. Industry associations, such as the Oil and Natural Gas Subsector Coordinating Council (ONG SCC), the U.S. Communications Subsector Coordinating Council (CSCC), and National Association of Water Companies (NAWC), were also quick to respond with guidance for their industries to mitigate any uncertainties in safety precautions and resource availability. They also formed enthusiastic lobbying efforts to designate critical infrastructure workers as essential under federal guidelines.

In response to the initial pandemic lockdowns in March 2020, individual utilities formed emergency response "task forces" and other similar coordinating bodies. These bodies were common across the utility sector and served as the primary means to coordinate information gathering and dissemination of emergency response communications within an organization. These internal bodies allowed utilities to align messaging on the public health crisis and quickly communicate to customers the status of their utility services. They also provided an apparatus for public emergency management entities to maintain direct lines of communication with private utility companies. These internal coordinating bodies grew organically and supported individual company efforts to improve communications with their customers, state, and federal emergency management coordinating bodies. Many utility companies across the United States joined voluntary moratoria efforts and suspended disconnections of vital utility services during all or part of the 2020 calendar year.

Crisis Management and Coordination

Utilities reported they quickly were folded into public sector emergency management systems and processes and began receiving unidirectional information. For example, the U.S. Department of Homeland Security's Cybersecurity and Infrastructure Security Agency (CISA) released "Guidance on the Essential Critical Infrastructure Workforce: Ensuring Community and National Resilience in COVID-19 Response" in March of 2020 at the outset of the pandemic.⁴ Over the course of 2020 and early 2021, this document was updated several times to reflect changing federal designation of essential personnel and recommended guidance for utility operations, including return to work procedures.⁵ Regular response coordination phone calls between the federal government and private sector entities allowed utilities to offer support and provide input on best practices throughout the pandemic.

Additionally, industry representatives shared information through existing information exchanges like the Electricity Information Sharing and Analysis Center (E-ISAC), federal partners, and ESCC's tiger teams. The ESCC's Tactical Tiger Team (T3) was convened in March of 2020 by electricity industry CEOs to "identify needs, priorities, gaps, and goals that address the challenges of operating the North American energy grid in a long-term pandemic environment."⁶ These bodies coordinated via twice weekly calls and developed a document

exchange to share best practices and timely information on how to best respond to the pandemic. These types of bodies provided a critical pathway to share information in real-time and coordinate across disparate organizations.

Many of the larger investor-owned utilities (IOUs) also received direct communications from state government executive offices and their state commissions on mandatory moratoria policies. These bodies served as formal structures of information sharing and emergency communications across multiple sectors, levels of government, and industry.

Coordination with smaller municipal water utilities, electric cooperatives, and other small utility sector entities was complicated throughout the pandemic due to less frequent interactions with state regulators, federal partners, and traditional emergency management systems. It was an additional challenge for state officials to work with these entities since there are many more consumer-owned utilities, most of which are smaller entities with smaller workforces as compared to the larger IOU companies. Additionally, many PUCs do not have regulatory authority over these consumer-owned utilities and have limited jurisdiction to mandate actions.

Regardless, consumer-owned utilities faced many of the same challenges as the IOUs. Trade associations representing consumer-owned utilities, such as the National Rural Electric Cooperative Association (NRECA), provided a great deal of emergency management communications to its smaller and predominately rural cooperative membership. NRECA, as a national association, tends to be the conduit for information from the federal government during disaster situations. Guidance on financial impacts to electric cooperatives⁷ as well as FAQ resources were provided to cooperative members and maintained via NRECA's [COVID-19 web portal](#).⁸

Similarly, other industry associations and advocates representing community-owned utilities, such as the American Public Power Association (APPA), maintained a [directory of COVID-19 related information](#) online for its members. These resources provided critical information to utilities throughout the ongoing crisis with specific guidance on managing concurrent emergencies, implementing pandemic-specific worker protections, and maintaining a repository of information on state and federal assistance.⁹

Utility emergency communications were primarily directed at their customers. Many of the internal task forces at specific utilities created enhanced customer assistance programs that offered a variety of flexible payment plans and improved customer service capabilities. Utilities also increased their efforts to offer direction and guidance on how their vulnerable customers could take advantage of federal and state assistance programs. Utilities reported that they created webpages on their company official website specifically to address concerns from COVID-19. These sites included links to state and federal assistance like Low-Income Home Energy Assistance Program (LIHEAP) and other available financial assistance for rent, small businesses, and nonprofit organizations. Utilities made significant efforts to improve their customer communications, offering transparency and financial assistance to vulnerable customers beginning in the difficult first few months of the pandemic.

Broadly, emergency communication strategies were effectively implemented, particularly during the early crisis management period of the pandemic when uncertainty was rampant. Most importantly, and perhaps unique to a public health crisis like the COVID-19 pandemic, after the initial emergency management phase is over, ongoing crisis management is more nuanced and requires careful strategic planning and continual collaboration and communication between relevant partners and stakeholder groups. The prolonged nature of the pandemic response necessitated a rethinking of normal business operations. Almost every facet of utility sector operation had to be adjusted to safely provide essential utility services during pandemic conditions. The COVID-19 pandemic has emphasized the critical need for both utility sector actors and public sector agencies to enhance their collaborative efforts and enact pandemic-specific emergency plans in the event of future public health emergencies.

There are key takeaways regarding improvements to ongoing communication strategies and coordination opportunities across state, federal, and public-private sectors. Fundamentally, the current emergency support functions that exist worked as intended. The public sector had a direct communication network with many private utility companies. Industry associations and public sector agencies provided guidance that clearly detailed challenges and best practices to address them. In the future, industry actors can preemptively update their emergency operations plans to improve the efficiency of their pandemic response plans. Further, public sector agencies, including state PUCs, should work to align their messaging and response tactics for pandemic situations.

III. Transition to New Business Protocols

Digitalization Trends

State PUCs: Public health entities quickly communicated the need for social distancing requirements in office settings, thus necessitating a rapid transition to a primarily virtual business environment. Most state PUCs and regulated utilities were already engaged in developing digital business practices that were accelerated because of the pandemic's social distancing needs. Office work increasingly has been conducted electronically, and many state PUCs had systems in place that allowed employees to conduct business remotely in a virtual setting. Except as noted below, the transition to a virtual environment for most in-office workers was reportedly seamless for most state PUCs, although employees responsible for field and safety inspections needed additional guidance for remote work. Guidance on proper distancing procedures and transitioning to virtual and remote work was typically coordinated through the governors' offices at the state level with administrative personnel at state PUCs receiving instructions on these transitions from the executive branches.

Concerns over access to reliable and high-quality broadband services while PUC staff worked online and from home were of paramount consideration for state PUCs. Further, not all state PUC staff initially had access to the necessary technology to work from home. However, state commissions reportedly were able to quickly procure the necessary equipment for their remote staff and provide them with the means to perform their jobs from home. Adoption of collaborative virtual platforms allowed for PUC staff to rapidly adapt to remote work. Over the course of 2020, almost all popular online meeting platforms were approved for use by all state PUC staff and their partners at the federal level.

Every state PUC had in place or has developed at least some capability to conduct electronic filing of docketed items and to electronically conduct commission business. Electronic submission of legal documents for state PUC proceedings has been permissible for a while under most state laws. In some situations, particularly early in the pandemic, states were more lenient with extensions on filing requirements given the challenges of remote work. In addition, states reported utilizing governors' emergency executive declarations to initiate procedural and emergency rule changes to eliminate additional unnecessary personal contact that rules required, such as notarized signatures or certified mailings.

State PUCs reported one aspect of virtual operations to be difficult, which was how to conduct public hearings, testimony, and workshops in a remote fashion. Allowing for public participation in hearings and commentary was difficult given timing constraints and network connectivity issues. Many PUCs reported lengthy and confusing public hearings early in the pandemic where it was difficult to allow for public participation over online platforms. Many PUCs reported clunky technology and difficulty aligning audiovisual capabilities for public hearings and open meetings. State PUCs overcame most of these early difficulties, improving their audiovisual streams and integrating more advanced technology platforms, although some issues remain.

Future business continuity plans at state PUCs should incorporate plans for how to conduct virtual hearings, workshops, and public comments over an online platform. Preparing for these types of considerations in advance will allow state PUCs to move seamlessly between remote work settings and more standard in-person environments.

Practices such as electronic filings and virtual hearings at PUCs likely will continue and proliferate, with the benefit that many consumers will have greater access to state PUC proceedings and more opportunities to participate. Additionally, ensuring the option for automated regulatory processes such as online applications, forms, and permitting should be explored in an increasingly digital world to provide faster and more efficient service for customers. However, traditional options should remain for customers without access to broadband.

Utilities: The transition to a virtual work environment differed significantly for regulated utilities. While most in-office personnel were able to work from home, utilities also needed to determine how to continue to allow

utility workers in the field access to utility facilities and customers' homes and businesses. In addition, and importantly, control room operations are by necessity conducted in-person. Early guidance from the ESCC and DOE provided detailed instructions on proper procedures for conducting in-home customer service visits as well as transitioning in-office employees to a virtual setting. Utilities postponed most in-home or on-premises work during the initial months of the pandemic unless the work was critical or safety-related.

Utility companies, utilizing guidance from public sector agencies and industry associations, developed specific requirements for control room operations. Control room operators are highly specialized and work in close quarters with one another. Therefore, they are not easily replaced if infected with COVID-19. Utilities and regional transmission organizations (RTOs) reported that they increased control room operator shift times to reduce exposure during staff changeovers, reduced access to control room operations to only essential personnel, and converted training simulator control rooms into fully operational control room centers.¹⁰ Guidance from CISA specific to maintaining control room operations during the pandemic encouraged utilities and RTOs to develop specific quarantine plans for exposure risks within control rooms.¹¹ Many utility companies and RTOs developed strict quarantining procedures for control room and dispatch crews to ensure operational continuity.^{12,13}

Resources developed through the ESCC included explicit guidelines for utilities to develop their own COVID-19 risk evaluation criteria with information on potential exposure risks for workers for each type of work, safety standards for mitigating that risk, enhanced cleaning procedures, and suggested guidelines for prioritization of work.¹⁴ Similar guidance from the ONG SCC detailed explicit risk evaluation criteria for maintaining operations throughout the COVID-19 pandemic.¹⁵ DOE developed extensive federal guidance that amalgamated a variety of public health recommendations and worker protection information to allow for utilities to safely conduct field work.¹⁶ The ESCC T3 coordinated with DOE to provide utility companies with updated information on best practices within the industry. These resources allowed individual utility service providers to develop similar safety precautions across the industry in accordance with federal and sector guidelines and regulations.

There is some discussion among state government, private sector employers, and other key advocates that remote work will become a more common practice in a post-COVID world. It is likely that many in the industry will not require as much physical office space in the future. The future of office work will likely include a vast array of increasingly digital options that will necessitate updates to cybersecurity training and protocols, and a comprehensive digital onboarding process for new full-time remote work hires. While these trends are still developing, individual organizations will continue to wrestle with these new business practices and policies for many months.

Cybersecurity Trends

The cybersecurity threat landscape has continued to expand and proliferate while employers have increasingly allowed for a remote workforce and policies allowing more employees to work from home. Cyber attacks continue to evolve in sophistication and frequency. Previously unseen malware is becoming more advanced and disruptive. Securing IT infrastructure for remote work remains a challenge for many state PUCs and their regulated utilities. This is particularly true as remote employees may be increasingly lax with cybersecurity protocols.

Cybersecurity reporting from the last 18 months suggests that the increase in employees working from home has correspondingly increased security risks. Most employees working under a work-from-home policy have a work device connected to their home network. This sudden transition to a remote workforce required businesses and governments to equip and enable their IT systems for remote work in unprecedented ways. In a comprehensive global study assessing organizational cyber risk in an era of remote work, Hewlett-Packard found a 238% increase in global cyberattack volume during the pandemic. Survey results from the report also

suggest that work-from-home employees increasingly are using work devices for personal tasks and accessing sensitive information via personal devices.¹⁷

The Institute of Electrical and Electronics Engineers reported that cyber criminals have been exploiting people's anxiety around the pandemic to conduct massive phishing malware attacks with malicious information concerning the coronavirus, treatment options, and vaccines.¹⁸ CISA reported that the Health Sector Cybersecurity Coordination Center took down over 35,000 malicious COVID-19 websites that spread ransomware.¹⁹ Additional cyber concerns for operational technologies (OT) include technology that allows users to monitor and control physical devices from a remote location, further jeopardizing the energy sector. If compromised via cyber attack, malicious cyber actors could attain unauthorized access and control an organization's operations. State PUCs will need to remain vigilant in partnership with regulated utilities to ensure the safety of both IT and OT systems.

The urgency to address cybersecurity issues is mirrored within the utility industry as well. In a recent survey of top electric utility professionals for Utility Dive's "State of the Electric Utility 2021" report, enhancing cybersecurity is consistently listed as one of the top tier priorities for electric utility operations. Nearly a quarter of respondents (24%) noted that enhancing cybersecurity and physical security were the most important issues to their organization.²⁰ High profile events in 2021 like the February cyberattack on a water utility in Florida, the widespread hack of U.S. government agencies and companies using the SolarWinds software, and the disruption of service for Colonial Pipeline have emphasized the dire need to enhance the utility sector's cybersecurity practices. This need is particularly heightened in an increasingly digital world.

Evidence suggests that cyber crime is on the rise, and an increasingly remote workforce will create additional vectors by which organizations can be attacked. Given the increasing nature of digital and remote work from home policies, state commissions should continue to enhance and practice vigilant cybersecurity practices. The increased access of sensitive information from personal devices as well as improper use of work devices could potentially expose many organizations to cyber attack. State commissions and state governments need to be extremely vigilant in their continued prioritization of cybersecurity and assessment of potential threats. Cybersecurity protocols should be updated to reflect the realities for a remote workforce in an increased cyber threat environment. Cybersecurity training should be mandatory, if it is not already, particularly for employees working remotely. State PUCs can and should utilize resources like NARUC's [Cybersecurity Manual](#) to evaluate their own internal cybersecurity preparedness and develop a comprehensive cybersecurity strategy.²¹

Enhanced Worker Protection and Industry Guidelines

Utility industry associations have developed robust criteria and suggested guidelines to enhance worker protections while the utility sector continues to manage the COVID-19 crisis. Significant efforts to enhance workplace cleaning and sanitation procedures, encourage appropriate distancing in the workplace, and issue guidance to member utilities on best practices for mitigating the pandemic's impact on business operations have been implemented in all utilities. The sector coordinating councils and related industry associations maintain important repositories of information for navigating the response to COVID-19, including best practices for addressing ongoing health and safety concerns for utility operations.

For example, the ESCC has continually updated its COVID-19 Resource Guide since the start of the pandemic in early 2020.²² This document informs the electric power industry regarding best practices so that leadership can make localized decisions about operational status while protecting the health and safety of employees. The [resource guide](#) details explicit recommendations for:

- Protecting workers with additional sanitation and cleaning measures,
- Implementing sequestering tactics for workforce and other facility management considerations,
- In-home inspection practices,

- Contact tracing protocols, and
- Management scenarios for levels of potential exposure risks.²³

Similarly, the ONG SCC issued recommendations and business practice [guidelines](#) for the pandemic.²⁴ Additionally, the American Public Gas Association published an array of [COVID-19 resources](#) that advise members on consistent and safe practices for interacting with customers and information sharing entities.²⁵ These resources list appropriate precautions regarding:

- Pandemic mitigation strategies for workforce tasks and responsibilities,
- Enhanced guidelines for additional sanitation and cleaning measures,
- Operational considerations with COVID-19 precautions in place,
- Contact tracing protocols, and
- Information sharing practices.²⁶

The NAWC maintains a [directory](#) of COVID-19 response resources for its member water utilities. Similarly, the American Water Works Association promotes materials on a variety of policies that impact water utilities and companies, including water stagnation from unoccupied buildings,²⁷ customer communication advisories,²⁸ and interim guidance regarding water sanitation and hygiene in the COVID-19 environment.²⁹ Water sector industry associations and national groups continue to develop new recommendations on practices associated with mitigating the effects of COVID-19 in a way that prioritizes its workforce and maintains safe and accessible drinking water.

The CSCC recently released an updated [guidance](#) detailing safety precautions for a return to work. The guidance contains recommendations on COVID-19 testing, implementing safe return to work policies, vaccination incentives and requirements, and other precautionary measures to safely reopen telecommunication utilities. This guidance also references key recommendations and guidelines issued by federal agencies, like OSHA, CDC, and FEMA, and the telecommunications sector.³⁰

Many of these resources and recommendations were developed in the early days of the pandemic and during crisis. Maintaining an information sharing nexus for these types of resources would be of great benefit to NARUC membership, regulated utilities, consumer advocates, and the public in ensuring we are all better prepared for future public health crises. Further, these recommendations and pandemic mitigation strategies should be adapted to suit other forms of infectious diseases beyond COVID-19.

The unique circumstances surrounding operations in pandemic conditions further complicated responses to concurrent emergencies. For example, utilities had to determine how best to restore service during natural disasters while still safely protecting their workforce from potential exposure risks to the virus. Utilities and RTOs were left to develop policies and procedures, in accordance with guidelines issued by public agencies, that maximized innovative grid control technologies and organizational capacities changes to effectively respond to two crises at the same time.³¹ Broad information sharing throughout the industry allowed for utility companies to design specific procedures based on best practices available that fit their individual company needs.³²

Essential Worker Status and Prioritization of PPE, Testing, and Vaccinations

One of the critical issues at the onset of the pandemic was classification of industries and workers as “essential,” ensuring such workers’ access to PPE and cleaning materials. Initial shortages led the federal government and many states to create tiered systems of worker status for prioritization and distribution of PPE, testing, and ultimately vaccine distribution. The CDC provided guidance advising that utility workers use proper PPE especially once utilities resumed revised business operations, including recommending an on-site workplace coordinator responsible for COVID-19 assessment and control, flexible sick leave policies, and extensive [guidelines](#) on PPE in the context of a hierarchy of controls.³³ Industry associations like American Public Power

Association (APPA) proactively advocated for the prioritization of mission essential workers for both testing and distribution of PPE.³⁴

Some governors' offices, in coordination with their PUCs, issued orders that prioritized testing for critical infrastructure employees.³⁵ For example, guidelines from the Wisconsin Department of Health Services specifically delineated utility workers (including water, sewer, gas, electric, power generation, oil, and biofuel refining) as a priority population to be tested by public health laboratories, inclusive of more workers beyond the initial recommended classifications determined by the federal government.³⁶

The CDC issued guidance on how states might develop vaccine distribution plans, and most states opted to follow their recommended tiered approach to vaccine distribution.³⁷ These tiers included the prioritization of older, at-risk individuals, health care workers, and other essential workers.³⁸ DOE urged the governors of all states and U.S. territories to "prioritize critical infrastructure mission-essential workers for early COVID-19 vaccination."³⁹ For the most part, utility workers were designated as essential workers and were higher on the priority chart based on the interpersonal nature of their work, potential to work in close proximity with customers and other workers, and societal reliance on critical infrastructure. Many states have determined that utility sector workers should be designated as essential and given some priority on the tier list. This is particularly relevant now as the CDC contemplates COVID-19 vaccine booster shots. States will consider whether the same tiered essential worker criteria will apply to boosters.

The CDC also has worked to develop guidance and toolkits on vaccination status, return to work, and best practices for vaccine distribution. The toolkit encourages employers to consider how they can safely return to in-office work and to build confidence in the efficacy of the vaccines.⁴⁰ It is important to note that the disease continues to spread unabated in unvaccinated populations and the rise of new variants, such as the Delta variant, jeopardize a safe return to in-person business operations, including at state commissions and in the utilities sectors. Adhering to recommended best practices from public health institutions and utility sector coordinating councils represents the most effective way to continue providing reliable and essential utility services.

NARUC members, regulated utilities, and federal partners must carefully consider lessons learned from the early pandemic response concerning the importance of clear guidance on the designation of essential worker status. State PUCs will need to work closely with their governors' offices to provide recommendations on essential worker designation. Such status allowed utilities to ensure the safety of workers staffing electric utility control centers, communications centers, and water treatment facilities, and allowed gas safety personnel to ensure the safety of gas pipelines, and communications workers to keep the system operating.

Template letters prepared by Edison Electric Institute and APPA for utilities to request higher prioritization for their essential workers for PPE, testing, and vaccination are good examples of how we can be better prepared in the future.⁴¹ State commissions can encourage their regulated utilities to maintain these types of advocacy template letters and develop their own definitions of essential workers and prioritization to forestall future uncertainty around essential worker classifications and resumption of essential business activity in the event of a future pandemic.

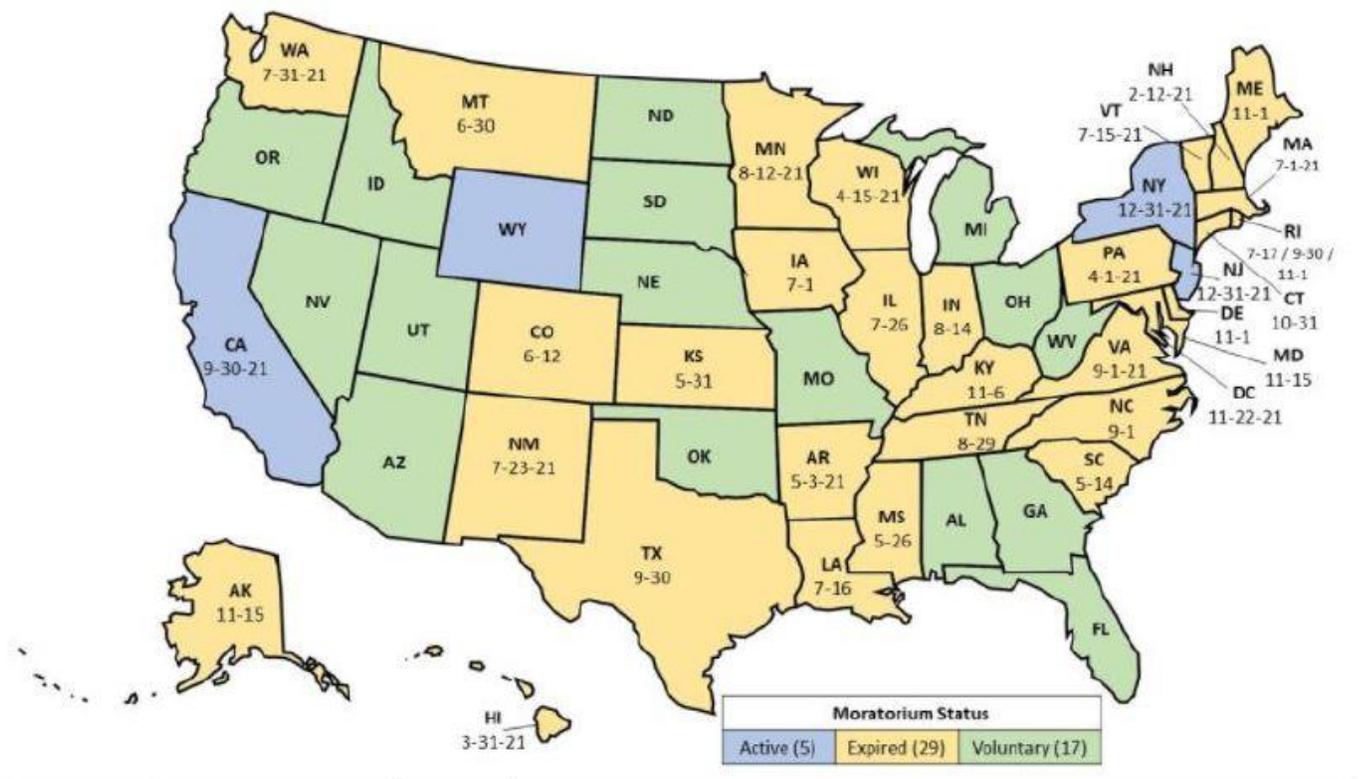
IV. Assessing Public Sector Responses

Disconnection Moratoria Policies

Beginning in March of 2020, the vast majority of states opted for some form of moratorium on disconnection of utility services for residential customers for nonpayment. This included the spectrum of regulated utility services, including electricity, gas, water, and communications. Since that time, NARUC and the National Regulatory Research Institute (NRRRI) have tracked disconnection moratoria policies across the 50 states and the District of Columbia (see Appendix II).⁴² The implementation of those disconnection moratoria varied—enacted through executive order issued by the governor or state legislators. State PUCs, acting on executive or legislative authority, were responsible for enacting and enforcing those disconnection moratoria. Most moratoria applied to regulated IOUs. In 17 states, utilities voluntarily agreed not to disconnect customers, with varying degrees of compliance or enforcement.⁴³ A complete listing of the legal authority for state moratoria is shown in *Figure 1*.

Data gathered by the Regulatory Research Authorities, a group within S&P Global Market Intelligence, found that as of August 1, 2021, utility shutoff moratoriums had expired for all customers in 42 of the 53 state-level jurisdictions; moratoriums had expired for all but select customers in five additional jurisdictions, and in the remaining six jurisdictions, the bans remain in place for all customers, with expiration dates extending from August 2 to December 31 (Minnesota’s moratorium expired August 2, 2021).⁴⁴ NRRRI’s tracker of disconnection moratoria as of September 9, 2021, notes that only five states have current disconnection moratoria in place.

Figure 1. Map of Disconnection Moratoria Status by State⁴⁵
(as of September 9, 2021)



In addition to moratoria on disconnections due to the ongoing COVID-19 pandemic, in 40 states the standard temporary winter moratoria were in effect.⁴⁶ These policies differ in their scope—some are implemented when the temperature reaches a certain threshold, and others are in effect during a range of winter months regardless of temperature.

Differences in repayment arrangements and criteria for disconnection for nonpayment vary by state.⁴⁷ Some moratoria only apply to certain utility sectors, such as electricity or natural gas utilities. Other state policies require customers to arrange a payment plan in advance with the utility to avoid disconnection. The lack of uniformity among initial state public policy responses to the pandemic, differing requirements on subsequent data reporting, and the ongoing and varying nature of the public health and economic crises related to COVID-19 make a comprehensive assessment of pandemic-related disconnection policies difficult to discern.

Additionally, voluntary agreements concerning disconnection moratoria differ state by state and often cover only certain customer classes. Notably, all member utilities of the Edison Electric Institute,⁴⁸ 800 telecommunication utilities that signed on to the Federal Communications Commission’s “Keep Americans Connected Pledge,”⁴⁹ and American Gas Association⁵⁰ members agreed to a voluntary suspension of shutoffs at the pandemic’s onset in early 2020. Utilities not covered under voluntary agreements or state orders potentially present additional variation in the extent of legal protections for customers unable to pay utility bills, particularly as many of these protections expire.

Certain states adopted comprehensive and enforceable guidance regarding the extent of disconnection moratoria. For example, Delaware,⁵¹ Virginia,⁵² Mississippi,⁵³ and Maryland⁵⁴ each issued guidance that expanded the applicability of their states’ disconnection moratoria to include utility cooperatives and publicly owned utilities.

The moratoria also have different time frames ranging from definitive end dates to tentative end dates, while other moratoria time frames will last until the governor declares the end of a state of emergency. In May of 2020, the Congressional Research Service estimated that 88% of residential customers were covered by some form of disconnection moratoria.⁵⁵ That number has since dramatically decreased as moratoria have expired, and many utilities have resumed collecting outstanding debts.⁵⁶

The long-term financial impacts and public health effectiveness of utility disconnect moratorium policies continue to be evaluated. The utility industry, states, and researchers are only beginning to fully assess the scope of the impact of the COVID-19 pandemic on the financial health of utilities and their customers. The financial impact to customers and responses to that crisis, in particular for vulnerable, low- to moderate-income and financially constrained customers, as well as efforts to address the financial impact on the utility sector, are discussed further in the following.

Due to the lack of a uniform approach to moratoria and differing local, state, and federal reporting requirements, it is difficult to determine the exact effectiveness of the policies and the full extent of the financial impact on customers and utilities.

Initial Assessment of Disconnection Moratoria Policies

There is a growing consensus among state PUCs, the private utility sector, and key advocates that the blanket moratoria policies enacted early on in the pandemic response could have been more strategically implemented. Moratoria policies could be more exclusive to low- and moderate-income customers with caveats that customers in arrears need to work with their utility on repayment plans to qualify. Customers and utilities alike were unprepared for the massive arrearage burden stemming from blanket moratoria policies prohibiting disconnections. As a result, there are many billions of dollars in unpaid bills across the country. Exact estimates differ, but research suggests that it is well over \$40 billion.⁵⁷ State PUCs and utilities report that communications to vulnerable customer classes could have been more explicit and greater efforts at outreach

to these customers to encourage participation in payment plans may have alleviated the worst of the bad debt crisis. Many state PUCs required their regulated utilities to report on the number of disconnections and customer arrearages in their emergency declarations.⁵⁸ The frequency of reporting differs by state. California utilities are required to report residential arrearages monthly and during the state of emergency from COVID-19 provide weekly reports on electricity and gas consumption.⁵⁹ Many states are beginning to require these types of data collection reports, so there exists a good amount of data on the magnitude of existing bad debt. However, this data is not collected or reported in consistent ways, which prevents effective analysis of the issue. State PUCs should be encouraged to require this basic data gathering on customer arrearages stemming from the COVID-19 pandemic to encourage further analysis of the root causes and develop solutions to these issues.

Some state PUCs have orders requiring regulated utilities to begin collecting data on customers specific to hardships resulting from the COVID-19 pandemic.

Utilities have multiple avenues of communication with their customers, in particular vulnerable classes of customers. Traditionally, there were physical locations, either walk-in centers for state public advocates or utility assistance offices, that vulnerable customers could utilize. At the outset of the pandemic, many walk-in options were shuttered to limit exposure risk. Utilities and state PUCs report that many customers that were previously able to make utility bill payments are now at risk of falling behind on their bills as a result of the economic fallout from the dual public health and economic crises. States reported the need for coordinated messaging between state governments and utilities, not only to unify messages about bill assistance and payment programs, but also to identify additional methods for emergency communications, including electronic mailing notices, routine mailers, and other potential outlets of disseminating information.

The Vermont Public Utility Commission reported a unique approach where the initial disconnection moratoria enacted by Governor Phil Scott's executive order ended in October 2020.⁶⁰ Vulnerable customers were encouraged to participate and apply for back pay funding from Vermont's COVID-19 Arrearage Assistance program and negotiate a payment plan with the utility. This encouraged customers to get on a payment plan and reduce the bad debt burden early. Vermont then reinstated its winter moratoria in late December and extended the order through May 2021. The initial effort at reconnecting customers to payment plans helped additional customers pay their bills and reduce the overall bad debt burden on utilities.

An effective first step at monitoring ongoing financial constraints caused by the COVID-19 crisis and disconnection moratoria policies is to track data related to customer disconnections and reported hardship with repaying outstanding utility bills. The Michigan Public Service Commission approved docket U-20757, which required IOUs to file monthly reports with the commission detailing data on disconnected services to occupied and unoccupied residences and on arrearages.⁶¹ The database provides a regularly accessible means to track disconnection data and monitor customer hardship. Many other states, including Washington, have adopted similar types of requirements stemming from the COVID-19 crisis. Using this data as a basis to understand exactly who is impacted by ongoing financial hardship and how state policies and outreach programs can be proactively targeted is useful to address pandemic-related economic distress.

State PUCs should continue to monitor arrearage load in their respective states and pioneer creative solutions with consumer advocates, traditional assistance organizations, and other community-based organizations to reconnect customers to payment plans or public assistance to address ongoing arrearages.

Further, energy insecurity and related economic indicators of financial hardship have substantially increased among the most vulnerable classes of customers. The pandemic's worst effects were disproportionately borne by lower-income and vulnerable customers. This is true from both a public health and economic standpoint. Customers will continue to struggle with outstanding utility bill debts while the economy recovers. State PUCs and utilities should work collaboratively and creatively to encourage customers to enroll in repayment plans, seek out applicable state and federal assistance, and improve outreach strategies to connect vulnerable

customer classes to these resources. Already many states are engaged in innovative strategies to accomplish these recommendations.

As the nation moves out of the crisis management phase of the pandemic into a relative return to normal life at school, work, and businesses, there will need to be continuing research into the long-term impacts from the COVID-19 pandemic, including the use of disconnection moratoria, and the effectiveness of traditional utility bill assistance programs. Additionally, many of these initial responses are being revisited as new COVID-19 variants emerge that necessitate a return to stricter social distancing practices and delay the return to in-person work. New information is produced every day, and states will continue to grapple with the profound economic and societal challenges stemming from the past year and a half. State PUCs and the utility sector should continue to closely monitor these developments and adjust their policies and decisions accordingly to the latest research.

V. Preliminary Analysis of Financial Impacts to Utilities and Consumers from the COVID-19 Crisis

The full extent of the financial impacts resulting from the pandemic is still being analyzed, and it is difficult to definitively predict the long-term financial effects of COVID-19. Initial assessments conclude that residential base load trends have shifted slightly, potentially somewhat permanently, as more employees work from home and use electricity during traditional off-peak hours. This will change price calculations in the foreseeable future as demand for utility services shifts. To address the financial impacts on utilities, the regulatory response thus far has been to defer COVID-19-related costs to future rate cases. This is a short-term solution that mitigates the effect on rate payers now but will need to be addressed in the future. Utilities and state PUCs will need to work creatively and carefully to incorporate these considerations in a way that doesn't overly burden rate payers in future years.

Changes in Grid Economics

Shifts in demand rates of this magnitude, if they persist, may undoubtedly alter PUC rate design calculus for years to come. Policies currently under consideration at the state level, such as time-of-use rates and demand response may need to be reevaluated under new load shape and peak-load levels.

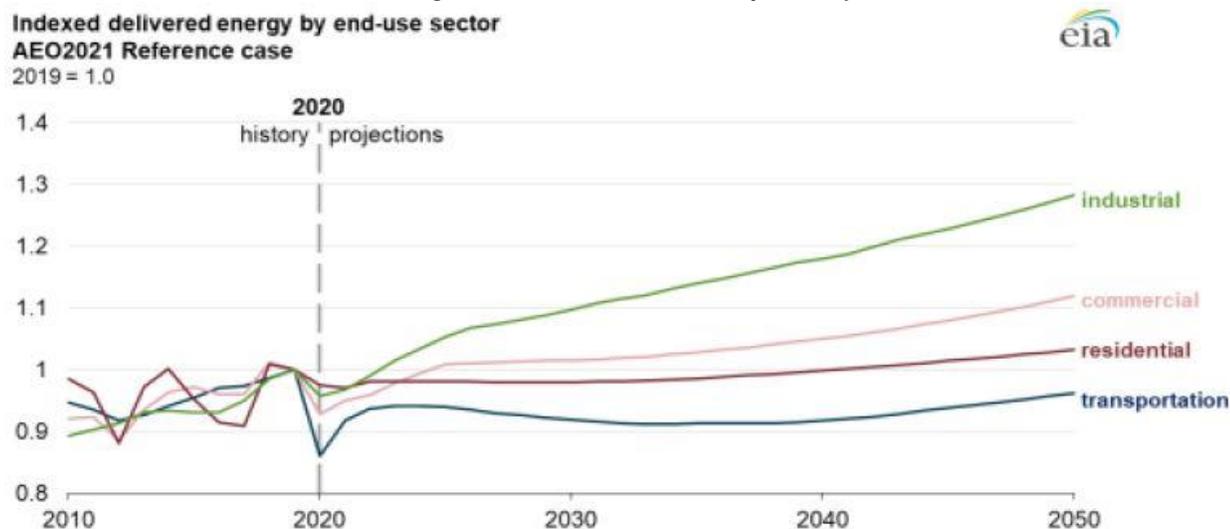
Electricity Sector

Initial assessments of the pandemic's economic aftershocks indicate a significant shift in the way energy resources are consumed. In the early days of the pandemic, data from the U.S. Energy Information Administration (EIA) suggest that residential consumption of electricity rose by 10% on average during the second quarter of 2020, while commercial and industrial usage fell by 12% and 14%, respectively.⁶² This represents nearly \$6 billion spent on excess electricity for residential customers from April to July 2020.⁶³ Compared with the financial crisis of 2008 and subsequent economic downturn, the COVID-19 related downturn in the total demand for delivered energy is 70% larger. Energy demand in 2020 was 90% of the end-use demand in 2019.⁶⁴ The demand shocks and resulting economic downturn in early 2020 from the pandemic created widespread financial hardship for consumers across customer type. The EIA estimates that electricity demand will not return to 2019 levels until 2022.⁶⁵

The increase in residential electricity consumption appears to be largely driven by an increase in remote work, and a workforce that is staying home, rather than an increase in unemployment. Roughly one-third of the American workforce has been working from home throughout the pandemic.⁶⁶ While it is true that unemployment increases are associated with decreased demand from commercial energy consumption, an increase in residential consumption is not a general feature of economic downturn.⁶⁷ This makes the economic crisis stemming from the COVID-19 pandemic a relatively unique demand shock that is noteworthy. Most end-use consumption decreased substantially in 2020 except for residential use, which only experienced a minor downturn and for the most part remained flat (see *Figure 2*).

Relatedly, large office spaces located in metropolitan downtowns remain largely unoccupied as telework policies persist. The long-term effects on commercial load remain unknown. Behavioral changes that are currently driving shifts in consumption may characterize future energy load usage. For example, early survey results from Ontario, Canada, suggest that utilities that serve more commercial and industrial customers may notice increased revenue shortfalls if short-term demand trends continue, and employers maintain a higher degree of telework.⁶⁸

Figure 2. End-Use Consumption by Sector



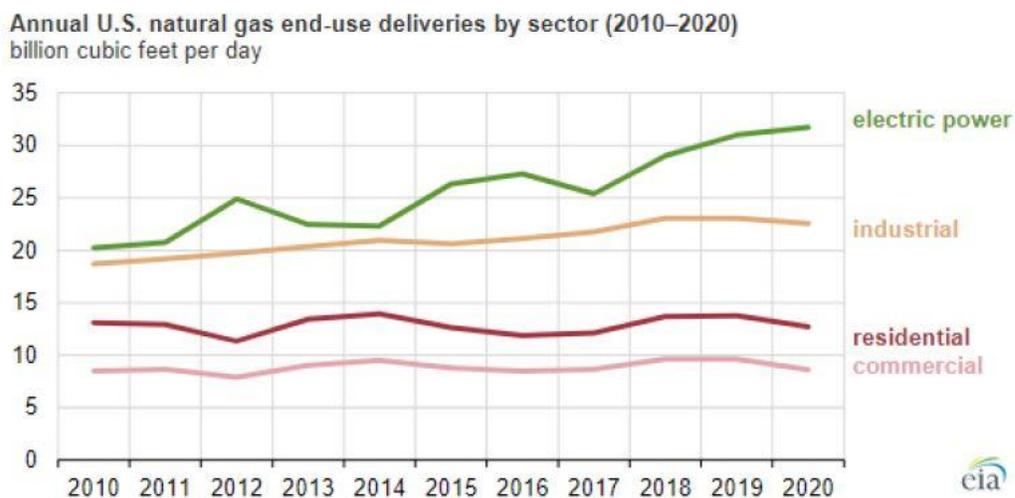
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2021 (AEO2021)* Reference case

The forecast for demand and energy usage seems to be improving. Whether the COVID-19 pandemic created a permanent shift in demand and electricity usage is unclear. Certainly, a larger percentage of the workforce will remain remote, and correspondingly, residential energy usage during traditional off-peak hours will remain high compared to historical averages. Many organizations are returning to their commercial office buildings in some capacity, which suggests downtown commercial centers and commercial load may return to a somewhat normal usage cycle. EIA predicts retail sales of electricity to the commercial sector also will grow in 2021 but will at a slightly slower pace of 2.2% than normal because some workers will continue working from home.⁶⁹

Natural Gas Sector

The natural gas sector in early 2020 experienced dual demand constraints due to a warmer-than-normal winter, along with COVID-19-related demand reductions. As a result, natural gas consumption in the residential, commercial, and industrial sectors decreased in 2020 (see *Figure 3*). Commercial sector declines were the most pronounced.⁷⁰ Notably, end-use consumption in electricity generation increased by 2%, partially offsetting the decline in demand from other end users.

Figure 3. Annual Natural Gas End Use by Sector (2010-2020)



Source: U.S. Energy Information Administration, *Natural Gas Monthly*. Note: This graph does not include end-use deliveries of natural gas for vehicle fuel because they represent only a fraction of 1% of total end-use deliveries.

Natural gas production continued to outpace demand— “EIA projects natural gas prices to increase by more than one-half in 2021 as the natural gas share of the generation mix returns to pre-COVID-19 levels and maintains that share through 2050.”⁷¹ Despite the reductions in demand, the natural gas sector weathered the economic impacts of the COVID-19 crisis better than most other regulated utility industries. This is largely a reflection of the resilient and inelastic nature of natural gas as a commodity, robust domestic production, and lower prices for natural gas.⁷²

Water Sector

Total water usage during the pandemic started off with a similar decline in March and April 2020. Many utilities experienced single digit reductions in water consumption compared to the 3-year average for those months.⁷³ Water utilities reported a relatively quick return to pre-pandemic residential usage even while nonresidential use continues to recover at a slower rate.⁷⁴ This is likely due to increased home usage while consumers followed state-level stay-at-home orders.

An assessment conducted by AWWA and the Association of Metropolitan Water Agencies (AMWA) indicates that the “aggregate financial impact of COVID-19 on drinking water utilities will likely be \$13.9 billion” in loss of sales revenue.⁷⁵ While the report focuses on drinking water utilities, the researchers also reveal that the monetary effect of the crisis on the wastewater sector may total \$12.5 billion, as estimated by the National Association of Clean Water Agencies. Combined, the economic setback to the water sector due to COVID-19 is estimated to exceed \$27 billion.⁷⁶

Financial Impacts to Utilities

The initial response to the COVID-19 pandemic—shifting to remote work, the need to protect the health and safety of utility workers, and moratoria on service disconnections, created several additional expenses for the utility sector. In the electricity sector, overall declines in electricity demand and the general economic malaise resulting from COVID-19 caused a decrease in revenue. Further, major electric utilities report an increase in unrecoverable or “bad” debt and reduced customer ability to repay outstanding bills.⁷⁷ Among electric cooperatives, the pandemic is expected to cost \$10 billion in load loss and unpaid bills through 2022.⁷⁸ As noted above, the combined wastewater and water sector estimates that the costs of the COVID-19 pandemic will exceed \$27 billion.⁷⁹

The debt utility customers owe and utilities face, due to declining demand and outstanding bills may exceed a staggering \$40 billion.⁸⁰ With many states reopening, state regulators will be tasked with determining strategies for whether and how utilities may recover this customer debt. As discussed further below, state regulators will rely heavily on the availability of existing government assistance programs and other strategies to address this amount of debt.

Several state legislatures enacted passed legislation that established “relief” programs for utility customers impacted by the pandemic and/or allocating federal funds to utility arrearage abatement. For example, Maryland Senate Bill 496 or “[RELIEF Act](#),” enacted on February 15, allocated a total of \$83 million to the Maryland Public Service Commission and directed the commission to distribute the allocations as grants to utility companies to assist certain households with reducing utility arrearages.⁸¹

The economic uncertainty and amount of outstanding debt creates financial uncertainty in the utility sector. These concerns will impact state PUC decision making regarding deferred payments, financial support, and delayed capital expenditures among other considerations.⁸² Strategies to mitigate the financial strain on utilities and customers must be prioritized at the PUC level. Going forward, exceptional levels of cooperation between state PUCs, regulated utilities, consumer advocates, and other key stakeholders will be essential to appropriately address the scale of this financial crisis on utilities and consumers.

Rate Recovery Considerations from COVID-19 Emergency Orders

Another key takeaway for state PUCs relates to the ongoing economic shifts resulting from the COVID-19 pandemic. Grid load, particularly for residential customers, has shifted dramatically with an increase in usage during regular working hours as many workers continue to work from home. It is unclear whether this is a permanent shift in grid demand. If this shift represents a long-term effect from the COVID-19 pandemic, state PUCs will have to carefully consider how they implement a variety of disparate policy topics and rate design tools.

Rate design considerations like time-of-use rates or location-based pricing are intended to provide incentives for customers to use electricity during off-peak hours or where grid demand is lessened. If grid demand has substantially changed such that customers cannot avoid peak hours, those benefits may no longer be accrued to both utilities and their customer base. Peak demand times may fluctuate at different points in the day based on increased residential usage during nontraditional peaking hours. More research is needed into the effects of this shift in load and demand structures. State PUCs will need to carefully assess and balance the needs of customers with utility financial sustainability in a world where cyclical peaking demand patterns may have significantly and permanently shifted.

In the first phase of the pandemic response, many IOUs requested deferred accounting treatment from state PUCs to ensure recovery of pandemic-related costs, including such costs as PPE, cleaning materials, medical testing, equipment to work from home, and bad debt. Thirty-eight states and Washington DC's commission issued orders requiring regulated utilities to track pandemic-related costs through deferred accounting and establishing regulatory assets.⁸³ Most state regulators declined to allow deferred accounting treatment for lost utility revenues but allowed such treatment for employee costs and bad debt. Some PUCs required utilities to also track any savings resulting from the pandemic for evaluation when the utility seeks recovery of costs. However, cost deferral is not a guarantee of recovery: state PUCs and utilities are just starting to grapple with the cost-recovery options in these extraordinary circumstances.

While there appears to be some emerging contention around the treatment of lost revenues in some jurisdictions, recovery of direct costs is standard. For example, the New Hampshire Public Utilities Commission, in the context of its ongoing investigation into the impacts of COVID-19 on utilities, initially denied requests by the state's utilities to establish a regulatory asset for incremental bad debt or waived late fees. Commission staff eventually revised their earlier position on incremental bad debt to allow New Hampshire's utilities to establish a regulatory asset for incremental bad debt.⁸⁴

Other jurisdictions have authorized alternative recovery mechanisms for certain companies. In Texas, the PUC authorized the utility to defer COVID-19-related costs but established a separate non-bypassable charge on utility rates to fund incremental bad debt for retail electric providers.⁸⁵ Other state regulators and policy makers have made statements that arrearages should be addressed on a customer-specific basis, allowing utilities to ultimately recover those deferred payments in rates (see *Table 1*).

Other states have allowed for COVID-19-related costs to continue to be deferred through 2021. The Wisconsin Public Service Commission, in a rate case for an IOU, approved continued deferral of COVID-19-related costs through 2021 to be recovered in a future rate case.⁸⁶ Other states continue to work closely with their regulated utilities to develop long-term repayment plans. For example, the Arkansas Public Service Commission ordered that it was too early to determine a specific cost recovery mechanism for COVID-19-related costs due to unknown total expenses. However, Arkansas utilities must record in a regulatory asset the incremental costs that may be deemed allowable at a future date.⁸⁷

Table 1. COVID-19 Cost Recovery Provisions for Utilities by State
COVID-19 cost recovery provisions for utilities

	Deferral ¹	Other treatment ³	Customer-specific plans	Pending	No mechanism specified
Alaska	Michigan	Georgia	Colorado	Arizona	Alabama
Arkansas	Minnesota	New Hampshire	New Hampshire ⁴	Kentucky	Maine
California	Mississippi	South Dakota	North Carolina ⁴	New Hampshire ⁴	Montana ⁵
Connecticut	Nebraska	Texas PUC ²	Ohio	New York	Vermont
Delaware	Nevada	Utah	Rhode Island ⁴	North Carolina ⁴	West Virginia
Dist. of Columbia	New Jersey			Rhode Island ⁴	
Florida	New Mexico			South Carolina	
Georgia	North Dakota			Tennessee	
Hawaii	Oklahoma				
Idaho	Oregon				
Illinois	Pennsylvania				
Indiana	South Dakota				
Iowa	Texas PUC ²				
Kansas	Texas-RRC				
Louisiana NOCC	Utah				
Louisiana PSC	Virginia				
Maryland	Washington				
Massachusetts	Wisconsin				
Missouri	Wyoming				
Michigan					

Data compiled as of Aug. 1, 2021
 NOCC= New Orleans City Council; PSC=Public Service Commission; PUC= Public Utilitie(s) Commission;
 RRC=Railroad Commission
¹ Deferral approved for at least one company or on a generic basis.
² Deferral of COVID-19 costs was approved for vertically integrated utilities and delivery-only utilities; the PUC established a COVID-19 specific funding mechanism to address bad debt for competitive retail electric providers.
³ COVID-19 costs are to be addressed through a decoupling or other adjustment mechanism for at least one utility.
⁴ Governor/commission directive initially called for customer repayment. An investigation has since been opened that could lead to other cost recovery options.
⁵ One company-specific request for deferral was rejected and another was withdrawn.

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence.

In the realm of multiyear rate plans, the Maryland Public Service Commission recently approved a 3-year rate plan for one of its regulated IOUs under which “the company is to accelerate the amortization of tax-reform-related regulatory liabilities in order to offset the rate increase that otherwise would have been approved for 2021.”⁸⁸ The company was also authorized to recover lost revenues for late payment fees and service application/reconnection fees over 5 years, but the amortized balance will be excluded from the rate base.

Maryland also approved a second multiyear rate case for affiliate Potomac Electric Power Co., allowing the company to recover COVID-19-deferred balances over a 5-year period, with no return on unamortized balances associated with lost revenues.⁸⁹

These are just a few examples of how states are tackling this important issue and are not meant to be comprehensive. Key regulatory considerations and practices for rate recovery will continue to be developed. This represents a significant area for ongoing discussion and analysis.

Pronounced Impact on Vulnerable Populations

The dual public health and economic crises have dramatically increased the prevalence of household hardship. As disconnection moratoria expire and utilities begin to collect on outstanding debt, they may be faced with an increasing number of customers unable to pay these bills. There are dramatic implications for cost-recovery policies, state and federal assistance programs for lower-income rate payers, and regulatory policy.

Energy insecurity, the inability of a household to meet its basic energy needs, was a pervasive problem prior to the pandemic and has been exacerbated by current economic conditions. A recent survey from the O’Neill School of Public and Environmental Affairs at Indiana University of households at or below 200% of the federal poverty line (FPL) found that 13% could not pay an energy bill during the prior month, and 9% had received a shutoff notice.⁹⁰ According to recent research, “energy insecurity is highly prevalent among low-income American households, especially among households that identify as Black and Hispanic. We found that those who require use of an electronic medical device and live in poor or less-efficient housing conditions experience higher rates of energy insecurity. The COVID-19 pandemic has thus far deepened the prevalence of energy insecurity among low-income households.”⁹¹

A quantitative analysis of energy insecurity across the United States between April/May 2019 and April/May 2020, which coincides with the onset of the COVID-19 pandemic, offers a glimpse into how the public health emergency affected the ability of low-income populations to meet their basic energy needs. A nationally representative survey of 2,381 adults with household incomes at or below 200% of the FPL revealed that “25% of low-income households could not afford to pay an energy bill (between 2019 and 2020), and nearly 13% could not afford their bill in the last month (April/May 2020).”⁹² Additionally, 25% of respondents received a disconnection notice during the surveyed years, and 10% had their service disconnected. At the onset of the COVID-19 pandemic in April/May 2020, 9% of respondents received a disconnection notice, and 4% were disconnected from energy service.

Using the 2020 survey data in tandem with the 2018 American Community Survey, researchers estimate that between 2019 and 2020, “approximately 4.7 million households (24.3 million individuals) could not pay an energy bill, and just over 50%—2.4 million households (12.5 million individuals)—indicated that at least one of the bills they could not pay was in the past month (April/May 2020).” Furthermore, the researchers reveal that “the proportion of [low-income] households that were disconnected from the grid after they received a notice rose to about 48% during the COVID-19 pandemic,” increasing from 41% over the 2019–2020 year.⁹³

Disproportionate Effects on Historically Disadvantaged Communities

It is well documented that the effects of the COVID-19 pandemic are unequally distributed across racial, tribal, income, and geographic boundaries. Black and Hispanic communities are disproportionately impacted by coronavirus infections, hospitalizations, and mortality.⁹⁴ Additionally, communities of color face heightened financial risks associated with the pandemic.⁹⁵ Energy burden is 64% greater among African Americans, and 24% greater among Latinx households than that of white households.⁹⁶ During the 2020 summer—the second-hottest summer on record—20% of African American households and nearly 33% of Hispanic households reported they could not afford their energy bills, compared to 12% of white respondents.⁹⁷

Additionally, the pandemic’s disproportionate impact in tribal communities has exacerbated existing energy insecurity problems. During June 2020, the Navajo Nation had the highest rates of COVID-19 new cases in the country. The pandemic’s effects only heightened existing economic insecurities within tribal communities. For example, of the nearly 55,000 homes in the Navajo Nation, over 15,000 do not have electricity, representing 75% of all unelectrified housing in the United States.⁹⁸ Additionally, tribal nations experience higher rates of energy insecurity and disproportionately high electricity rates.⁹⁹ The COVID-19 crisis has continued to impact these communities unduly.

The researchers also evidenced that the “COVID-19 pandemic appears to have increased racial disparities.”¹⁰⁰ The quantitative analysis revealed that “Hispanic respondents were 2.4 times more likely than white respondents to be disconnected from the grid in the past 12 months (2019–2020), but 4.7 times more likely to be disconnected during the early period of the COVID-19 pandemic (April/May 2020).”¹⁰¹ Many state commissions are tasked with considering these types of disproportionate effects and have encouraged utility outreach to vulnerable classes of customers.

Outreach Efforts to Connect Vulnerable Populations to State and Federal Assistance

These discrepancies along subsets of the general population will continue to affect the state and federal response to the COVID-19 pandemic. Considerable effort into enhancing the LIHEAP, percentage of income payment plans (PIPP), and other state and federal support programs is ongoing. Most of the energy assistance programs come from federal grants through LIHEAP and energy efficiency programs like DOE's Weatherization Assistance Program. NARUC is currently developing a Federal Funding Opportunities Manual through the Emergency Preparedness, Recovery, and Resiliency Task Force (EPRR Task Force) that will consolidate available federal funding programs for pre- and post-disaster recovery and other resilience-based funding programs.

It is worth noting that there is no permanent federal equivalent program similar to LIHEAP for water utility payments. However, the Consolidated Appropriations Act, 2021 signed into law on December 27, 2020, included \$638 million in funding to assist low-income households, particularly those with the lowest incomes by providing funds to owners or operators of public water systems or treatment works to reduce arrearages of and rates charged to such households for such services. Similarly, the American Rescue Plan Act of 2021 included another \$500 million for the similar purpose on a temporary basis through the Low-Income Household Water Assistance Program (LIHWAP).

Several state PUCs, working with utilities and consumer advocates, have developed additional utility-sponsored customer assistance programs, arrearage management plans, PIPPs, and other creative solutions, including debt forgiveness, to manage the significant customer utility debt. Certain states like Illinois ceased disconnection for rate payers participating in LIHEAP and PIPP.¹⁰²

To implement these assistance and arrearage management programs, state PUCs are also focusing on communication plans to reach customers with significant arrearages. These plans include direct and media outreach in multiple languages and partnerships with community-based organizations that have not traditionally engaged on utility bill assistance efforts. While many customers with significant COVID-19-related debt have received assistance in the past, there are a great many customers that have never sought assistance and are not aware of the availability of such funds or the process to apply.

An Initiative for Energy Justice report identifies unique state responses to the heightened energy insecurity associated with the COVID-19 pandemic. For example, the Massachusetts Department of Public Utilities "prohibit[ed] regulated companies from sending communications that threaten to shut off gas, electric, or water service to any of their customers for failure to pay a bill or any portion of a bill."¹⁰³ The department also updated their Arrearage Management Program (AMP), finding it an effective strategy to "alleviate customer hardship as a result of COVID-19." This statewide effort involved waiving late fees for AMP customers, increasing the total arrearage amount eligible for debt forgiveness, and extending the repayment period. The report also examined the California Public Utilities Commission for establishing its first statewide AMP framework for investor-owned utilities in June 2020. The California initiative is designed to reduce the statewide disconnection rate by automatically enrolling low-income customers with more than \$500 in arrears and providing total debt-forgiveness after twelve on-time payments. In Missouri, the Public Service Commission allocated \$3.5 million to Ameren Missouri for low-income bill assistance, and in New York, the Public Service Commission approved \$70.56 million in emergency relief funding to support the bolstering of Con Edison's low-income bill discount program.

Recommendations to Support Customers in Crisis

NARUC recommends state PUCs review the recent Critical Consumer Issues Forum (CCIF) report, "Supporting Electricity Customers Through Times of Crisis." The CCIF report recommends that state PUCs, consumer advocates, and electric companies should:

- acknowledge the need for proactive communication and assistance to residential and small business electricity customers that preceded and may continue long after the economic crisis stemming from the COVID-19 pandemic;
- engage with customers in need and with key organizations, working specifically to engage vulnerable, underserved, and marginalized populations; and
- adopt and maintain proactive, state-tailored approaches, such as customer-centric energy assistance, seamless enrollment, payment flexibility, smart energy use, managed bills, accessible energy efficiency solutions, weatherization improvements, and reduced fees/penalties, to identify and to address the different needs and experiences of different classes and types of customers in current and future economic crises.¹⁰⁴

NARUC members and regulated public utilities should also collaborate on publicizing different forms of energy assistance and acceptable payment options for customers unable to pay their utility bills (see *Table 2*).

Additionally, the CCIF report notes that state PUCs should work in conjunction with electricity companies and consumer advocates to inform federal policy makers of the need to increase and simplify ease of access for the LIHEAP program.¹⁰⁵ Taking advantage of federal assistance where possible will positively reduce energy insecurity among vulnerable customers. State PUCs should encourage building these types of coordinated partnerships between state and federal agencies, electricity companies, consumers, and consumer advocates.

Table 2. Payment Options for Energy Assistance

<i>Forms of Energy Assistance</i>	<i>Payment Options</i>
<ul style="list-style-type: none"> • PIPPs (percentage of income payment plans) or other income-based payment plans • Fixed credit or discounted payment options • Arrearage forgiveness and/or management mechanisms • One-time crisis grants • New technologies that allow customers to better understand and control energy usage 	<ul style="list-style-type: none"> • Flat bill, fixed bill • Budget billing • Changed due dates • Pay as you go and/or pre-pay as standard offerings with certain consumer protections • Payment plan flexibility (e.g., allowing payment over longer timeframes in consultation with customers; allowing for customers to miss a certain number of payments without being kicked out of the plan) • Fee-free payment across all methods • Reduced or eliminated customer deposits

Source: Critical Consumer Issues Forum (CCIF) report, [“Supporting Electricity Customers Through Times of Crisis.”](#)

Policy responses to alleviate economic pressures on vulnerable and lower-income customers vary extensively by state. Some states are responding to the disparate impact of the pandemic by reviewing how their statutes and rules impact vulnerable customers, including disconnection policies and rules. Other states are working to assess the full impact of the pandemic by requiring extensive reporting from utilities, by zip code or other local designation, related to arrearage levels. Although the ongoing nature of the pandemic and public policy response will continue to complicate and confound a complete assessment of the impact on disadvantaged communities, targeted data collection will allow state PUCs, utilities, and communities to focus assistance to where it is most needed.

VI. Conclusion

The initial crisis management phase of the pandemic is behind us, but the longer-term implications for continued operations during pandemic conditions and broader financial impacts continue to impact state PUCs and their regulated utilities. The pandemic is far from over, and state governments, utilities, and the public continue to grapple with policy choices. Emerging COVID-19 variants threaten economic recovery, and vaccination efforts have leveled off from their initial surge. The intent of this report is not to definitively identify all applicable lessons learned but to begin an assessment of ongoing best practices to better prepare state PUCs for similar future events.

The relative success of early emergency management processes could be enhanced with more streamlined crisis communication plans and updated emergency plans that include pandemics. State PUCs and the utility industry will need to adapt to and embrace changing business practices that are employee-centric while still ensuring the same level of productivity and cybersecurity. The public sector will need to continually assess its ongoing response to the COVID-19 pandemic. State PUCs will need to transition to a more robust consideration of rate recovery as the response to the pandemic moves out of crisis activities, and disconnection moratoria across the country expire. The recommendations of this report may help state PUCs better identify best practices and incorporate some of these lessons learned into future emergency planning specific to pandemic response.

The impacts of the pandemic are still ongoing and still under review, and they will undoubtedly yield mixed analysis. State PUCs and the utility sector will need to continue to exercise flexibility in their responses. As new information becomes available, it will need to be incorporated into policy making, regulation, and decision making. NARUC will continue to provide a forum for ongoing regulator discussions of topical issues in the utility regulatory space. NARUC intends to continue to hold series of webinars that are designed to address critical policy issues related to the COVID-19 crisis in the coming year. These discussions will focus on ongoing impacts to vulnerable classes of customers and financial impacts to utilities. Additional topics on innovative regulatory solutions to these problems will also be featured.

APPENDIX I - Subcommittee on COVID-19 Roster

Subcommittee on COVID-19 Roster	
Name	Organization
Chair: Ann Rendahl	Washington Utilities and Transportation Commission
Vice-Chair: Dan Lauf	National Governors Association
Diane Burman	New York Public Service Commission
Ellen Nowak	Wisconsin Public Service Commission
Genevieve Shiroma	California Public Utilities Commission
Jay Griffin	Hawaii Public Utilities Commission
Drew Slater	National Association of State Utility Consumer Advocates
Ann Hoskins	Sunrun
Janet Gail Besser	Smart Electric Power Alliance
Rick Cimerman	NCTA - The Internet & Television Association
Cynthia Chaplin	Canadian Association of Members of Public Utility Tribunals
April Ballou	National Association of Water Companies
Brandi Martin	U.S. Department of Energy, Office of Cybersecurity, Energy Security, and Emergency Response

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Alabama	> Commission Statement (Mar 17)	N/A	> Coordination with utilities
Alaska	> SB 241 (Apr 9) > Docket 1-20-001 (Apr 15)	Nov 15, 2020	> SB 241 implemented disconnection moratorium of residential customers due to nonpayment; disallowed IOUs from charging late fees or interest for nonpayment for duration of emergency; required reconnection of customers disconnected on or after March 11, 2020, due to nonpayment; and required a minimum timeline for repayment of charges incurred during emergency. > Docket I-20-001 gathered utility information on actions to comply with Senate Bill 241. > Winter moratoriums would be in effect.
Arizona	> Docket No. AU-00000A-20-0050 (Mar 12) > Governor Electric Utility Relief Package (Mar 26)	N/A	> Coordination with utilities
Arkansas	> Docket No. 20-012-A (Jun 18) > Executive Order 20-45 (Aug 14) > Executive Order 20-48 (Oct 13) > Executive Order 20-51 (Dec 10) > Executive Order 20-53 (Dec 29) > Docket 20-012-A; Order 15 (Feb 8)	May 3, 2021	> On April 10, Arkansas Public Service Commission (PSC) ordered the suspension of disconnections due to nonpayment for all customer classes effective until either the governor ends the emergency declaration or the PSC amends this order. > PSC allowed IOUs to track COVID-19-related costs and lost revenue from the prohibition of disconnections; allowed parties to request rules for other considerations, such as reconnections. > On May 27, a second EO reaffirmed these suspensions until the end of the COVID-19 emergency and formalized the suspension on the collection of late fees for arrearages. > On June 18, EO 20-37 extended public health emergency until August 18. > On August 14, the governor signed EO 20-45, extending the public health emergency for 60 days. > On August 14, the governor signed EO 20-45, extending the public health emergency for 60 days.
(continued)			

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Arkansas (continued)		May 3, 2021	<ul style="list-style-type: none"> > On October 13, the governor signed EO 20-48, extending the public health emergency for 60 days. > On December 10, the governor issued EO 20-51, to renew the disaster and public health emergency to mitigate the spread and impact of COVID-19, active through the end of December. > On December 29, the governor issued EO 20-53, to renew the disaster and public health emergency to mitigate the spread and impact of COVID-19, active for 60 days. > PSC announced in Order No. 15 a target date of May 3, 2021, to lift the moratorium on disconnections pursuant to the conditions and requirements in Order No. 15 that utilities must meet before disconnections could resume. > On March 26, 2021, PSC issued an order either confirming the lifting of the moratorium on disconnections on May 3, 2021, or extending the moratorium.
California	<ul style="list-style-type: none"> > Emergency Resolution M-4842 (Apr 17) > CPUC COVID Response Page > Resolution M-4849 (Feb 11) > CPUC Press Release (Jun 24) 	Sep 30, 2021	<ul style="list-style-type: none"> > On April 17, California Public Utilities Commission (CPUC) issued an emergency resolution preventing disconnections for residential and small business customers until April 17, 2021. > On February 11, CPUC voted to extend the moratorium until June 30, 2021. > On February 24, CPUC suspended disconnections of residential and small business customers for an additional 3 months, through September 30, 2021.
Colorado (continued)	<ul style="list-style-type: none"> > Executive Order D 2020 031 (Mar 20) > Executive Order D 2020 098 (Jun 12) > Executive Order D 2020 132 (Jul 11) 	Jun 12, 2020	<ul style="list-style-type: none"> > Directed Colorado Public Utilities Commission (PUC) to work with public utilities to waive reconnection fees and suspend accrual of late payment fees for all residential customers and small business consumers; and to develop and provide payment assistance programs to aid impacted customers in the payment of utility bills.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Colorado (continued)	<ul style="list-style-type: none"> > Executive Order D 2020 157 (Aug 9) > Commission Notice (Aug 11) > Executive Order D 2020 181 (Sep 7) > Executive Order D 2020 211 (Oct 6) > Executive Order D 2020 239 (Nov 4) > Executive Order D 2021 030 (Jan 30) 	Jun 12, 2020	<ul style="list-style-type: none"> > On June 12, EO D 2020 098 allowed for expiration of moratorium on utility disconnections; directed PUC to report on the development of the payment assistance programs to Department of Regulatory Agencies and the Office of the Governor; worked with public utilities to provide guidance on prioritizing payment assistance; and collected and monitored relevant data from public utilities on the implementation of statewide measures undertaken in response to this EO, and on a weekly basis reported these efforts to the Office of the Governor and posted them on PUC’s website. > On July 11, EO D 2020 132 extended prior EOs by 30 days. > On August 9, EO D 2020 157 extended prior EOs by 30 days. > On August 11, PUC issued notice encouraging customers falling behind on utility bills to make payment arrangements or apply for assistance. > On September 7, EO D 2020 181 extended the waiver of reconnection fees and the suppression of late payment fees for residential and small business consumers. > On October 6, the governor extended EOs D 2020 098, D 2020 132, D 2020 157, and D 2020 181, providing relief to public utility customers affected by COVID-19 for 30 additional days. > On November 4, the governor extended EOs D 2020 098, D 2020 132, D 2020 157, D 2020 181, and D 2020 211, providing relief to public utility customers affected by COVID-19; the suspension of late fees on arrearages accruals and reconnections was in effect until December 4. > On January 30, the governor extended moratoria on accrual of late fees and reconnections fees for 30 days; expires March 1.
(continued)	<ul style="list-style-type: none"> > Docket No. 20-03-15 (May 28) > Docket 20-03-15 (Jul 21) 	Oct 31, 2020	<ul style="list-style-type: none"> > On March 12, the initial emergency moratorium on electric service disconnections was applied for all residential customers. > Connecticut Public Utilities Regulatory Authority (PURA) provided no instruction regarding late fees, reconnection, or repayment instructions for nonpaying customers. > Required PURA to review the moratorium every 30 days; IOUs were allowed to petition for exemption. > Council passed legislation codifying moratorium on disconnections.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Connecticut (continued)		Oct 31, 2020	<ul style="list-style-type: none"> > Moratorium for residential customers ended on October 1 for nonhardship customers, and on October 31 for financial hardship customers. > Customers could negotiate payment plans as long as 24 months catch-up on overdue bills. Utilities also had the option to waive interest and negotiate past-due balances.
Delaware	<ul style="list-style-type: none"> > Governor Declaration (Jul 6) > Governor Declaration (Jul 24) > Executive Order (Aug 5) > Executive Order (Sep 3) > State of Emergency - 27th Modification (Sep 3) 	Sep 3, 2020	<ul style="list-style-type: none"> > On March 24, the governor issued a sixth modification to the state of emergency declaration, prohibiting utilities from terminating service or charging late fees to residential customers. > On July 6, the governor extended the state of emergency for an additional 30 days. > Effective July 1 was a 4-month extension of payment plans for past-due accounts to qualifying customers. > On August 5, the governor extended the state of emergency for 30 days. > On September 3, the governor signed the 27th modification to the state of emergency declaration, lifting the moratorium.
District of Columbia (continued)	<ul style="list-style-type: none"> > Docket FC 1164 (Order No. 20358) (May 28) > Executive Order 2021-096 (Jul 24) 	+45 days after end of emergency (set to expire Oct 8, 2021)	<ul style="list-style-type: none"> > DC Council passed legislation codifying moratorium on disconnections. > Disconnections could not take place until 15 days after the emergency declaration by the mayor was lifted. > On May 19, DC Council passed additional legislation requiring electric companies to: (i) make payment plans available to eligible customers with a minimum term of 1 year, unless the customer requests a shorter term; (ii) waive any fee or penalty arising from the payment plan; (iii) not report to a credit agency that the customer's account is delinquent; and (iv) notify all customers of the payment plan's availability. > Public Service Commission of the District of Columbia (PSC) opened a docket to examine merits of the Office of the People's Counsel petition and examine the impacts on electric companies and customers. > On December 15, DC Council voted unanimously to grant the mayor the authority to extend the city's public health emergency until March 31.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
District of Columbia (continued)		+45 days after end of emergency (set to expire Oct 8, 2021)	<ul style="list-style-type: none"> > On December 15, 2020, the four agencies charged with serving DC utility consumers unveiled here2helpdc.dc.gov, which was designed to inform residents and businesses about energy and money-saving initiatives to help them minimize the negative impacts of the COVID-19 pandemic. > On July 24, 2021, the mayor issued an EO extending the public health emergency until October 8, 2021.
Florida	<ul style="list-style-type: none"> > Cost Tracking (Jul 7) > Cost Tracking (Oct 6) > Deposit Refund (Oct 6) 	N/A	<ul style="list-style-type: none"> > Approval of Gulf Power Company's request to track and record COVID-19 related costs > Approval of Sebring Gas System, Inc.'s emergency petition to waive customer late payment charges > Acceleration of reductions to customers' bills based on lower fuel costs for the four largest electric utilities. > On October 6, Florida Public Service Commission approved Florida Public Utilities Companies' and Utilities Inc. of Florida's separate requests to track and record COVID-19 related costs, allowing the utilities to defer recovery of certain costs due to events beyond their control and seek potential recovery through rates at a later time. > On October 6, the commission approved Florida Power & Light Company's request to provide a one-time accelerated residential customer deposit refund for qualifying customers to help ease the burden for customers who were experiencing adverse financial impacts due to the COVID-19 pandemic.
Georgia	<ul style="list-style-type: none"> > Docket #42516 (Jun 2) 	N/A	<ul style="list-style-type: none"> > On March 14, Georgia Power voluntarily suspended disconnections. > On April 7, Georgia Public Service Commission issued an order to extend the initially voluntary suspensions until July 14; this includes suspending collection of late fees for nonpaying customers in all classes. > On June 4, the commission voted to end the voluntary moratorium on disconnections by July 14. > On June 22, the commission issued an order establishing a methodology for incremental bad debt due to the disconnection moratorium.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Hawaii	<ul style="list-style-type: none"> > Order No. 37189 (Jun 26) > Order No. 37251 (Jul 31) > Order No. 37284 (Aug 24) > Order No. 37506 (Dec 22) 	Mar 31, 2021	<ul style="list-style-type: none"> > Extended suspension of service disconnections. > Authorized utilities that suspend disconnections beyond July 31 to book regulatory assets related to associated costs through September 1. > Payment plans (or other customer arrangements) [should be made] once disconnections resume. > Hawaii Public Utilities Commission encouraged utilities not to charge customers interest on past-due payments or impose late fees through June 30. > On July 31, the commission issued an order extending suspension of disconnections until August 31 and authorizing utilities that suspend beyond that date to book regulatory assets related to costs associated with suspensions through October 1. > On August 24, the commission issued an order extending suspension of disconnection of regulated utility services due to nonpayment and/or assessment of other charges through December 31. > On December 22, 2020, the commission issued an order to extend the suspension of termination or disconnection of regulated utility services due to nonpayment and/or assessment of other charges through March 31, 2021. > The commission also established utility reporting requirements and opened Order No. 37506 as a repository for information filed by relevant utilities on the financial effects of the disconnection suspension and related issues on utilities and their customers, and customer outreach efforts. > Following the eventual end of the disconnection suspension, the commission directed any utility to develop customer payment plans for those with past-due balances greater than 60 days.
Idaho	N/A	N/A	<ul style="list-style-type: none"> > Coordination with utilities
Illinois (continued)	<ul style="list-style-type: none"> > News Release with Link to Order (Jun 18) > News Release (Jul 31) > News Release (Mar 19) 	Jul 26, 2020	<ul style="list-style-type: none"> > Moratorium on disconnections continued until August 1 or Phase 4 of reopening plan, whichever came first. > Offered temporary, more flexible credit and collection procedures to qualifying customers impacted by COVID-19. > Added additional 30 days beyond August 1 for most customers. > Larger utilities would then have 30 more days to notify residential consumers before disconnection notices were sent.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Illinois (continued)		Jul 26, 2020	<ul style="list-style-type: none"> > Larger utilities would then have 30 more days to notify residential consumers before disconnection notices were sent. > Waived certain deposits for qualifying residential customers for at least 6 months. > On July 31, Illinois Commerce Commission announced several of the state’s large and small regulated electric, natural gas, water, and sewer utilities voluntarily agreed to keep residential customers connected until September 2020. > Moratorium on disconnections expired on July 26. > On September 21, the commission announced the moratorium on disconnections had voluntarily been extended by several state-regulated utilities through winter 2021 for eligible low-income residential customers, and those who self-reported to utilities that they were experiencing financial or COVID-19 hardship (several utilities had previously voluntarily extended the moratorium until September 30). > On November 10, the commission announced the moratorium on disconnections was voluntarily extended by several state-regulated utilities through the winter of 2021 for eligible low-income residential customers, and those who self-reported to utilities that they were experiencing financial or COVID-19 hardship. > On March 19, the commission unanimously approved historic consumer protection agreements to help electric, natural gas, water, and sewer residential customers hard hit by the ongoing COVID-19 pandemic to mitigate outstanding consumer debt and prevent disconnections before the voluntary winter moratorium on disconnections expired on March 31, 2021.
Indiana	<ul style="list-style-type: none"> > Cause No. 45380 (Jun 29) > Executive Order 20-33 (Jun 30) > Announcement (August 12) 	Aug 14, 2020	<ul style="list-style-type: none"> > Extended moratorium on utility service disconnections for 45 days beyond the expiration of EO 20-28. > Indiana Utility Regulatory Commission doubled minimum requirement (from the original order) for extended payment plans by requiring all jurisdictional utilities to offer payment plans of at least 6 months to all customers. > The governor issued an EO extending prohibition of disconnection of utility services for all utility companies, regardless of how they are regulated by the commission, until August 14.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Indiana (continued)		Aug 14, 2020	<ul style="list-style-type: none"> > Moratorium ended on August 14; the commission issued order requiring extended payment arrangements through October 12; the commission declined to extend the disconnection moratorium for concern that customers may not enter into a payment arrangement until they face actual disconnection.
Iowa	<ul style="list-style-type: none"> > Docket No. SPU-2020-3 (May 20) > Iowa Residential Utility Disruption Prevention Program (Oct 9) 	Jul 1, 2020	<ul style="list-style-type: none"> > Updated prior orders; extended winter moratorium on service disconnection for eligible customers until May 1, 2020. > The new order instructed IOUs to suspend disconnections until the governor lifted the state of emergency in Iowa. > On May 20, Iowa Utilities Board updated the March 27 order and instructed IOUs to allow at least 1 year of nonpayment for eligible customers; disconnections would resume on or after July 1. > On October 9, the governor announced a utility disruption prevention program (funded by the CARES Act), which could provide households with up to \$2,000 for water, natural gas, and electric bills to help customers who lost income due to COVID-19.
Kansas	<ul style="list-style-type: none"> > Order No. 20-GIMX-393-MIS (May 21) 	May 31, 2020	<ul style="list-style-type: none"> > Electricity disconnections for nonpayment by small commercial and residential customers expired May 31. > Kansas Corporation Commission reserved authority to resume suspensions, if needed. > The commission required availability of repayment plans for 12 months; prohibited collection of late fees for any balance in arrears.
Kentucky (continued)	<ul style="list-style-type: none"> > Case No. 2020-00085 (Jun 23) > News Release (Sep 21) > Governor's Executive Order (Oct 19) 	Nov 6, 2020	<ul style="list-style-type: none"> > Louisiana Public Service Commission prohibited all jurisdictional utilities from disconnecting customers for nonpayment of utility bills. > On May 27, PSC issued Special Order 28- 2020, which amends Special Order 22-2020. > Suspended disconnections for nonpayment or collection of late fees until further notice. > No mention of reconnections or repayment plans. > On June 23, Kentucky Public Service Commission staff requested information on disconnections from regulated utilities.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Kentucky (continued)		Nov 6, 2020	<ul style="list-style-type: none"> > On September 21, the commission announced modifications to their March order, including extending the moratorium on the assessment of late payment charges for residential customers until December 31. While the moratorium on disconnection ended on October 20, the order took steps to ensure disconnection of residential utility service for nonpayment was stalled. Utilities were required to establish repayment plans of no less than 6 months. > On October 19, the governor signed an EO ending the statewide moratorium on November 6; the EO also designated \$15 million in federal COVID-19 relief funds to help customers who faced disconnections and required utilities to provide a payment plan over at least 6 months for residential customers.
Louisiana	<ul style="list-style-type: none"> > Executive Order (Mar 13) > Special Order 43-2020 (Jul 1) > Special Order 44-2020 (Jul 1) 	Jul 16, 2020	<ul style="list-style-type: none"> > Special Order 43-2020 superseded Special Order Nos. 22-2020 and 28-2020 and terminated the suspension of disconnections after the first billing cycle following July 16. > Special Order 43-2020 also maintained that all jurisdictional utilities should temporarily provide payment plans or levelized billing for recovery of past-due balances for residential customers for a period of up to 12 months. > Special Order 44-2020 authorized jurisdictional utilities to record, as a regulatory asset, expenses incurred from the suspension of disconnections and collection of late fees imposed by the disconnection orders.
Maine	<ul style="list-style-type: none"> > Case No. 2020-00136 (Jun 16) > Case No. 2020-00081 (Jul 10) > Announcement (Sep 15) 	Nov 1, 2020	<ul style="list-style-type: none"> > On March 16, the Maine Public Utilities Commission ordered all electric utilities to suspend disconnection for all customer classes until further notice. > On April 28, the commission announced it will seek input on and begin to analyze in detail how the pandemic will impact utilities, customers' ability to pay their utility bills, and any federal resources available to help both customers and utilities with their ongoing obligations. > On July 10, the commission issued an order clarifying the initial disconnection moratorium. > The commission ordered to end the emergency moratorium on utility disconnection on November 1, 2020. Commission policy is in place that limits disconnections during the winter for electric and gas customers between November 1 and April 15.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Maryland	<ul style="list-style-type: none"> > Executive Order No. 20-06-29-01 (May 29) > Administrative Docket PC53 (Jul 8) > Executive Order 20-07-31-01 (Jul 31) > Press Release (Sep 1) 	Nov 15, 2020	<ul style="list-style-type: none"> > Governor issued EO prohibiting the suspension of residential electric service or the charging of late fees on nonpaying customers for duration of the declared emergency or until July 1; order was extended. > On July 8, Maryland Public Service Commission issued several questions to electric and gas utilities to examine COVID-19 impacts on utilities and customers. > The commission considered in a future proceeding whether recovery of the amounts detailed in the asset were just and reasonable as well as the appropriate recovery period. > On July 31, the governor issued an amended EO extending prohibition on residential utility service terminations and late fees until September 1. > On September 1, following the expiration of the governor’s EO, the commission issued an emergency action that prohibited residential utility service terminations through November 15. > The September 1 commission action required 45 days advanced notice for service termination (until October 1) so that residential customers in arrears could establish payment plans or apply for energy assistance programs, and required utilities to offer minimum 12-month payment plans, and prohibited down payments or deposit requirements to begin payment plans.
(continued)	<ul style="list-style-type: none"> > Order (Mar 24) > Order D.P.U. 20-58-B (Jul 31) > Order D.P.U. 20-58-B (Nov 15) > Chair’s Eighth Set of Orders under G.L. c. 25, s. 4B (Feb 26) 	Jul 1, 2021	<ul style="list-style-type: none"> > Requested the extension of the winter moratorium (normally from November 15 through March 15) for residential rate payers until the state of emergency was lifted or otherwise directed by the Department of Public Utilities, whichever came first. > Customer Assistance Working Group submitted recommendations on May 29 including extending payment plans and waiving late fees; extending arrearage management plans; outreach to customers; continuation of the shutoff moratorium; and other state activities. > Department of Public Utilities issued an order instituting increased protections for customers of electric and gas utilities and extending the prohibition on investor-owned utility companies shutting off gas and electric utility service to customers for nonpayment; shutoff moratorium extended until August 31 for businesses and November 15 for residents.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Massachusetts (continued)	<ul style="list-style-type: none"> > Order (Mar 24) > Order D.P.U. 20-58-B (Jul 31) > Order D.P.U. 20-58-B (Nov 15) > Chair's Eighth Set of Orders under G.L. c. 25, s. 4B (Feb 26) 	Jul 1, 2021	<ul style="list-style-type: none"> > The order prohibited investor-owned utility companies from shutting off gas, electric, and water utility service to residential customers for failure to pay a bill or a portion of a bill until July 1, 2021.
Michigan	<ul style="list-style-type: none"> > Press Release (July 1) 	N/A	<ul style="list-style-type: none"> > Voluntary (except for water utilities) > Utilities initially agreed to suspend shutoffs and allow a 30-day medical hold for impacted customers. > Michigan Public Service Commission ordered utilities to report the number of disconnections, despite the protections enacted. > Utilities reported reconnecting 1,445 such meters between April 30 and June 26. > Utilities waived deposits and reconnection fees for qualifying customers. > Utilities extended access to flexible payment plans.
Minnesota (continued)	<ul style="list-style-type: none"> > Initial Letter (Mar 25) > Commission Docket No. 20-375 (Mar 25) > Press Release (Jun 18) > Executive Order 20-83 (Aug 12) > Docket 20-375 (Aug 13) > Executive Order 20-89 (Sep 11) > Cold Weather Rule (Oct 8) > Executive Order 20-92 (Oct 12) 	Aug 2, 2021	<ul style="list-style-type: none"> > On March 24, the Minnesota Public Utilities Commission urged utilities to extend consumer protections for impacted customers due to nonpayment for the duration of the COVID-19 emergency; letter also encouraged reconnections, suspended the collection of late fees, and requested that electric companies provide payment options to customers who needed it. > The electric companies were requested to file compliance data in Docket E, G999/M-20-375. > On June 18, 2020, the commission voted to extend moratorium through July 13, 2020, which corresponded with the governor's extension issued in EO 20-75. > The governor issued EO 20-83, extending the emergency until September 11. > On September 9, the governor issued a proclamation calling a fourth special session of the state legislature beginning today, September 11, 2020, pursuant to Minnesota Statutes 2019, sections 4.03 and 12.31, subdivision 2(b).

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Minnesota (continued)	<ul style="list-style-type: none"> > Relief Program (Nov 6) > Emergency Executive Order 20-97 > Executive Order 20-100 (Dec 14) > Emergency Executive Order 21-08 (Feb 12) 	Aug 2, 2021	<ul style="list-style-type: none"> > On September 11, the governor issued EO 20-89, extending the emergency until October 12. > On October 12, the governor issued EO 20-92, extending the emergency until November 12. > The Cold Weather Rule (CWR) protected and reconnected customer's heat from October 15 through April 15; all electric and natural gas companies were required to offer this protection. > On November 6, the commission approved a petition from Xcel Energy to provide temporary relief for commercial and industrial customers experiencing reduced business due to COVID-19 and civil unrest. > On November 12, the COVID-19 Peacetime Emergency (EO 20-01) was extended through December 14, 2020. > Docket 20-375 provided for a 60-day notice and transition period before utilities could resume with disconnections, late fees, and other practices. > On December 14, the governor issued an EO extending the emergency until January 13, 2021. > On February 12, the governor issued an EO extending the emergency until March 15, 2021.
Mississippi	<ul style="list-style-type: none"> > Docket 2018-AD-141 (Mar-15) 	May 26, 2020	<ul style="list-style-type: none"> > Mississippi Public Service Commission voted to temporarily suspend disconnections of electric power service until May 26. > Allowed the state's IOUs to defer any costs, including any incremental bad debt expenses and all associated credit and collection costs, related to connections, reconnections, or disconnections for all customer classes.
Missouri	<ul style="list-style-type: none"> > Voluntary (Mar 23) > Case No. EE-2020-0290 (Mar 23) > Case No. AW-2020-0356 (May 14) 	N/A	<ul style="list-style-type: none"> > IOUs voluntarily suspended disconnections and waived late payment fees. > Missouri Public Service Commission approved several requests from gas and electric utilities to offer consumer assistance programs, extended payment plans, forego the collection of fees related to late payments, and reconnect service to help impacted customers. > On May 14, the commission opened a working case to consider best practices for recovery of past-due customer payments.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Montana	> Governor Directive (Mar 30)	Jun 30, 2020	<ul style="list-style-type: none"> > The governor’s directive suspended service terminations for electricity, gas, sewage disposal, water, telephone, or internet services. > No late fees may be billed or collected for the “duration of the order.”
Nebraska	> Order No. NUSF-92 (Mar 25)	N/A	<ul style="list-style-type: none"> > On March 24, Nebraska Public Service Commission initiated a new docket, PI-234, to address the commission and utility response to COVID-19. > On March 25, the commission order allowed carriers to seek reimbursement for providing service to low-income families; the order made \$1 million available through the Nebraska Universal Service Fund Broadband Adoption program to assist carriers in providing low-income subscriber’s access to broadband to facilitate online learning. > LB 933 was introduced in the state senate; the bill changed the provisions relating to discontinuance of utility service and limited disconnection fees to the actual and reasonable costs incurred by the utility. It also required a utility to publish disconnection information on its website and to mail its policies to a person upon request. The Nebraska Power Review Board has no statutory authority over disconnections, but the staff does receive numerous calls on the topic.
Nevada	<ul style="list-style-type: none"> > Utility Shutoff Information (Mar 20) > Order (Mar 27) 	N/A	<ul style="list-style-type: none"> > Coordination with utilities > On March 27, Emergency Order directed all rate-regulated jurisdictional utilities to track expenses related to suspending the termination, discontinuance, and/or disconnection of services.
New Hampshire (continued)	<ul style="list-style-type: none"> > Docket No. 20-089 (Jun 4) > Governor’s Executive Order 2020-04 (Jun 26) > Extension of Executive Order 2020-16 (Aug 7) > Extension of Executive Order 20-16 (Oct 9) > Extension of Executive Order 20-21 (Oct 30) > Executive Order 2020-23 (Nov 20) 	Feb 12, 2021	<ul style="list-style-type: none"> > Governor’s Emergency Order #3: Pursuant to EO 2020-04, suspended disconnection of electric service due to nonpayment for the duration of the emergency. > EO also disallowed collection of late fees during the emergency and required IOUs to allow repayment over at least 6 months from the end of the emergency. > On June 4, the New Hampshire Public Utilities Commission initiated a docket to investigate the impacts of COVID-19 on utility operations, collections, revenues, finances, accounting, customer assistance measures, and rate making impacts. > On June 30, 2020, the governor issued Emergency Order 58, ending Emergency Order #3 effective July 15, 2020. > On August 7, the governor suspended the disconnection of electric service due to nonpayment for the duration of the emergency.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
New Hampshire (continued)	<ul style="list-style-type: none"> > Executive Order 2020-24 (Dec 11) > Executive Order 2020-25 (Jan 1, 2021) > Executive Order 2021-01 (Jan 22, 2021) 	Feb 12, 2021	<ul style="list-style-type: none"> > EO also disallowed the collection of late fees during the emergency and required IOUs to allow repayment over at least 6 months from the end of the emergency. > On October 9, the governor extended all provisions of EO 2020-04, as extended by EOs 2020-05, 2020-08, 2020-09, 2020-10, 2020-14, 2020-15, 2020-16, 2020-17, and 2020-18, and all Emergency Orders issued pursuant thereto, remained in full force and effect through the expiration date of this EO 2020-20 (21 days). > Winter moratorium was effective from November 15 until March 31. > On October 30, the governor extended the emergency declaration until November 20. > Under an agreement reached with the commission, utilities offered customers with past-due balances accrued during New Hampshire's State of Emergency long-term flexible payment arrangements. > The governor issued a 12th extension of the State of Emergency for a period of 21 days. > On December 11, the governor issued a 13th extension of the State of Emergency for a period of 21 days. > On January 1, the governor issued a 14th extension of the State of Emergency for a period of 21 days. > On January 22, the governor issued a 15th extension of the State of Emergency for a period of 21 days.
New Jersey (continued)	<ul style="list-style-type: none"> > Press Release > Executive Order 190 > Executive Order 229 (Mar 3) > Executive Order 246 (Jun 15) 	Dec 31, 2021	<ul style="list-style-type: none"> > Governor's state of emergency declaration encouraged IOUs to suspend disconnections due to nonpayment until further notice. > On March 13, New Jersey Board of Public Utilities announced that the state's public electric and gas utilities have agreed to suspend service shutoffs > Customers were encouraged to reach out to their respective IOUs if they are having difficulty paying their electric bills. > On April 13, EO 126 prohibited providers from terminating internet and voice service due to nonpayment until 30 days after the state's emergency end; late fees due to nonpayment were also prohibited.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
New Jersey (continued)		Dec 31, 2021	<ul style="list-style-type: none"> > On October 15, the governor signed EO No. 190, extending a disconnection moratorium for residential customers through March 15, 2021; applied to all residential gas, electric, and water utilities, both public and private. Further, the utilities would not be charging late fees nor fees to reconnect services that have been disconnected. The ban on internet disconnections extended until November 15, 2020. > The governor signed EO No. 229, extending a moratorium preventing New Jersey residents from having their utilities disconnected through at least June 30, 2021. The moratorium applies to all residential gas, electric, and water utilities, both public and private. Further, the utilities are not permitted to charge late fees nor fees to reconnect services that have been disconnected. > On June 15, 2021, the governor issued an EO lifting the moratoria disconnection on July 1, 2021; allowed for a 6-month disconnection and late fee collection grace period.
New Mexico (continued)	<ul style="list-style-type: none"> > Governor's Order (Jun 30) > Public Health Order (Jul 30) > Executive Order 2020-059 (Aug 28) > Executive Order 2020-64 (Sep 18) > Public Health Order (Oct 16) > Docket 20-00159-UT (Oct 21) > Public Health Emergency Order (Dec 30) > Case 20-00205-UT (Feb 3) > EO 2021-30 (Jul 15) 	Jul 23, 2021	<ul style="list-style-type: none"> > On March 19, New Mexico Public Regulation Commission (PRC) issued an order that disconnections for nonpayment are suspended for the duration of the Emergency EOs; late fees related to these bill payments shall be waived. > On June 30, the governor issued a new EO to extend the moratorium until July 30. > The most recent Public Health Order took effect on July 30 and remained in effect through August 28. > The governor introduced EO 2020-059 to renew the state of public health emergency declared in EO 2020-004; extends EOs 2020-022, 2020-026, 2020-030, 2020-036, 2020-053, and 2020-55 through September 18. > On September 18, the governor extended the public health emergency until October 16. > On October 16, the Acting Cabinet Secretary of the Department of Health signed a new Public Health Emergency Order clarifying that current guidance documents, advisories, and emergency public health orders remained in effect until November 13. > On October 21, PRC unanimously approved issuing an order that would be effective starting November 10, placing a moratorium in effect through January 6, 2021.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
New Mexico (continued)		Jul 23, 2021	<ul style="list-style-type: none"> > On December 30, the New Mexico Department of Health issued a Public Health Emergency Order, active through January 29, 2021. > PRC held a hearing on January 6, 2021, and voted to extend the moratorium until January 29, 2021. > PRC held an open meeting on January 19 to discuss moratoria and the post-pandemic transition. > PRC held a hearing on January 27, 2021, and ordered the moratorium to be extended until February 5, 2021. > On February 3, PRC approved a measure giving large IOUs and gas utilities with more than 100,000 meters, a 100-day moratorium on residential disconnections, followed by a 90-day transition period under the new order. Water utilities, small gas utilities, and rural electric cooperatives have a 45-day moratorium on residential disconnections followed by a 45-day transition period. Under the order, utilities are required to waive late fees and to make efforts to get their customers onto repayment plans, at least through November 1, 2021. Utilities also need to provide monthly reports to PRC. > On July 15, 2021, PRC issued an order amending the disconnection moratorium until July 23, 2021 (following recently issued EO 2021-30).
New York (continued)	<ul style="list-style-type: none"> > PSC Announcement (Mar 13) > Docket No. 20-01253/20-M-0266 (Jun 11) > State Legislation (Jun 17) > Proposed State Legislation (Feb 24) > State Legislation S01452 (May 11) 	180 days after emergency order is lifted, or Dec 31, 2021	<ul style="list-style-type: none"> > In response to the governor’s directive, New York State Public Service Commission (PSC) announced it would work with utilities to ensure any impacted customers will not lose power or heat due to financial hardship. > On June 11, PSC started proceeding to examine impacts on rate setting, rate design, low-income programs, collections, and termination of service, among other issues. > State passed legislation that established a new moratorium on all water, gas, and electric utility service for residential customers due to nonpayment for the duration of the state disaster emergency. > Law extended moratorium on utility shutoffs for 180 days beyond when the state of emergency had been lifted or had expired (until March 31, 2021) for qualifying impacted customers; required utilities to offer a restructuring of payments owed.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
New York (continued)		180 days after emergency order is lifted, or Dec 31, 2021	<ul style="list-style-type: none"> > Legislation was advanced that would extend moratorium on utility termination of services after the COVID-19 state of emergency is lifted or expires for a period of 180 days after such expiration or until December 31, 2021, whichever is later. > On May 11, 2021, the state legislature passed S01453, extending the moratorium on disconnections until 180 days after the state of emergency is lifted or December 31, 2021, whichever is earlier.
North Carolina	<ul style="list-style-type: none"> > Governor's Executive Order No. 124 (May 30) > Docket No. M-100 Sub 158 (Jun 19) > Dockets (Jul 29) 	Sep 1, 2020	<ul style="list-style-type: none"> > On March 31, EO No. 124 prohibited utilities from disconnecting customers unable to pay during the pandemic and from collecting fees, penalties, or interest for late payments. > Order applied for 60 days and gave residential customers at least 6 months to pay outstanding bills; required no fee for reconnection. > On May 30, the governor extended moratorium protections until July 29. > Corresponding North Carolina Utilities Commission (NCUC) Docket M-100 Sub 158; on June 19, NCUC issued revised second monthly report to the governor Regarding EO 124. > On July 29, NCUC conditionally lifted the disconnection moratorium and allowed collection of arrearages pursuant to repayment plans. > On September 1, all jurisdictional electric, natural gas, water, and wastewater public utilities proceeded with collection of past due/delinquent amounts accrued up to and including August 31, 2020, subject to conditions.
North Dakota	> COVID19 Office and Hearing Procedures (Jun 19)	N/A	<ul style="list-style-type: none"> > No related orders > On June 19, North Dakota Public Service Commission released COVID-19 office and hearing procedures.
Ohio	> Case No. 20-0591-AU-UNC (Apr 8)	N/A	<ul style="list-style-type: none"> > On March 13, Ohio Public Utilities Commission ordered that the winter reconnection order in Case No. 19- 1472-GE-UNC be extended through May 1 to allow for additional time for companies to review their disconnection/reconnection policies. > The commission ordered the state's IOUs to review their disconnection and reconnection policies, but have not ordered new rules. > On April 8, the commission authorized each eligible public utility to obtain loans from the Federal Paycheck Protection Program.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Oklahoma	> Media Advisory (Mar 13)	N/A	> Oklahoma Corporation Commission is coordinating a voluntary effort by the utilities to help those impacted.
Oregon	> Media Release (Apr 20) > Order 20-401 (Nov 4)	N/A	> Oregon Public Utility Commission confirms regulated utilities have taken steps to ensure customers have continued services during pandemic. > The commission hosted an event on June 9 to discuss impacts to residential utility customers during COVID-19 and the future recovery. > Utilities have suspended service disconnections and late payment fees. > Among other refinements, the November 4, 2020, Stipulated Agreement clarifies conditions on the length of time payment arrangements; and clarifies that the arrearage management program of at least 1% of each utilities' Oregon retail revenues (approximately \$39 million combined total for all utilities) is a one-time funding amount.
Pennsylvania	> Docket No. M-2020-3019244 (Mar 13) > Governor's Amendment (Jun 3) > Governor's Amendment (Aug 31) > Docket No. M-2020-3019244 (Oct 8) > Governor's Proclamation Renewal (Feb 19) > Press Release (Mar 11)	Apr 1, 2021 for Qualifying Customers	> Pennsylvania Public Utility Commission issued an emergency order prohibiting termination service during the Proclamation Disaster Emergency. > Amendment to Proclamation of Disaster order was issued June 3, extending for 90 days. > On August 10, the commission explored possible safeguards for utility terminations and consumer protections before the August 27 public meeting. > On August 31, the governor extended Proclamation of Disaster Emergency (2nd Amendment) until rescinded or terminated by law. > On October 8, the commission announced that the absolute utility service moratorium was lifted, and disconnections may commence effective November 9; the order included several modifications to existing termination policies (see order). > The October order lifted the absolute ban on public utility service terminations by impacted utilities effective November 9, 2020, but provided additional protections for consumers. > The governor renewed the proclamation that extended the emergency declaration (and Phase 2 customer protections) from February 22 to May 19, 2021.
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State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Pennsylvania (continued)		Apr 1, 2021 for Qualifying Customers	<ul style="list-style-type: none"> > On March 11, the commission approved a plan that established an array of extended payment plan options to help residential and small business utility customers stay connected to service while gradually paying down past-due balances. > All commission-regulated electric, natural gas, water, wastewater, telecommunications, and steam utilities are required to modify their existing collection policies to provide additional payment plan options for residential and small business customers; the commission’s utility service termination moratorium for qualifying customers is lifted, effective April 1, 2021.
Rhode Island	<ul style="list-style-type: none"> > Docket No. 5022 (June 30) > Notice (Mar 19) 	Jul 17/Sep 30/Nov 1	<ul style="list-style-type: none"> > On May 28, Rhode Island Public Utilities Commission (PUC) extended termination moratorium for regulated utilities until July 17. > Directed utilities to conduct customer outreach regarding payment plans. > Directed utilities to suspend late fees, credit card charges, and interest until further ruling of the commission. > One June 30, PUC requested comments before July 13 meeting to discuss lifting of moratorium on or after July 17. > PUC extended the moratorium on service terminations for nonpayment for National Grid customers enrolled in electric or gas low-income rates through November 1 (the start of the winter moratorium). > Moratorium for all other National Grid residential customers extended to September 30. > Moratorium for all other regulated utilities expired on Friday July 17. > PUC directed utilities to conduct outreach for customers with arrearages to discuss payment plans and related issues; directed utilities to suspend late fees, credit card charges, and interest until further ruling. > The winter moratorium on gas and electric service terminations for nonpayment started on November 1, 2020, and ran to April 15, 2021; on March 19, 2021, PUC extended the winter moratorium on service disconnections for “protected status” customers of National Grid through June 25, 2021.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
South Carolina	> Docket No. 2020-106-A (Jun 10)	May 14, 2020	<ul style="list-style-type: none"> > Letter from governor encouraged South Carolina Public Service Commission to adopt rules suspending disconnection during state of emergency. > On March 16, the commission ordered IOUs to suspend disconnections and waived requirements for reconnection and late fees. > On May 7, the commission ordered rules imposing a 6-month minimum repayment period. > On May 14, the commission approved (Order 2020-374) staff motion to vacate moratorium on disconnections.
South Dakota	> Announcement (Apr 17)	N/A	> Many utilities suspended disconnections for nonpayment.
Tennessee	<ul style="list-style-type: none"> > Docket NO. 20-00047 (Jul 20) > Press Release (Aug 10) 	Aug 29, 2020	<ul style="list-style-type: none"> > Required all jurisdictional utilities to suspend disconnection of service for lack of payment during the state of emergency. > After the suspension of the emergency, the Tennessee Public Utility Commission (PUC) reconsidered recommendations pertaining to the moratorium. > Order also instructed IOUs to suspend the accrual or collection of late fees, and required reconnection and repayment programs to be implemented for all impacted customers. > PUC held virtual meeting on June 29; following the meeting, commission requested information to support evaluation of financial impacts of the pandemic and the related moratorium on customer disconnects for nonpayment. > PUC ordered continuation of initial order through next regularly scheduled conference on August 10. > On August 10, PUC adopted a motion to lift the moratorium on service disconnections for nonpayment on August 29; disconnections are prohibited until utility provides 30 days of notice for nonpaying customers.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Texas	<ul style="list-style-type: none"> > News Release (Jul 2) > Staff Memo (Aug 10) > Commission Meeting (Aug 13) > Emergency Order (Feb 21) 	Sep 30, 2020	<ul style="list-style-type: none"> > On March 26, Public Utility Commission of Texas (PUC) suspended rules pertaining to disconnection of service for nonpayment (extended until August 31). > March 26 order created COVID-19 Electricity Relief Program: a funding mechanism through which utilities recovered a reasonable portion cost of providing uninterrupted services to nonpaying customers. > Offered bill payment assistance using funds from a rider charge applied to the bills of electricity customers across Electric Reliability Council of Texas. > Participating utilities had to suspend late fees and offer deferred payment plans to residential customers in danger of disconnection. > PUC approved staff memo that recommended enrollments end on August 31 and program benefits extended until September 30. > On February 21, PUC ordered an immediate suspension of disconnections for nonpayment until further notice, including ordering utilities not to process disconnections and a continuation of the COVID-19 measure under which retail electric providers are required to offer deferred payment plans to customers when requested.
Utah	<ul style="list-style-type: none"> > Docket No. 20-999-01 (Apr 23) 	N/A	<ul style="list-style-type: none"> > Utah Division of Public Utilities recommended no action by the Utah Public Service Commission for temporary changes the electric utilities made regarding disconnection, late fee, and related practices in response to the COVID-19 pandemic; recommended the commission to take no action.
Vermont	<ul style="list-style-type: none"> > Case 20-0703-PET (May 28) > Case 20-0703-PET (Jul 30) > Case 20-0703-PET (Sep 23) > Announcement (Oct 8) > Emergency Rule 2.600 (Oct 15) > Vermont COVID-19 Arrearage Assistance Program (Oct 21) > Announcement and Link to Order (Dec 22) 	Jul 15, 2021	<ul style="list-style-type: none"> > Moratorium on service disconnections due to nonpayment began on March 18. > May 28 order extended moratorium until July 31 and directed utilities to file post-moratorium plans with Vermont Public Utility Commission (PUC). > July 30 order extended temporary moratorium until September 30. > On September 23, PUC issued another order extending the temporary moratorium of involuntary utility disconnections through October 15 (consistent with the governor's most recent extension of the state of emergency). > On October 8, PUC announced that the temporary moratorium on utility service disconnections ends on October 15 and ordered new, mandatory consumer protections for utility customers who faced economic hardships as a result of the pandemic.
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State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Vermont (continued)	<ul style="list-style-type: none"> > Order Extending Moratorium (Jun 24) 	Jul 15, 2021	<ul style="list-style-type: none"> > On October 16, the moratorium on gas, electric, and basic telephone disconnections lifted in order to encourage greater participation in the Vermont COVID-19 Arrearage Assistance Program (VCAAP) that distributes federal funds. > The VCAAP provided financial support to customers of regulated utilities who face disconnection of service because of past-due balances. Funds for this program were made available through the CARES Act. > On December 22, PUC issued an order reinstating the temporary moratorium of natural gas, electric, and traditional landline telephone service through March 31, 2021. > On June 24, PUC issued an order partly approving and partly denying VT Legal Aid and VT PIRG motion to extend the disconnection moratorium until August 30, 2021. > PUC extended the moratorium until July 15 to allow utilities to implement additional customer protections.
Virginia	<ul style="list-style-type: none"> > Case No. PUR-2020-00048 (Jun 12) > News Release (Aug 24) > Additional Order on Moratorium (Sep 15) > VA State Legislature Special Session I (Nov 18) 	Sep 1, 2021	<ul style="list-style-type: none"> > Regulated utilities must offer extended payment plans with no late fees or reconnection charges to impacted residential and small business customers. > Extended ban on utility service cut-offs to August 31. > Virginia State Corporation Commission extended moratorium until September 16. > On September 15, the commission issued an order following a request from the governor extending the general moratorium on utility shutoffs through October 5. > On November 18, the state legislature passed an act that prohibits utilities from disconnecting service to residential customers for nonpayment of bills or fees until the governor determines that the economic and public health conditions have improved such that the prohibition does not need to be in place, or until at least 60 days after such declared state of emergency ends, whichever is sooner. > The state of emergency ended on July 1, 2021; the moratorium expired 60 days after on September 1, 2021.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Washington	<ul style="list-style-type: none"> > UTC COVID-19 Response (Jun 16) > Governor’s Proclamation 20-23.7 (Jul 31) > Commission News Release (Oct 6) > Docket U-200281 (Oct 6) > Governor’s Proclamation 20-23.11 (Oct 14) > COVID-19 Utility Assistance > Commission Meeting (Feb 17) > Docket U-200281 (Feb 17) 	Jul 31, 2021	<ul style="list-style-type: none"> > On March 19, the governor allowed Washington Utilities and Transportation Commission to repurposed relief energy bill assistance funds to support qualifying customers. > On March 25, regulators fast tracked \$51 million in refunds to keep Avista rates steady. > On April 10, regulators approved COVID-19 bill assistance for Avista and Puget Sound Energy customers. > May 31, the governor extended moratorium on service disconnects and late fees through July 28. > On July 31, the governor issued a proclamation, extending the pause on disconnections, refusing reconnections, and charging late fees; utilities (including telecommunications) should proactively reach out to customers with overdue accounts to encourage payment arrangements. > On October 6, the commission ordered investor-owned electric and natural gas utilities to continue a moratorium on disconnections for nonpayment until April 30, 2021; utilities will continue to waive deposits for new customers and all late fees through Oct 27, 2021. > All utilities had to create a COVID-19 bill payment assistance program funded at 1% of their Washington state retail revenues, in addition to any existing local and federal assistance programs. > On October 14, the governor issued a proclamation that prohibits energy, water, and landline telephone companies from disconnecting any residential customers due to nonpayment on an active account, except at the request of the customer, until December 31, 2020. > Energy companies were banned from disconnecting service or charging late fees through April 30, 2021; however, customers are still responsible for unpaid balances. > The commission extended an order—previously set to expire on April 30—preventing investor-owned energy utilities from disconnecting customers for nonpayment through July 31. Utilities continued to waive late fees and deposits through Jan 27, 2022. > On May 18, 2021, the commission confirmed the expiration date of the moratorium to be July 31, 2021.

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
West Virginia	<ul style="list-style-type: none"> > General Order 262.5 (Jun 17) 	Jul 1, 2020	<ul style="list-style-type: none"> > Urged all utilities to suspend utility terminations except where necessary > June 17, 2020, order lifted moratorium on disconnections and late fees after July 1. > Public utilities resumed disconnection for nonpayment pursuant to the guidelines described herein.
Wisconsin	<ul style="list-style-type: none"> > Docket No. 5-UI-120 (Jun 26) > News Release (Aug 20) > New Release (Sep 17) > Docket No. 5-UI-120 (Oct 29) 	Apr 15, 2021	<ul style="list-style-type: none"> > Directed IOUs to cease disconnecting residential service for nonpayment until end of state public health emergency. > Instructed IOUs to make reasonable attempts to reconnect service to an occupied dwelling that has been disconnected. > Ordered suspension of late fees on nonpayment customers and instructed IOUs to offer flexible repayment options. > June 26 supplemental order directed the lifting of temporary prohibition against disconnecting; allowed utilities to issue disconnection notices on July 15, with a minimum 10-day window so that the first date of disconnection would occur on or after July 25; Public Service Commission of Wisconsin (PSC) also voted to allow utilities to commence charging late payment fees on debts incurred after July 15. > On August 20, PSC voted to continue to stay a portion of its June 26 order, extending the moratorium on utility residential customer disconnections and refusal of service for nonpayment until October 1. > On September 17, PSC voted to continue to stay a portion of its June 26 order, extending the moratorium on utility residential customer disconnections and refusal of service for nonpayment until November 1. > The standard winter moratorium took effect November 1, preventing electric and gas disconnections through April 15. > Supplemental Order on Residential Disconnection-Third in Docket 5-UI-120 extended the COVID moratorium in effect through April 15, which applied to all residential electric, gas, and water service. “This is the Order staying until April 15, 2021, the date on which a utility’s authorization to disconnect or refuse residential service for nonpayment takes effect.”
(continued)			

State	Latest Actions (Date Implemented)	Expiration	Description of Disconnection Moratorium and Payment Plan
Wisconsin (continued)		Apr 15, 2021	<ul style="list-style-type: none"> > On March 18, PSC voted unanimously to allow utilities to move forward with disconnection of service for nonpayment at the end of the annual winter moratorium after April 15, 2021. > The Department of Administration’s Wisconsin Home Energy Assistance Program (WHEAP) and utilities ensured energy assistance and crisis funding, including an additional \$8 million in Low Income Home Energy Assistance Program funds that were available through the CARES Act to qualifying households to help manage heating season energy costs and, in the case of crisis funds, decreased customers’ arrears.
Wyoming	> Docket No. 90000-151-XO-20 (Mar 26)	N/A	> Authorized public utilities to suspend discontinuation of service, imposition of late fees and similar tariffs, rules, regulations, and terms of service for the purpose of mitigating the impact on customers during the public health emergency related to COVID-19.

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