



Hurricane Fiona | Update #4

REPORT TIME & DATE: 5:00 PM EDT | Thursday, September 22, 2022

REPORT DISTRIBUTION: Public

EXECUTIVE SUMMARY

As of 2:00 PM EDT, Hurricane Fiona continues northeastward with maximum sustained winds of 130 MPH, classifying the storm as a category 4 hurricane, with no further forecasted impacts to U.S. interests. The center of Fiona passed over southwestern and western Puerto Rico on September 18 as a category 1 hurricane strength, impacting all of Puerto Rico and the U.S. Virgin Islands with winds, significant rainfall, storm surge, and flooding.

Electricity Sector Summary

- As of 12:00 PM EDT, Puerto Rico had approximately 1.0 million outages (68% of customers). LUMA has restored approximately 466,000 customers as of 12 PM EDT on September 22. Fluctuation in the outage numbers is expected and normal during large-scale restoration efforts.
- On the afternoon of September 18, Puerto Rico experienced an island wide power outage due to impacts to distribution and transmission damage from Hurricane Fiona, which caused a system imbalance tripping generation units offline. Following the island-wide outage, the Puerto Rico Electric Power Authority (PREPA), in coordination with the transmission and distribution operator LUMA, began procedures to restart generation and restore customers.
- Damage assessments and restoration efforts are expected to get underway. Preliminary damage assessments are expected to be complete over the next few days. Due to the magnitude and scope of the outages, as well as the impacts from Hurricane Fiona, LUMA reports that full power restoration will take several days.
- Additional crews, equipment, and materials from the U.S. mainland will continue to arrive over the next few days to support restoration efforts.

Oil & Natural Gas Sector Summary

- As of September 21, all ports on Puerto Rico have reopened with no restrictions.
- Initial reports indicate that Puerto Rico has adequate supplies of gasoline, diesel, jet fuel, and bunker fuel as of September 17.

DOE ACTIONS**DOE ENERGY RESPONSE ORGANIZATION (ERO): ACTIVATED**

- The DOE Energy Response Organization (ERO) is activated and closely monitoring restoration efforts, following impacts from Hurricane Fiona in Puerto Rico and the U.S. Virgin Islands. The ERO and field responders are in regular contact with industry partners and local officials.
- DOE ESF #12 responder were deployed to Puerto Rico and the U.S. Virgin Islands on September 15. ESF #12 subject matter experts are working with PREPA and LUMA to assess additional need to help support restoration efforts.

DOE EMERGENCY SUPPORT FUNCTION (ESF) #12 DEPLOYMENTS:

- FEMA Incident Management Assistance Team (IMAT) – San Juan, Puerto Rico
- FEMA Region II Response Coordination Center – Colts Neck, New Jersey
- FEMA National Response Coordination Center – Washington, DC



ELECTRICITY SECTOR

POWER OUTAGES

- As of 12:00 PM EDT, Puerto Rico had approximately 1.0 million outages (68% of customers). LUMA has restored approximately 466,000 customers as of 12 PM EDT on September 22.
- Fluctuation in the outage numbers is expected and normal during large-scale restoration efforts.

Hurricane Fiona Customer Power Outages as of 12:00 PM EDT 9/22/22				
Territory	Current Outages	% of Territory Without Power	Peak Outages	% Restored from Peak
Puerto Rico	1,011,000	68%	1,477,000	32%

STATE AND TERRITORY DETAILS

PUERTO RICO

Background

- Puerto Rico Electric Power Authority (PREPA) is the government-owned agency that supplies electricity to Puerto Rico and is the largest public electric utility by customer count in the United States. PREPA owns the transmission and distribution system on the island, as well as approximately 86% of generation assets. LUMA Energy operates the island's transmission and distribution system.
- Grid infrastructure, including generation facilities, continues to be rebuilt after sustaining damage caused by Hurricanes Irma and Maria in 2017 and a 6.4 magnitude earthquake and aftershocks in early 2020. In January 2020, a major seismic event and series of aftershocks on the southern side of the Puerto Rico damaged several generation facilities, limiting PREPA's available reserve margins.

Storm Updates

- Preliminary damage assessments are nearing completion. Restoration efforts are underway.
- Additional personnel, equipment, and materials are expected to continue to arrive over the next several days to support damage assessments and restorations efforts.
- Due to the magnitude and scope of the outage, as well as the effects of Hurricane Fiona, LUMA reports that full power restoration could take several days.
- LUMA and PREPA are engaged in calls to coordinate mutual assistance as needed.
- On the afternoon of September 18, Puerto Rico experienced an island-wide power outage due to impacts to distribution and transmission damage from Hurricane Fiona, which caused a system imbalance tripping generation units offline. Following the island-wide outage, the Puerto Rico Electric Power Authority (PREPA), in coordination with the transmission and distribution operator LUMA, began procedures to restart generation, enabling restoration of some customers.



OIL AND NATURAL GAS SECTOR

Puerto Rico and the USVI have no active on-island refining capacity and instead import petroleum products through their ports.

In Puerto Rico, petroleum products—primarily residual fuel, motor gasoline, and distillate fuel—are imported to the island mainly through the ports of San Juan, Ponce, and Yabucoa. In total, Puerto Rico imports approximately 130,000 barrels per day (b/d) of petroleum products. Fuels imported to Puerto Rico are primarily used for transportation (gasoline, diesel) and electricity generation (fuel oil).

From the major ports and associated port terminals, products are barged to smaller ports and/or trucked to terminals and end users. There are no petroleum pipelines on the island, aside from a short pipeline carrying jet fuel from the San Juan port to the Luis Muñoz Marín International Airport. Puerto Rico's power sector is highly reliant on petroleum fuels. In 2021, natural gas and residual fuel oil generation provided the largest shares of Puerto Rico's net electricity generation at 47% and 23% respectively. Coal generation provided the third-largest share at 18%, followed by distillate fuel oil at 10%. Nearly all natural gas is imported as liquefied natural gas (LNG) through the Peñuelas terminal in Ponce and through San Juan for electricity generation.

In the USVI, petroleum products are imported primarily through the Christiansted port and Limetree Bay on St. Croix and the Charlotte Amalie port on St. Thomas. In total, approximately 41,000 b/d of products are imported into the USVI. Fuels imported to the USVI are primarily used for transportation (gasoline) and electricity generation (propane and fuel oil). On St. Thomas, LPG is moved by truck from Charlotte Amalie to WAPA storage terminals in Krum Bay, near the Randolph Harley power plant. Additionally, as of 2020, a mid-size LPG-carrying vessel periodically moors off St. Thomas as floating storage. The vessel can directly supply the St. Thomas LPG terminal and can supply fuel to the LPG terminal on St. Croix via a smaller shuttle vessel. The Limetree Bay Refinery is inactive as of early 2022, although the new owners of the facility have expressed interest in resuming operations in the future. Limetree Bay continues to operate as a fuel terminal with 34 million barrels of crude oil, refined products, and propane storage capacity.

PORTS

- As of September 21, all ports on Puerto Rico have been reopened with no restrictions.

PETROLEUM TERMINALS/STORAGE

- Initial reports indicate that Puerto Rico has adequate supplies of gasoline, diesel, jet fuel, and bunker fuel as of September 17.
- No major retail fuel availability issues have been reported as of September 21.

EMERGENCY DECLARATIONS & WAIVERS

EMERGENCY DECLARATIONS

To provide vital supplies and transportation services to a disaster area in the United States, the President, Governors of States, or Federal Motor Carrier Safety Administration (FMCSA) may issue emergency declarations. These declarations trigger the temporary suspension of certain Federal safety regulations, including Hours of Service, for motor carriers and drivers engaged in specific aspects of the emergency relief effort. See [49 CFR 390.23](#) for the actual emergency regulation.

Emergency Declarations and HOS Waivers <i>as of 3:30 PM EDT 09/22/2022</i>				
State/Territory	Details	Effective Dates		Status
		Start	End	
Puerto Rico	State of Emergency	9/17	Until Rescinded	Active
Puerto Rico	Presidential Emergency Declaration	9/18	Until Rescinded	Active
Puerto Rico	Presidential Major Disaster Declaration	9/17	Until Rescinded	Active

Sources: Territory government websites