



## **Typhoon Soudelor (13W) Situation Report #15**

### **August 18, 2015 (1:30 PM EDT)**

### **Highlights:**

- Typhoon Soudelor impacted the island of Saipan directly on Sunday, August 2, with highest reported wind speeds of 91mph.
- All 14,662 electric customers on Saipan remain without grid power, except for the hospital, as of August 18.
- CUC, FEMA and DOE continue to coordinate the sourcing for poles, transformers and additional equipment needed to restore power on Saipan. Testing of generation units and feeder lines continues.
- Following the tanker vessel delivery on August 17, supplies of gasoline and diesel were sent to Mobil service stations on the morning of August 18.

### **DOE Actions:**

#### **Operations:**

- Effective today, August 18, the Department of Energy's Energy Response Organization (ERO) will transition from Level III (Enhanced Watch) to Level IV (Steady-State Operations). For nineteen (19) days, the ERO was activated in support of Typhoon Soudelor and the response efforts in Saipan.
- DOE has been supporting FEMA IMAT response to Typhoon Soudelor since July 31, and will continue to provide recovery assistance with two DOE ESF-12 field staff supporting operations in Saipan.
- Effective August 18, the FEMA Region IX Response Coordination Center (RRCC) in Oakland, CA has been demobilized and DOE ESF-12 staff will support requests from normal duty stations.

#### **Energy Sector Outreach:**

- DOE ESF-12 personnel deployed to Saipan remain in communication with the petroleum terminal operators in Saipan.
- DOE ESF-12 in FEMA Region IX will transition coordination of the California Utilities Emergency Association and Pacific Power Association assistance efforts to the CUC directly.

### **Electricity Information:**

The electric power generation and distribution system of Commonwealth of the Northern Mariana Islands (CNMI) is managed by the Commonwealth Utilities Corporation (CUC), a public corporation of the CNMI government. Three of the fifteen islands are inhabited and about 90% of the population lives on Saipan (48,220 citizens). CUC's primary 13.8kV distribution power system has 8 feeders for commercial and residential power supply. CUC's 34.5kV transmission power system is underground. Five (5) generators serve as primary power suppliers to five (5) feeders that span across the Northern part of Saipan. The remaining three (3) feeders provide power to the Water Loo Substation where three (3) feeders span across distribution lines on the Southern part of Saipan.



## Non-Nuclear Power Generation

- As of August 18, the CUC continues to assess its power generation units and testing of control equipment at Power Plant 4. Power Plant 4 has been operating at a capacity of 3.8 MW since August 14.
- As of August 18, CUC's Power Plant 1, which produces as much as 70 percent of the island's power, is operational but is not distributing power. CUC continues to assess and test the control equipment that was wet from the failed roof/siding.
- As of August 11, Power Plant 2 cannot be put into operation due to the damaged step up transformer. The transformer needs the oil removed, properly tested and disposed of, and the transformer removed for recycling.

Saipan Power Plants & Electric Statistics

Location	Power Plant	Nameplate Capacity (MW)	Fuel	Peak Load (MW)	Number of Customers (2013)	Operating Status	Damage and Restoration	Date
Tanapag, Saipan	Saipan Power Plants 1 & 2 (CUC)	69.9	Diesel	45	14,662	Partially Operational	Structure housing Power Plant 1 impacted by rain, adding week to restoration. Plant 1 roof repair has begun. Plant 2 requires a step up transformer. One unit in on, serving Power House 1.	Aug. 11
	Saipan Power Plant 4 (CUC)					Operational	Damage to all distribution lines, roof and generators. Generator Unit # 7 running. Generator Unit # 2 (2MW) started and operating under no-load. Power Plant 4 is currently at 3.8MW capacity.	Aug. 14

Source: DOE Communications, EIA

## Electricity Distribution

Electric Customers: Saipan as of August 17, 2015

Electric Service Provider: Commonwealth Utilities Commission (CUC)

	Customer Total	Percent of Demand	Number of Customers without Power	Percent of Customers Without Power	Number of Customers Able to Receive Power	Percent of Customers Restored
Residential	11,138	76%	11,138	100%	Unknown	0%
Commercial	3,524	24%	3,524	100%	Unknown	0%*
Transportation	N/A	N/A	N/A	N/A	N/A	N/A
Industrial	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	14,662	100%	14,662	100%	Unknown	0%

Source: DOE communications, EIA data release 2013.

\*As of August 13, the hospital is receiving power from Power Plant #4.

- CUC reported August 14, the company along with GPA, has completed 80% of the island-wide damage assessments on the primary and secondary systems; the data and analysis from the assessments are still being processed as of August 18.
- On August 13, CUC's Power Division updated its post Typhoon Soudelor electrical hardware and equipment repair effort. The August 13 CUC report published preliminary statistics of damaged field materials:



- There are 355 damaged wooden power poles. This is an increase from 276, as reported by CUC on August 10.
- There are 195 damaged transformers within the CUC system on Saipan.
- There are 137 damaged meters within the CUC system on Saipan.

Restoration efforts underway:

- The FEMA Power Task Force is providing assistance to the CUC. As of yesterday, August 17, the FEMA Power Task Force communicated the current pole status for Saipan:
  - 30 wooden poles on Rota have been procured and will be transported to Saipan.
  - 90 concrete poles procured from Guam; awaiting transport to Saipan.

**FEMA Power Task Force: Execution schedule for the procurement, shipment, and placement of poles as of August 16:**

Week 1:	With assistance of ESF-12, source, procure and deliver 85 to 200 wooden poles via airlift.
Weeks 0-3:	Install concrete poles between Cutoff Road and the Airport.
Weeks 3-4:	Install poles that have arrived via airlift.
Weeks 5-8:	Overhead crews work on dressing installed poles.
Week 6:	Bulk delivery of remaining 750 to 865 class 1 wind rated barged poles.

- A limiting factor to achieve this schedule will be CUC's requirement for heavy equipment (bucket trucks, digger/derrick, pole truck and trailer, and engine generator light standards), wire, transformers and other materials.
- As of yesterday, August 17, the pole supply on island remains depleted.
- A barge transporting 45 concrete poles is scheduled to arrive Saipan today, August 18.
- The joint CUC/GPA restoration work plan for line crews remains current as of August 14:
  - Priority I: Re-build feeders through the business district.
  - Priority II: Get generation units online at Power Plant #1 to carry load at Kiya Substation.
    - Kiya Substation has been assessed and is ready for service.
    - The 34.5kV underground conductors have been tested and inspected and are ready for service.
    - The 34.5kV conductors/risers are ready to be reinstalled on the new concrete poles when installed.
  - Priority III: Build out the Kiya feeder line to the airport.
    - As of August 12, restoration of the primary feeder line to the airport is underway.
- As of August 14, the CUC's core restoration strategy is the placement of wind resistant concrete poles on the primary lines and installation of wooden power poles on secondary laterals. The CUC is acquiring concrete poles from Guam and purchasing directly for transformers, conductors and other equipment.
- CUC has mutual aid agreements in place with the Guam Power Authority (GPA).
- USACE 249th Delta group have arrived in Saipan to assist with power restoration, the group is comprised of eight linemen, and one engineer.
- GPA has 30 personnel on Saipan to include linemen, electricians, equipment operators, relay technicians and mechanics supporting power restoration. **The Federated States of Micronesia plans to send 13 linemen to support electricity restoration efforts within CUC's territory in Saipan.**
- The California Utilities Emergency Association (CUEA) and Pacific Power Association (PPA) have conducted outreach to members to determine supply availability to assist Saipan's restoration efforts. CUEA and PPA will be working with CUC directly to contract materials and supplies.



## Nuclear Generation Facilities

- There are no nuclear generating plants in the Northern Mariana Islands.

## Petroleum & Natural Gas Information

The Commonwealth of the Northern Mariana Islands (CNMI) has no conventional energy resources and meets nearly all of its energy needs, including electricity generation, with petroleum received by ship at harbors on its three inhabited islands: Saipan, Tinian, and Rota.

## Crude Oil & Natural Gas Production

- CNMI has no indigenous crude oil or natural gas production.

## Petroleum Refineries

- CNMI has no petroleum refineries.

## Petroleum Terminals

- Two fuel storage facilities operated by Mobil Oil (10 tanks – gasoline, diesel, and jet fuel) and IP&E (4 tanks – gasoline) are located in Tanapag Harbor at the Port of Saipan on the central northwest side of Saipan (the largest island). These facilities receive shipments from larger storage terminals on Guam, and from tankers after offloading cargo on Guam.
  - **Mobil Oil:** The Saipan terminal resumed normal operations August 6, and fuel deliveries are ongoing to the airport and gas stations. The facility is running on backup generation.
  - **IP&E (Shell):** No major damage sustained at the terminal and truck loading operations have been functional since August 4. All four tanks were refilled on Thursday, July 20. The terminal operates on grid power but is currently running on a backup generator fueled by stocks from the terminal.

## Retail Service Stations

- Still current as of August 14, sixteen (16) of nineteen (19) known retail service stations in Saipan have returned to normal operations following impacts from Typhoon Soudelor. According to company communications, one (1) station is dedicated exclusively to servicing government official vehicles only, including responders.
- Following the tanker vessel delivery on August 17, supplies of gasoline and diesel were sent to Mobil service stations on the morning of August 18.

## Fuel for Power Generation

- Across Saipan, facilities are on generator power and fuel re-supply plans have been established.

## Ports

- Effective August 17, the Ports of Saipan, Tinian, Rota, and Guam have reopened following a closure on August 15 due to Tropical Storm Goni. The Port of Saipan remains restricted to daylight operations, however the USCG, USACE, and the Port Manager **will continue to test nighttime operations at Baker pier using portions of the damaged lighting and backup generators. The volume of generator fuel consumption was an initial concern in order to sustain long term operations, but the volume burned overnight on August 17 was less than anticipated. The Port Manager continues to work with the USACE to procure more than 80 lightbulbs for lighting repairs.**



Status of Ports		
Port Sector	Status	Date Stamp
Saipan (CNMI)	Open. Restricted to daylight operations only.	10:15 PM ChST, Aug. 17
Tinian (CNMI)	Open.	10:15 PM ChST, Aug. 17
Rota (CNMI)	Open.	10:15 PM ChST, Aug. 17
Apra Harbor (Guam)	Open.	10:15 PM ChST, Aug. 17

**Source:** U.S. Coast Guard, DOE Communications, Saipan Harbor Master's Office

- Mobil's tanker *Nord Sakura* arrived at 7:10AM ChST on Sunday August 17 (5:10PM EDT August 16), and was berthed by 2:17PM ChST (12:17AM EDT). The tanker vessel was completing the process of discharging its cargo as of 10:15PM August 17 (8:00AM EDT August 17), **and successfully departed at 8:00AM ChST on August 18 (6:00PM EDT August 17)**. The vessel was permitted to offload during nighttime hours while the USCG, USACE, and Port Manager were testing the damaged lighting.

### Petroleum Product Pipelines

- CNMI has no major petroleum transport pipelines. However, Mobil has a pipeline that connects its terminal to a CUC Power Plant. As of August 13, damage assessments concluded on the Mobil pipeline, containers were removed from on top of the pipeline and no damage was reported.

### Natural Gas Pipelines

- CNMI has no natural gas pipelines.

### Natural Gas Processing

- CNMI has no natural gas processing plants.

### Natural Gas Storage

- CNMI has no natural gas storage facilities.

## Territory Government Information:

- Northern Mariana Islands:
  - The Saipan EOC is fully activated (day shift), and the generator at the site has been repaired.
  - Major Disaster Declaration was issued August 5, for the incident period of August 1-3.
  - On August 2, Ralph DLG. Torres, Lieutenant to CNMI Governor, declared a State of Major Disaster and Significant Emergency for the entire Commonwealth.
- The Disaster Price Freeze Act, which currently allows the Governor of Saipan to issue a price freeze on commodities, is in effect until the governor rescinds the freeze or the declaration of emergency or disaster is terminated.