



## Typhoon Soudelor (13W) Situation Report #9 August 11, 2015 (2:30 PM EDT)

### Highlights:

- Typhoon Soudelor impacted the island of Saipan directly on Sunday, August 2, with highest reported wind speeds of 91mph. NOAA's Guam Forecast Office is no longer reporting on Soudelor.
- Isolated rain showers are possible tomorrow, August 12, and Thursday, August 13. No hazardous weather is expected through mid-week.
- FEMA's August 11 Disaster Summary reports 159 homes destroyed and 459 homes damaged on Saipan due to impact from Typhoon Soudelor.
- All 14,662 electric customers on island Saipan remain without power as of August 11. Repair work is ongoing at Power House 4, Power House 1, and the Kiya Substation. The line from Power House 4 to the hospital is expected to be completed by August 13.
- Delivery of poles and trucks remains a priority. GPA concrete power poles scheduled to arrive from Guam to Saipan by barge on August 15, expected to arrive August 17.
- USS Ashland completed a second delivery to Saipan from Guam today, August 11, carrying three GPA bucket trucks and one auger truck as well as other supplies for relief efforts.
- August 10, Mobil and IP&E/Shell assured sufficient fuel supplies to meet the needs of Saipan.
- Potable water and power distribution remain the primary shortfalls on Saipan; CUC began restoring pressurized water to some of Saipan's villages yesterday, August 9, and continues this effort today, August 11, allowing for limited water service. As of today, August 11, the village of Chalan Kiya received pressurized water and CUC continues to expand limited water service to Saipan residents.

### DOE Actions:

#### Operations:

- Effective July 31, 2015, at 12:00PM EDT/9:00AM PDT, the Department of Energy's Energy Response Organization (ERO) activated to Level III (Enhanced Watch) in support of Tropical Storm Soudelor (13W).
  - Effective August 5, 2015, DOE's Fossil Energy (FE), DOE's Energy Efficiency and Renewable Energy (EERE), as well as the Energy Information Administration (EIA) are contributing subject matter expertise to the response effort.
- Effective August 11, two ESF-12 field responders are deployed with Regional IMATs on Saipan. Additional DOE IMAT representatives are on standby and a long term staffing plan is in place.
- Effective August 11, 2015, one field responder is covering the ESF-12 desk at the FEMA Region IX Response Coordination Center (RRCC) in Oakland, CA from 4:00PM-4:00AM EDT (1:00 PM-1:00 AM PDT).

#### Energy Sector Outreach:

- DOE ERO staff as well as DOE ESF-12 personnel deployed to Saipan are in direct communication with the petroleum terminal operators in Saipan.
- DOE ESF-12 in FEMA Region IX is coordinating with the California Utilities Emergency Association and Pacific Power Association to conduct outreach to their members to determine supply availability to assist Saipan's restoration efforts.



### 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. All eight (8) feeders remain de-energized due to damage sustained by Typhoon Soudelor, as reported August 6.

### Non-Nuclear Power Generation

- As of today, August 11, CUC has completed testing on the Power House #1 station service 1 and 2, and have found no issues. One Station Service unit in operation powering the Power House. CUC continues to assess and test the control equipment that became wet from the failed roof/siding. The building contractor has set up scaffolding and has begun repairs. Power restoration is estimated to be completed at Power Plant 1 by August 31.
- As of today, August 11, Power House #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.
- As of August 11, fourteen (14) power poles have been replaced between CUC’s Power Plant 4 and the hospital. The poles have been set, cross arms, insulators and hardware installed. The conductor line has been re-attached, sagged, tensioned and clipped. The line from Power House 4 to the hospital is expected to be completed by August 13.

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 Operable	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. <b>One unit in on, serving Power House 1.</b>	Aug. 11
	Saipan Power Plant 4 (CUC)					Partially operable	Damage to all distribution lines, roof and generators. Unit 7 running. <b>Unit 2 started and operating under no-load.</b> Repair work ongoing, estimated restoration of service August 14.	Aug. 11

Source: DOE Communications, EIA



## Electricity Distribution

Electric Customers: Saipan						
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 reported August 6, damage assessments account 48 percent of the Saipan power grid is inoperable due to loss of power poles and downed lines. Power restoration is estimated at four to six weeks according to both the Commonwealth Utilities Corporation (CUC) with assistance by Guam Power Authority (GPA).
- CUC’s Power Division updated its post Typhoon Soudelor electrical hardware and equipment repair effort August 10. CUC’s preliminary statistics of transformer damages and wooden power poles damaged and leaning are summarized below. Damaged pole count is expected to increase as damage assessments continue.
  - Forty (40) damaged single phase transformer assemblies, ranging in size from 10 kVA to 167 kVA.
  - Seventeen (17) damaged three phase transformer assemblies, ranging in size from 10 kVA to 167 kVA.
  - Damaged or leaning 35-foot wood poles and 45-foot wood poles equates to 295.

### Restoration efforts underway

- Communicated on August 11, the joint CUC & GPA work plan for line crews has been updated:
  - Priority I: Rebuild feeder #1 from Powerhouse #4 to the hospital
  - Priority II: Assess damage to the Kiya Substation and 34.5kV underground conductors from Powerhouse #1
    - 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.
- Still current as of August 11, CUC is without any spare power poles. All power poles in stock have been utilized in restoration efforts.
- CUC has mutual aid agreements in place with the Guam Power Authority (GPA).
- Concrete power poles will arrive in Saipan by barge on August 17, from GPA stockpiles in Guam to assist CUC efforts. Wooden poles from GPA stockpiles in Guam are in the processing and logistics of receiving airlift transport to Saipan.
  - The installation of new power poles will have to be in compliance with codes from the Saipan Historic Preservation Society.



- **USS Ashland** arrived in Saipan August 11, with the following: 3 bucket trucks, 1 auger truck, 3 pickups, and 2 utility vans.
- The California Utilities Emergency Association and Pacific Power Association are conducting outreach to members to determine supply availability to assist Saipan's restoration efforts. As of August 7, California Utilities Emergency Association and Pacific Power Association report that they are getting good responses from their members on supply availability and that they will compile the data into spreadsheets.

## 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.
  - **Mobil Oil:** The Saipan terminal resumed normal operations August 6, and fuel deliveries are ongoing to bring fuel to the airport and gas stations. The facility is running on backup generation. Mobil reassured that it has sufficient fuel in its tanks at the terminal. Mobil reported that logistics issues at the terminal prevented the opening seven service stations on August 9. On Monday August 10, Mobil indicated that demand is significantly above normal levels. **There is sufficient fuel, however, to meet the needs of Saipan, according to Mobil Oil Marianas Islands, Inc. and Mobil Oil Guam Inc. representatives.**
  - **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. Due to high sales volumes of gasoline, IP&E is requesting a waiver from Guam Environmental Protection Agency to land the internal floating roof of a gasoline tank for approximately 7 – 10 days. This will allow the company to provide more gasoline supply to customers. IP&E has also requested assistance in obtaining a USCG waiver to divert a tanker ship to resupply Saipan. If approved, the estimated time of arrival to Saipan is August 19 or 20. The tanker ship is required to meet and/or comply with port entrance regulations; at this time the USCG has denied the waiver request as of August 10. **IP&E/Shell company representatives reported the company is not short on fuel supply.**



- **Tanapag Harbor Spill:** A major pollution event was declared by USCG following a gasoline spill in the Port of Saipan August 2. The Port of Saipan reopened August 4, a Safety Zone was in effect around Tanapag Harbor but has been lifted as of August 8. The spilled fuel has been coated with a protective, absorbent foam.
- **Saipan Airport Fuel Farm:** Mobil Oil currently has 300,000 gallons of fuel at the airport fuel farm as of August 5. Airlines were requested to tanker in their own fuel to relieve the island of the limited capacity until the harbor fully reopens. Mobil Oil is delivering fuel to the airport and in support of relief efforts.

## Retail Service Stations

- Industry reports that while supplies remain ample, demand for gasoline on island Saipan, following the Typhoon, is significantly above pre-storm levels. Tanker ships are scheduled for delivery to the Apra Harbor in Guam and to Saipan this week.
- As of August 8, 14 of 19 known retail service stations are open for business on Saipan. According to company communications, one (1) station is dedicated exclusively to servicing government official vehicles only, including responders. **No lines observed at fueling stations as of August 11.**
- As of August 9, Mobil Oil said that seven (7) **of its eleven (11) known service stations** did not resume operations as previously communicated due to a logistics issue at the terminal. The company indicated that fuel supplies at the Middle Road, Chalan Kiya, Susupe, and San Vicente were replenished and that these stations were open to the public from 7:00PM-12:00AM ChST. **These stations were also open on Monday at 7:00AM ChST. One site that has yet to start operation due to damage caused by the typhoon is the Chalan Piao station.**
- IP&E (Shell) has opened five (5) of their eight (8) service stations (Puerto Rico, Gualo Rai, Highway Express, Shell Airport, and Susupe) from 8:00AM-5:00PM ChST as of August 10 with a sixth (6) station (Koblerville) open to government official vehicles only. **The company said on Monday August 10 that these stations will continue to provide gasoline and diesel from 8:00AM-5:00PM ChST every day until further notice. Shell Koblerville will remain for government official emergency vehicles only.** Fuel sales remain limited at \$50 per transaction (approximately 12 gallons) for non-responders August 10, up from a limit of \$20 on August 4.
- CNMI Emergency Management has on-island fuel vendor making fuel deliveries.

## Fuel for Power Generation

- CNMI has the capability to refuel generator service tanks. The CNMI EOC has two tankers standing by, and any critical facilities that are low on fuel only need to contact the EOC to get replenished.
- The addition of 13+ generators already planned for operation is expected to put an additional load on the fuel distribution system.
- Due to an island-wide power outage, the Saipan Hospital is operating on backup generators. The hospital was receiving regular generator fuel refills as of August 5.
- STAR Water and Saipan Water and Ice Co. (drinking water distributors) noted low supplies of diesel fuel to run their generators are hindering their ability to deliver water as of August 6.
- USACE fulfilling generator requests for 44 facilities and 15 water wells requiring generator support.
- An Air Bridge has been established and is operating between Guam and CNMI and will continue the flow of generator sets and essential commodities through Wednesday August 12.
- Across Saipan, facilities are on generator power and fuel re-supply plans have been established.



### Ports

- All CNMI ports are open to commercial vessel traffic and cargo operations. The Port of Saipan continues daylight operations only due to lack of power to run undamaged lights overnight, August 6 in to August 7. FEMA delivered via the USS Ashland, four light towers designated for port operations.
- USCG Safety Zone Requirements in Tanapag Harbor in Saipan have been lifted. The Port of Saipan remains open for daytime operations only until lighting is installed or repaired.
- Mobil confirmed its next tanker ship is due for deliveries to Apra Harbor (Guam) on August 15, and to Saipan on the evening of Tuesday August 18, but the company said these dates are subject to change pending delivery order and vessel draft requirements.

Status of Ports		
Port Sector	Status	Date Stamp
Saipan (CNMI)	Open for daytime operations until lighting is installed or repair. USCG Safety Zone Requirements in Tanapag Harbor have been lifted.	5:00 PM ChST, Aug. 8
Tinian (CNMI)	Open	5:00 PM ChST, Aug. 8
Rota (CNMI)	Open	5:00 PM ChST, Aug. 8
Apra Harbor (Guam)	Open	5:00 PM ChST, Aug. 8

Source: U.S. Coast Guard

- According to the Port Authority of Guam, the tanker *Barents Sea* is due into Apra Harbor (Guam) Thursday August 13. According to shipping data from Reuters, the tanker’s last charter carried clean products. Port records also indicate that the tanker SLNC Pax is due into Apra Harbor on Friday August 14, but data from Reuters could not clarify any additional details.

### Petroleum Product Pipelines

- CNMI has no major petroleum transport pipelines. **However, Mobil has a pipeline that connects its terminal to a CUC Power Plant. According to Mobil on August 11, damage assessments will be conducted on the pipeline once shipping containers are removed, though, no damage is anticipated.**

### 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.