



Typhoon Soudelor (13W) Situation Report #4 August 6, 2015 (3:00 PM EDT)



Damage identified to the Commonwealth Utility Corporation's (CUC) 70 MW diesel-fueled power generation plant located in Tanapag, Saipan brought on by Typhoon Soudelor. Photo taken August 3, 2015. **Photo credit:** ESF-12 DOE Responder Embedded with FEMA IMAT Team on Saipan. **Source:** U.S. Department of Energy

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.
- As of 11:30AM EDT today, August 6, Saipan remains without power with more recent damage assessments reporting 48 percent of the Saipan power grid is inoperable due to loss of power poles and downed lines. Power restoration is estimated at three weeks according to both the Commonwealth Utilities Corporation (CUC) with assistance by Guam Power Authority (GPA).
- Effective today, August 6, the priorities identified by Commonwealth of the Northern Mariana Islands (CNMI) are:



- Debris Removal Plan
- Water Distribution Course of Action
- Fuel Distribution Course of Action
- Mass Sheltering
- Mass Feeding
- Mobil Oil said it was hopeful that it would be able to resume terminal operations for fuel truck deliveries to service stations on August 6, after safety concerns at its facilities had been addressed.
- The Port of Saipan, is open to authorized vessel traffic and subject to USCG Safety Zone requirements surrounding Tanapag Harbor (where the island's petroleum terminals are located). USCG Sector Guam's Incident Management Division is working on mitigation/cleanup at the Port of Saipan.
- Established yesterday, August 5, a Drinking Water Task Force to focus on fuel deliveries to local water producers on island Saipan. The CUC reports it has opened water filling stations to the public.
- Reported yesterday, August 5, due to the loss of island power, the majority of the Commonwealth Utility Corporation (CUC) water wells are inoperable. One water holding tank (Kagman) has been damaged and the majority of the CUC water tanks are empty.

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 yesterday, August 5, 2015, engagement with DOE's Fossil Energy (FE), DOE's Energy Efficiency and Renewable Energy (EERE), as well as the Energy Information Administration (EIA) is underway in support to the response event.
- Effective August 6, 2015, two ESF-12 field responders are deployed with Regional IMATs on Saipan. ESF-12 continues to assist with damage assessments and temporary power placements in coordination with ESF #3 and CUC. Additional DOE IMAT representatives are on standby and a long term staffing plan is in place.
- Effective August 6, 2015, two ESF-12 staff are covering 24 hour operations at the FEMA Region IX Response Coordination Center (RRCC) in Oakland, CA.

Energy Sector Outreach:

- DOE Energy Response Organization (ERO) staff at headquarters as well as DOE ESF-12 personnel deployed to FEMA Region IX held an outreach call Monday August 3, 2015, with the American Public Power Association (APPA) to discuss coordination of mutual aid and resources to APPA's member utility in Saipan. No requests for federal assistance, no unmet needs at this time.

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 are de-energized due to damage sustained by Typhoon Soudelor. Lack of electricity to power pumps on Saipan is preventing water from being pumped into the reservoirs. Limited potable water is being delivered via truck, in order to allow residents to fill their storage tanks and bottles.

Non-Nuclear Power Generation

- As of today, August 6, the Power Division of CUC is soliciting additional personnel from the GPA in order to facilitate the power restoration efforts. Yesterday, August 5, GPA experts visited CUC's Power Plants 1 & 2 to assess the extent of damage and identify materials needed for repairs.
- Effective today, August 6, 5:49AM EDT, a joint CUC & GPA plan has been developed:
 - Priority I: Rebuild line from hospital to Power Plant #4
 - Priority II: Build out line to Power Plant #1
 - Priority III: Build out feeder line to the airport
- DOE ESF-12 in FEMA Region IX reported, as of today, August 6, 5:49AM EDT, crews are working to dry out equipment at Power Plant #1, contractors are working to repair roof and walls.
- High winds caused damage to power generation facilities, allowing rain to enter into critical equipment.
- CUC is working with the Federal Emergency Management Agency (FEMA) to perform an island-wide assessment to ascertain damage and plan recovery efforts.
- CUC has mutual aid agreements with Guam Power Authority.

Saipan Power Plants & Electric Statistics

Location	Power Plant	Nameplate Capacity (MW)	Fuel	Peak Load (MW)	Number of Customers (March 2011)	Operating Status	Damage	Date
Tanapag, Saipan	Saipan Power Plants 1 & 2 (CUC)	69.9	Diesel	45	13,208	Inoperable	Plant 1 roof is severely damaged. Plant 2 requires a step up transformer.	Aug. 6
	Saipan Power Plant 4 (CUC)					Inoperable	Damage to all distribution lines, roof and generators.	Aug. 6

Source: U.S. Department of Energy, Company communications, EIA.

Electricity Distribution

- CUC performed its preliminary assessments of high voltage electrical equipment on Monday August 3. CUC suffered widespread damage to Saipan's power distribution system when Typhoon Soudelor made landfall the evening of Sunday, August 2. As of 11:30AM EDT today, August 6, Saipan remains without power with more recent damage assessments reporting 48 percent of the Saipan power grid is inoperable due to loss of power poles and downed lines. Power restoration is



estimated at three weeks according to both the Commonwealth Utilities Corporation (CUC) with assistance by Guam Power Authority (GPA).

- CUC estimates an increase in the field inventory of damaged transformers and power poles once field assessments have been completed on minor roadways.
- CUC estimates 22% severely damaged power poles and 35% severely damaged distribution transformers island-wide.
- All distribution lines coming out of Power Plant #4 are damaged.
- The structures inside the Kiya 34.5/13kv substation fence appear to be operational. The distribution poles holding the three phase feeders into the Kiya substation are broken.
- Guam Power Authority (GPA) is transporting approximately 200 power poles from its stock. A lined storage location for damaged transformers needs to be identified.
- Debris on major roadways is no longer hampering assessment and restoration efforts. Clearing secondary roads remains the focus.
- DOE ESF-12 in FEMA Region IX reported, as of today, August 6, 12:00AM EDT, ten (10) 125kW generators are expected to arrive in Saipan on Saturday, August 8, for water treatment and pumping stations. Responders are currently determining strategic placement for each generator to provide power to multiple water wells.

Field Assessment of damaged power poles and distribution transformers on major highways		
Category	Total Count	Date
Damaged Power Pole	276	August 6
Damaged Distribution Transformer	152	August 6
Total Feeder Damages	428	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report

CUC Preliminary Report on Power Pole Needs				
Item	Stock Count	# of Damaged Poles	# of Poles Needed	Date
35 ft	28	4	None	August 6
40 ft	0	0	None	August 6
45 ft	64	213	149	August 6
50 ft	27	0	None	August 6
55 ft	8	59	51	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report

CUC Preliminary Report on Distribution Transformer Needs				
Item	Stock Count	# of Damaged Transformers	# of Transformers Needed	Date
10 kVA	23	26	3	August 6
15 kVA	0	27	27	August 6
25 kVA d/b	26	22	None	August 6
37.5 kVA	0	12	12	August 6
37 kVA	0	5	5	August 6
50	0	14	14	August 6
75	9	26	17	August 6
100	0	12	12	August 6

Source: CUC Preliminary Distribution Circuit Reparation Report



Restoration efforts underway:

- Twenty (20) Guam Power Authority (GPA) subject matter experts (SMEs) arrived in Saipan yesterday, August 5, to collaborate with CUC on restoration efforts. The requested three (3) bucket trucks and one (1) auger vehicle with an operator from GPA have been loaded onto the USS Ashland for delivery to Saipan from Guam rather than the initially planned barge transport method and are scheduled to arrive in Saipan tomorrow afternoon, August 7.
 - Power poles were not loaded on the USS Ashland due to size restrictions (length).
- Fifteen (15) GPA linemen will arrive tonight or tomorrow morning on a commercial flight from Guam to Saipan to assist in restoration efforts.
- Four (4) CUC lineman from Rota have arrived on island Saipan and have been assisting in restoration efforts.

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. The island of Tinian receives small shipments of transportation fuels at a facility in Tinian Harbor.
 - **Mobil Oil:** The U.S. Coast Guard (USCG) National Command Center reported a 130,000-gallon gasoline storage tank at the Mobil Oil terminal was damaged by flying debris. The tank is in a containment area surrounded by a four foot berm. Approximately 11,000 gallons of gasoline spilled and was contained within this area. The fuel tank that ruptured is no longer leaking fuel and has been temporarily sealed with a patch. Gasoline is still in the secondary containment area. Foam is being applied on an hourly basis to mitigate the vapors as of August 5. USCG requested that Mobil Oil provide operations and safety plans before fueling operations can be resumed. The gasoline distribution loading rack is approximately 50 feet from the containment area. Mobil said it was hopeful that it would be able to resume terminal operations for fuel deliveries to service stations on August 6.
 - **Tanapag Harbor Spill:** USCG also reports that a vessel broke free of its moorings and breached a 1,000-gallon diesel tank on Delta Wharf in the Port of Saipan, leading to the release of about 500 gallons into the water. A major pollution event was declared. Although



the Port of Saipan has reopened August 4, a Safety Zone remains around Tanapag Harbor. 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

- Motor gasoline supplies at retail service stations continue to be limited, according to open press reporting on **August 6**. Long waits have been reported at service stations. Many gas stations sustained damage from the storm, which is inhibiting refueling.
- Acting CNMI Governor Torres said August 5 that there is no fuel shortage and that long lines at gas stations are due to citizens seeking to refuel at the same time and ensure they have gas). The price freeze covering fuel, among other goods, is in effect until August 8.
- **Mobil Oil is operating seven (7) of its Saipan service stations to the public and emergency responders** (Susupe, Chalan Piao, Middle Road, Koblerville, **Tanapag, Garapan, and Kagman Village**) as of **August 6**. **The Susupe, Chalan Piao, Middle Road, Koblerville, and Tanapag stations were open to the public from 12:00PM-6:00PM ChST. The Garapan and Kagman stations are reserved for emergency responders only. After closing on Thursday, Mobil will reevaluate fuel available for consumption and make a decision on operating times for Friday.**
- **Shell** has opened four (4) service **stations (Puerto Rico, Gualo Rai, Highway Express, and Shell Airport) from 8:00AM-7:00PM ChST as of August 6 with a fifth station (Koblerville) open to government official vehicles only.** The company had placed a limit of \$50 per fuel transaction for non-responders August 5, up from a limit of \$20 on August 4. There are eight (8) Shell service stations on Saipan, according to Shell's website. **IP&E Shell said it was sending representatives from Guam to check service stations before hopefully reopening them.**
- **CNMI Emergency Management has on-island fuel vendor making fuel deliveries.**

Fuel for Power Generation

- Commonwealth Utilities Corporation (CUC), which manages the electric power generation and distribution system on CNMI, uses approximately 22-24 million gallons of diesel fuel per year. Saipan currently has a maximum diesel fuel storage capacity of over 3 million gallons (when all tanks are in use), allowing for a maximum of about 1.5 months of active fuel storage.
- Due to an island-wide power outage, the Saipan Hospital is operating on backup generators. As of August 4, the hospital has an estimated 7 days of fuel supply for operations. **The hospital is receiving regular generator fuel refills.**
- **STAR Water and Saipan Water and Ice Co. (drinking water distributors) note low supplies of diesel fuel to run their generators are hindering their ability to deliver water.**
- **Saipan EOC evacuated due to generator fuel hose leak August 5.**

Ports

- As of 6:00 PM EDT, August 3/8:00 AM ChST, August 4, USCG set Port Condition Whiskey, reopening with restrictions all CNMI ports to commercial vessel traffic and cargo operations. The Port of Saipan, is open to authorized vessel traffic and subject to USCG Safety Zone requirements surrounding Tanapag Harbor (where the island's petroleum terminals are located). USCG Sector Guam's Incident Management Division is working on mitigation/cleanup at the Port of Saipan. The



Saipan Port had declared a major pollution event due to a 500-gallon gasoline spill. USCG also reported that three vessels less than 200 gross tons were blown from their moorings and were aground in Tanapag Harbor. As of August 4, two of these vessels have been refloated and returned to the dock while a third remains aground on the outer breakwater. USCG officially placed all CNMI ports in Condition Zulu as of 4:00PM EDT on August 1/6:00AM ChST on August 2, meaning that all activity, both on the water, and at the seaports is officially suspended.

Status of Ports		
Port Sector	Status	Date Stamp
Saipan (CNMI)	Open with restrictions (Whiskey). Subject to USCG Safety Zone Requirements in Tanapag Harbor.	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Tinian (CNMI)	Open with restrictions (Whiskey).	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Rota (CNMI)	Open with restrictions (Whiskey).	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4
Apra Harbor (Guam)	Open with restrictions (Whiskey).	6:00 PM EDT, Aug. 3/8:00 AM ChST, Aug. 4

Source: U.S. Coast Guard

- According to the Port Authority of Guam, the tanker *Barents Sea* is due into Apra Harbor (Guam) August 10. According to shipping data from Reuters, the tanker's last charter carried clean products.
- **USCG is working to clear an iso-tainer in the port for use at the hospital. The iso-tainer will hold fuel for the hospital's generator.**

Petroleum Product Pipelines

- CNMI has no major petroleum transport pipelines.

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
 - **Major Disaster Declaration was issued yesterday, August 5, for the incident period of August 1-August 3.**
 - **Today, August 6, 12:00AM EDT, the Saipan EOC evacuated due to a generator fuel hose leak. Repairs will begin today, but some parts may be unavailable. A COOP site was established at the Division of Environmental and Coastal Quality.**
 - On August 2, Ralph DLG. Torres, Lieutenant to CNMI Governor, declared a State of Major Disaster and Significant Emergency for the entire Commonwealth.



- The CNMI Governor also declared a price freeze for the Commonwealth as of August 3, 2015. Pursuant to the Commonwealth Disaster Price Freeze Act, this price freeze shall apply to the following items:
 - Gasoline, kerosene, diesel fuel, natural gas, and all other chemical fuels, whether in gaseous, liquid, or solid form;
 - Generators, cables, wires, electrical batteries of every sort, and similar equipment for the generation or transmission of electrical power.