Commonwealth Utilities Corporation

Commonwealth of the Northern Mariana Islands

PROFILE REPORT

The Commonwealth Utilities Corporation (CUC) is the only publically owned utility, providing power, water, and wastewater services in the Commonwealth of the Northern Mariana Islands (CNMI). CUC is an autonomous agency of the CNMI government which is governed by an independent Board of Directors and daily operations is managed by an Executive Director with a staff of approximately 400. CUC's rates, fees, charges, services, rules, and conditions of service are regulated by the Commonwealth Public Utilities Commission.

Saipan

Power Generation System

CUC owns and operates three (3) power plants on the island of Saipan with installed capacity at 80 megawatts (MW). The average peak demand in 2018 registered 43 MW with an average available capacity of 68 MW. CUC's Power Generation Division is currently burning Ultra Low Sulfur Diesel.

- **Power Plant I**
  Located in Lower Base, this primary facility is the largest among the CUC generating facilities. It supplies the bulk of the electricity for Saipan. The plant has a total of eight (8) units, medium speed, and has available capacity of 51 MW.

- **Power Plant II**
  Located adjacent to the main power plant, this plant has a total of six (6) engines and has available capacity of 6 MW. It is used mainly as a stand-by and back-up plant during overhauls and maintenance of the engines at Power Plant I. At times, it is run to operate at peak load.

- **Power Plant IV**
  Located in Puerto Rico, this plant has a total of six (6) units; with a total available capacity of 11.1 MW. It is a backup and peaking plant similar to Power Plant II.

Power Transmission and Distribution (T&D) System

The U.S. government established CUC's power transmission and distribution system. Since CUC was created in 1986, the Utility has maintained it and built considerable additions. With the exception of the island of Tinian, CUC operates Saipan and Rota T&D systems.

There are approximately 191 miles of overhead distribution lines on Saipan, primarily at 13.8 kV, and some locations at 34.5 kV. There are a total of eight (8) electric grids/feeders. Feeders 1, 2, 3, 4 and 7 emanate from Power Plant I.

At the primary power plant, there are two Feeder Lines (T1 and T2) to a substation that steps up voltage to two (2) underground cables (Line 1 and Line 2) with a length of 5.6 miles each. At the end of this line, there is the Chalan Kiya Substation which consists of 34.5 switch gear, 2 units of 50 MW pad-mount transformer and 13.8 kV switchgear which feed the four grids (Kiya 1, 2, 3, and 4).

The Lower Base Substation located at the perimeter of Power Plant I has a capacity of 100 MVA. Two units of 50-MVA transformers step-up the 13.8 kV incoming voltage to 34.5 kV toward the Chalan Kiya Substation. The 34.5 KV metal-clad switchgear is housed in a control building. It has six (6) cubicles, two (2) of which are utilized for the incoming power circuit breakers, another two (2) are used as 34.5 kV control panel, the fifth one is for the bus tie breaker and the last is for the station service transformer.

Water Production-Transmission and Distribution Systems-14 Monitoring Wells

The CUC Water Division is responsible for all aspects of the engineering, operation and maintenance of the public water system (PWS) including the sources, treatment, storage, testing and distribution of potable drinking water for all the three islands, Saipan, Tinian and Rota. CUC is regulated by the U.S. Environmental Protection Agency (EPA), and the local counterpart, the CNMI Bureau of Environmental and Costal Quality (BECQ).

CUC provides water service to the community, which conforms to the U.S. Safe Drinking Water Act (SDWA). CUC has improved its water transmission and distribution systems throughout the recent years (i.e. new water mains, water tanks, booster stations, etc.). These improvements were made possible through local and federal funds from multiple U.S. Federal partners (OIA, EPA, EDA). CUC continues to work with local BECQ to improve its standard of operations and the quality of water supplied to the community.

The CUC Saipan Water Division operates 140 groundwater wells; one (1) spring; one (1) rainwater catchment basin and slow sand filter (not currently in use due to turbidity); 19 chlorination stations; 14 finished water storage tanks including concrete tanks (above ground and buried), welded, and bolted steel tanks; four (4) sump tanks associated with booster pump stations and nine additional in-line booster pumps; and approximately 286 miles of transmission and distribution water mains. Total water production averages 9.5 million gallons per day.

CUC provides 24-hour water service to customers on the islands of Tinian, Rota and Saipan.

Wastewater System

Only the island of Saipan provides wastewater services, and CUC operates two (2) wastewater treatment plants (WWTP), the Agingan and the Sadog Tasi Wastewater Treatment Plants, for the southern and northern wastewater collections systems, respectively.

The southern wastewater collections system comprises of 22 sewer pump/lift stations with submersible pumps, precast manholes, intertwined into a forcemain, gravity transmission lines. The waste is transmitted into a cascading flow that terminates to the Agingan Wastewater Treatment Plant, a three (3) million gallon per day secondary treatment plant with peak daily flows of approximately one (1) million gallons of wastewater treated per day.

The northern wastewater system comprises of 15 sewer pump/lift stations terminating at the Sadog Tasi Wastewater Treatment Plant, converted in 2005 from a World War II oil tanker, it is a 4.8 million gallons of wastewater treated per day secondary treatment plant. Based on data recorded, influent flows of approximately two (2) million gallons of wastewater treated per day.

The CUC Water Quality Laboratory has the function of collecting the test samples for the plants three times a week as mandated on the EPA permit. Reports are compiled and submitted to BECQ and EPA for discharge monitoring reports and quarterly review. EPA and BECQ have regular plant inspections twice yearly.

Similar to the water system, CUC has received local and federal funds from the CNMI and US government to rehabilitate and repair existing wastewater infrastructure to include wastewater lift station and treatment plant rehabilitations. These improvements will assist CUC to comply fully with the NPDES requirements.

Tinian

Power Generation System
This facility is operated by an Independent Power Producer (IPP). CUC and the IPP have a contract for the Design, Supply of Plant and Equipment, Private Construction, Maintenance and Operation, and Transfer of Ownership. This plant has an installed capacity of 20 MW. The average peak load is 2.5 MW.

The IPP is also responsible for the operations and maintenance of the distribution system for the island of Tinian.

Water Distribution
CUC operates one (1) shaft well (Maui 2); one (1) chlorination station, three (3) finished storage tanks (bolted and welded); one (1) booster station and approximately 58 miles of transmission and distribution water mains. Total water production averages 900,000 gallons per day.

Rota

Power Generation System
CUC operates this power plant which produces 7.4 MW. The average peak load is 1.65 MW. CUC is responsible for operating and maintaining the power generation system on the island of Rota.

Power Transmission and Distribution System
The two (2) generators in the CUC Rota Power Plant are rated 4,160volts and are directly connected to the 4.16 kV distribution bus, which feeds the three feeders (Feeders 1, 2, and 3). Respectively, Feeder 1 and 3 have a 1000 KVA step up transformer and Feeder 2 has 2000 KVA step up transformer to boost the voltage to 13.8 kV.

Water Distribution System
CUC operates one (1) cave (Main Cave); one (1) chlorination station, two (2) finished storage tank (bolted and welded); one (1) booster station and approximately 61 miles of transmission and distribution water mains. Total water production averages 900,000 gallons per day.

6/7/19
GARY P. CAMACHO
Executive Director