Visit to the Voice of America in São Tomé

by Anker Petersen.

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From my bungalow veranda here I have an excellent view of the 21 tall antenna towers of VOA São Tomé which also is located on the eastern coastline of this very green island just four kilometres north of my holiday resort. Further three kilometres north along the coast is the capital of the Republic which also is called São Tomé.

The 346 acres transmitting site was leased by the International Broadcasting Bureau (IBB) from the Pinheira Plantation in 1992 and is located on a small peninsula southeast of the village of Almas. As everywhere in this country the local population there still live in primitive timber houses which mostly are without built-in water supply. The women carry everything on top of their heads and wash clothes in the rivers.

Both the HFCC and the WRTH indicate the geographical position of the VOA Pinheira site as 00N18 006E42. However, a detailed local map reveals that these coordinates are just east of an inland village named Trinidade which is five kilometres west of the site. The correct geographical coordinates of the VOA site is 00N18 006E46.

Before I left Denmark, the Transmitting Station Manager, mr. Charles Lewis kindly invited me to visit the station. He is born in North Carolina, USA in 1942. He started out as a broadcast band and shortwave DX-er around 1952 and today he is an active radioamateur with callsign S9SS. He has been working in the field of radio broadcasting since 1965. He joined the VOA in 1989 and was sent to Botswana. From 1992 he was involved as transmitter plant supervisor in constructing the Pinheira site and as engineer he was involved in getting the Harris VP-100B transmitter running on 1530 kHz MW. Later it was converted to the 4950/4960 kHz tropical band transmitter, we can hear so well in Europe and elsewhere during hours of darkness. Later on he served for five years at VOA in Greece and returned to São Tomé as Station Manager in April 2002. He plans to retire in 2007.

I went to the Pinheira site on March 13, 2003. On the ten minutes ride from Club Santana through the impressive green vegetation of mostly banana and coconut palmtrees my fastdriving Santomean driver, called Moises, had to brake the car several times in order not to hit children, dog, pigs, goats and chicken crossing our road.

Entrance to the transmitting station of IBB and Rádio Nacional de São Tomé at Pinheira.

Charles Lewis picked me up at the security gate and drove me first around the site which is surrounded by coconut palms and filled with exotic birdlife. He explained me its history and technical details. After that we walked through the modern, air conditioned transmitter building and ended up with refreshments which his wife Lesley had prepared in their beautiful bungalow having a marvellous view over the coastline.

When he arrived to this site in 1992, the former transmitter building of Radio Nacional de São Tomé e Príncipe was still there with a non-operational shortwave transmitter and the remains of the antennamast which had broken down during a storm. Older DX-ers remember the logging of this 10 kW station on 4807.5 kHz which was heard regularly until mid 1982, but the next three years only sporadically. The Portuguese left the islands upon the independence in 1975 and because no other nation did support, the transmitter and antenna were never repaired. Today the building is used by the VOA as a storage house.

I am standing in front of this historical building. The broken SW antenna behind the former Radio Nacional transmitter building can be seen here at the right fence door. To the far left is one of the antenna towers just built for VOA 1530 kHz.

The local power supply is unstable – even today – , so the IBB decided to build an independent powerplant with five diesel generators having a total capacity of nearly 5 MW. Diesel oil is delivered to the power plant by a tanker ship which anchors up one kilometer from the site. A very long oil hose is then sailed out to the tanker from their own offloading facility on the site and the pumping can begin. In addition own waterworks was also built for drinking and sanitary purposes and for water cooling of the transmitters. Even before they are started up the average outdoor temperature in the shadow is 32 C°!

The IBB transmitter building in front of some of the SW antennas. The satellite dishes are seen to the right.

From São Tomé the IBB relays VOA programmes in English, French, Portuguese, Hausa, Kirundi and Swahili to the Central part of Africa in the morning and during late afternoon and

evening. [After my visit VOA broadcasts in Shona and Radio Sawa in Arabic have been added.] It uses one 600 kW MW transmitter (1530 kHz), the 100 kW ”Harris” transmitter dedicated to the 60 mb and four ”Thomcast” 100 kW SW transmitters to 6 – 21 MHz. A new frequency can be tuned within one minute.

All programmes are produced at the VOA studios in Washington and relayed to São Tomé via a satellite over the Atlantic. As back up there is also a satellite connection via the Indian Ocean.

The relay broadcasts and antenna switching is automated by computer which is controlled by two Santomean technicians in the control room.

Santomean technicians on duty in the control room: Luís Filipe Nazaré (right) and Leopoldo Q. Correia.

From the transmitter building the signals are first sent in feedlines to 75 ohm balanced to 300 ohm unbalanced ”baluns” (balanced to unbalanced transformers) located at short distance from the transmitter building. From the ”baluns” they continue through 300 ohm balanced ”open wire” transmission lines out to the huge directional antennas which form an arc of a circle pointing from NNW through NE to SE. The beam from each of the advanced SW-antennas can be slewed in azimuth (up to +/- 24 degrees), elevation and beamwidth by adjusting the phase. There are 15 dipole curtain antennas supported by 18 towers. There are two towers for the 1530 kHz MW antenna. There is an additional tower for Radio Nacional's 945 kHz transmissions.

The old MW-antenna for 1530 kHz was corroded by the salty sea air and had just been broken down and was laying as a bunch of metal on the ground. As replacement two new towers had been installed and the contractor expected it fully operational before the end of March 2003.

Charles Lewis told me that he has access to automated, unmanned receivers at the U.S. Embassies all over Africa which record samples of the received audio at various times during the transmission schedule. From that he knows that the broadcasts from this relay station are heard very well in their intended target areas. Reception reports from DX-ers are welcome, but should be sent to the VOA main office in Washington.

For local purposes, the IBB has also installed a 200 watts FM transmitter which relays ”VOA Music Mix” in English on 105.5 MHz 24 hours a day except for relay of the Portuguese programme from the VOA at 1700-1800 to the local population on São Tomé. Most of these speak Portuguese as their primary language.

The IBB personnel also runs a MW-transmitter on 945 kHz for Radio Nacional de São Tomé e Príncipe as a part of the leasing arrangement. It carries programmes produced in São Tomé city and they are in Portuguese 23 hours a day, and in the local Bantu language called Foro at 0500-0600. The very stable ”Harris” MW-transmitter is designed for 25 kW, but only 20 kW are used. It is completely independent of the VOA programs and transmitters.

The station is lead by three U.S. Managers (Charles Lewis as Transmitting Station Manager, a Transmitter Plant Supervisor and a Facilities Plant Supervisor who is responsible for all the support functions on the compound), a British contracted employee, and about 80 Santomean employees. The relations to the local population have always been good.

Transmitting Station Manager, Mr Charles Lewis, at the ground works of a 4x4 Curtain Dipole Array.

There are no clandestine broadcasts from the transmitters on São Tomé.

Close look at the eldest IBB transmitter on São Tomé which now is used for the 60 meter tropical band.

It was a great experience for me to visit this exotic IBB station and I thank Charles Lewis, his staff and wife for excellent hospitality.