

Twelve years ago I decided to attempt an amateur radio transmission from the international Antarctic base (ECO - Base) situated on Nelson Island, which is part of the South Shetland Islands. The base was established by the Czech polar explorer Jaroslav Pavlíček many years ago.

The base is run on green ecological principals. The purpose of the base is to use green principals to test survival with a bare minimum of household goods. The sole source of energy was from a wind power station. My goal in this undertaking was to show that an alternative life style, based on a single alternative energy source, is feasible, even under the harshest of weather conditions and that sophisticated scientific techniques will not damage the environment.

During the twelve years of preparation, with the help of my friends, I engineered a control unit for a wind power station, which charged an accumulator for the transmitter, and used the spare energy to heat a small room. My hope was to keep the indoor temperature between 15-18°C under optimum wind conditions.

Through the long preparation period, I attempted to find sponsors, because my personal financial resources were limited.. But only my wife helped me. She knew that the visit to Antarctica was my life dream that had been postponed year by year. Therefore she, with J. Pavlíček, prepared an incredible surprise for me. They scheduled the expedition to Nelson Island, without concern for cost. My wife guaranteed psychic support and helped me prepare the necessary equipment. Because of both personal budget restrictions and airline weight and volume limits, I had to keep the amount of equipment I took to a minimum. For example, I had to cut my vertical antenna to a suitable length and had to make a special PVC cover for three antenna traps to prevent damage to them. Every empty space in my back-pack was used to pack radials and antenna wire for the top bands and for an anchor ropes. The airlines informed me that the weight of personal luggage is not a concern because the shipping restrictions relate to volume only. Therefore I put everything in my aluminium suitcase, including my TS570D. The total weight was 14kg. I took a 12V/40A jelly battery as the second piece of luggage because I didn't want to rely on the old battery at the base, which had been used there only for lighting and wasn't designed for a high current load. I intended to use this battery to power my transmitter. I had some concerns about whether the airlines would ship the jelly battery because all my information was oral and I had no written verification that that they would accept the battery as luggage. Fortunately, all my luggage was checked in at Prague airport without a problem..

Our trip started on the 30<sup>th</sup> of November in Prague where we boarded the airplane to Milan. There, we were to change planes for the connection to the Buenos Aires. Because we had more than 9 hours between flights, we left our luggage at the left-luggage office and went sightseeing in Milan. It was a big mistake because we had to go through personal and luggage check-in again. We were told that for the safety reasons our battery wouldn't be transported at all. My suitcase with the transceiver was also rejected because it was too heavy. After much arguing, we couldn't convince the Italian authorities that the same rules for shipping should apply in both Prague and Milan. We had to throw the battery into a trash can. The personal suitcase was, in the end, accepted as a standard bag. It was risky because of the potential damage to my transceiver.

In Buenos Aires we picked up our bags and went to the bus station. We took a bus to Rio Gallegos and then to Punta Arenas in Chile. It took 50 hours. In Punta Arenas we met other participant in the expedition and waited for seats on an airplane to King George Island. At the time we tried to buy a new jelly battery but with no success.. In Punta Arena I also discovered that the cover of the isolator was damaged. I solved this problem by using 2 liter pet bottle. A local ham, CE8BHI, helped me to improve (OR repair) my transceiver. I was worried

because the transceiver cover was also damaged but was happy to find that my transceiver OK. J. Pavlíček arranged transportation to King George Island, including shopping for everything necessary for our stay on Eco Nelson Base. We were lucky because we found the proper airplane but our stay on Nelson Island was limited to about 10 days because planes do not often fly from this island.

There was a huge wind (25-27m/s) when we landed on King George, which prevented our rubber boat from sailing to Nelson Island. After a wait of two days, we managed to sail to Nelson Island even though the weather still wasn't good. Our luggage was shipped separately to the base, which was 2 kilometers further on Nelson Island. When we arrived at the base I checked the wind power station accumulators. I was disappointed because the battery was in poor condition. One six volt pack had the capacity of 130Ah and the other only 35Ah. I connected the batteries and checked the charging current which was about 8A, but varied with the wind conditions. My wife helped me to build the vertical antenna.

Nelson Island is rocky so we couldn't use a classic anchor. We collected numerous stones and piled up on a timber to which we bound the anchor. We also had to find a way to lay down a lot of radials safely so that they did not create obstacles for any possible walkers through the area. Next, I hung up a dipole antenna for 160m, 80m, 40m with 1:6 rf choke balun. This was from the DD AMTEK company that sold me the antenna for token price. I would like to send many thanks to DD AMTEK!!!!

When I first switched on the rig I found that the control unit of the power station was too noisy for my TS570D. I had to switch this unit off when receiving. The signals there were weak compared to the ones in Europe. I found a very promising twenty meter band which carried only a few stations, with high QRM. These were mainly from South America. I tried calling some of them with 100W without any success. The first QSO was on the 13<sup>th</sup> of December, 2004, on 20m at night. We tried another three a while later. The following day I installed additional radials and listened on twenty meters with the same result. I tuned the bands and found the best conditions on a 40m band which was fully opened for around three hours. The best conditions for contacting Europe followed on the 15<sup>th</sup> of December but always with high QRM. When I got a good report I lowered the power to about 30W and continued with this until the end of my stay there.

There was no heat in the transmission room because there was no stove. The only heat came from the idle current from the charging unit of the wind power station.

I couldn't use 160m and 80m bands at all because of the strong QRM. Oleg, R1ANF, explained to me that parts of these bands are shared by professional stations from South America, which use mainly digital modes. It was bad luck that throughout my stay on Nelson there was only pure condx. I made 280 QSOs with all 5 continents in this short time. My best dx was UA0ZC.

Throughout the time I was on Nelson, only pure wind blown and the limited capacity of the old batteries could not overcome this deficiency.. I could only spend four hours per night on the air and made only 280 QSOs. I had to cease transmitting completely on the 18<sup>th</sup> and 19<sup>th</sup> of December because of lack of wind. I spent one day packing my antenna and in the evening we sailed on rubber boats back to King George to catch our airplane next day. It was necessary to take everything with us, including the waste, when we left Nelson Island and all my radio devices had to be shipped back from South America to the Czech Republic.

I would like to thank Jaroslav Pavlíček, the technical staff of the CTU in Prague, Jaromír Kalíšek – Profi Electronic Domažlice and all my friends in the ČR who supported me. I would also like to thank the other member of our team, my friend Nir, from Israel. But, most of all, I want to thank my wife, who brought my life-long dream to reality.

I didn't tell many people about my trip in advance because I wasn't sure that I would actually make it to Antarctica and I never anticipated the huge response I received to my transmissions from Antarctica. I assume the huge number of responses was because of the Antarctic diploma. I regret that I could only transmit for a short time and that I couldn't offer more QSOs. I would certainly plan another expedition if I can locate sponsors to help with financing.

In my view, this experimental expedition was successful. Although it was physically and mentally demanding, it proved that it is possible to visit even more challenging QTHs. Let me to add that a necessary prerequisite for this expedition was attendance at a special course organized by J. Pavlíček.