

Mojave Desert In search of the most futuristic science story, the nuclear rocket engine for space flight, I found it 150 km north of Las Vegas and 500 km east of Los Angeles in California. I travelled there on 4 August 1969, having received security clearance from both NASA and AEA. It was an easy drive in a hired Hertz car, and I was expected to take only one hour on a super highway to reach Jack Ass Flat, the nuclear research station in the desert. It was real desert heat when I got there, completely dry and 46°C in the shade, being only a few kilometers away from the Nevada Underground Atomic Bomb Test Site of the Atomic Energy Authority. The nuclear rocket test engineers told me that when an underground bomb test is in progress, they have to halt all their own experiments “so violent are the earthquakes”.

For any lengthy manned space flights inside our own solar system, the presently used chemical rocket engines, burning liquid hydrogen with liquid oxygen, are totally inefficient and inadequate. The alternative is to pump liquid hydrogen at a temperature of -270°C through an Uranium 235 reactor at a rate of 7 ton a minute, producing a stream of hydrogen at more than 2500°C . This record had been achieved at Jack Ass Flat a year before my visit, with a Phoebus 2 engine, its power output being 4500 megawatt for 12 minutes, out of a total run of 32 minutes.

“At that level it became the world’s most powerful atomic reactor that had so far gone critical and worked” Mr John Jewitt told me proudly. He was at the time the Chief S.N.P.O. — Nevada, the Chief of Space Nuclear Power Operations in Nevada. I wrote in my report, filed to London and there set in print, but never published: “There is nothing like it in Europe. Any Russian efforts in this field, although shrouded in secrecy, are unlikely to be any match to the American progress, if recent Russian space endeavours are any guide.” (On 21 July 1969, only two weeks earlier, Armstrong and Aldrin had landed as the first astronauts at Tranquility Bay on the Moon.) [See Title 214, later article published]

There could be no doubt whatsoever that NASA and the AEA were most seriously working on nuclear propulsion for space flight, but never for the first stage of departure. This would always be achieved with chemical fuels to launch the spacecraft beyond the Earth’s atmosphere to avoid all atomic pollution. Only then, nuclear engines would take over to complete the voyage to Mars and beyond. By the time I visited this most remarkable desert establishment the engineers explained to me that during the last 15 years about one thousand million US Dollar had been spent; and that the same amount would be needed during the next seven years to complete their research work. This was never done, atomophobia stopped it all.

See Watercolour Title 102, inside Front Cover