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## THE HIGH ALTITUDE RESEARCH PROJECT: AUSTRALIA'S FIRST ROCKOON PROGRAM

**Abstract**

A previous paper by the author outlined the history of the Australian sounding rocket program, which operated between 1957 and 1975. Briefly mentioned in that paper was the High Altitude Research Project (HARP), a rockoon development program that was the Weapons Research Establishment's first attempt at developing a sounding rocket for upper atmosphere research during the International Geophysical Year. Due to repeated failures of the HARP rockoon, the project was abandoned in early 1958 and quickly forgotten when the more-conventional Long Tom sounding rocket proved successful, marking the real beginning of Australia's sounding rocket activities.

However, the recent rediscovery of archival files relating to HARP, which had been thought destroyed, has shed new light on this early project that was a significant contributor to the perception of Australia as a space-active nation at the very beginning of the Space Age. These files have revealed that the HARP program had both an interesting technological background that demonstrated the innovativeness of the Australian Defence Scientific Service and also represented an important political turning point in Australia's relationship with Britain within the Anglo-Australian Joint Project, for which the Woomera Rocket Range was developed.

This paper will present the first detailed history of the previously overlooked High Altitude Research Project. It will examine the political and technical origins of the program and the reasons for selecting a rockoon design for Australia's first sounding rocket. It will discuss the technical innovation represented by the small 'Harpy' rocket developed for the project and also highlight the reasons for HARP's failure — reasons that were connected with the meteorological environment at the Woomera Range, rather than technical issues.