Planning process for future capacity expansion of Petrel Base, Cape Welchness, Dundee Island

**Planning process for future capacity expansion of Petrel Base, Cape Welchness, Dundee Island**

**Information Paper submitted by Argentina**

***Summary***

This document reports on the planning process under development by the Argentine Antarctic Programme, linked to the capacity expansion of the Petrel Antarctic base. Information is included on the history and current situation of the base and on the current tasks and future plans so that the base can enable the logistical support capacities for this country’s scientific activities in Antarctica to be expanded and improved, with a view to the future challenges.

***Introduction***

Petrel Base was founded on 22 February 1967, operating as a permanently occupied base until 1976, when a fire completely destroyed the main lodging house. Since then, the base has been maintained until the summer of 2021/2022 as a temporary one, housing summer working groups that carry out periodic maintenance tasks, and providing support to scientists who conduct research work on the island.

The Petrel Base facilities are located on a plain of loose stone material, known as Cape Welchness (Latitude: 63°28'40''S, Longitude: 56°13'37''W), the only sector of Dundee Island not covered by the Rosamaria Glacier.

The sector of Dundee Island currently occupied by the Petrel Antarctic Base is a small, triangular-shaped peninsula of approximately 1.8 km 2 , with two differentiated plains, reaching a height of 18 metres above sea level in the highest sector, and in its eastern margin, extending from south to north, a chain of moraines that rise to an elevation of 67 metres above sea level.

The facilities are located mainly on the northern sector of the moraines, where the main house, a small workshop and a power plant are located, and on the elevated plain there is a depot, a hangar, a power plant, emergency housing, waste from old constructions, tanks for storing Antarctic Diesel, an antenna array and a cold room.

***Condition of the Base***

Two series of buildings are located in the area of the base. One series consists of the hangar, the former power plant, the emergency housing, the vehicle shed and the cold room. These are aligned perpendicularly to the Punta Bajos headland. The other series is made up of the main house, the power plant and a materials enclosure , arranged in columns in reference to the moraine deposit produced by past activity of the Rosamaría glacier. It is worth noting that these two groups of buildings are at least 500 metres apart.

These buildings date from the origins of the base and are currently in need of major maintenance and repair work. This situation limits the logistical support capacity for undertaking scientific projects at the base.

***Activities initiated and planned for the Base in the short term***

In order to expand the capabilities of the Petrel Antarctic base, a planning process has been initiated that involves, in addition to analysis work, performing tasks at the base that contribute to this planning process and the future plans for it.

In this regard, works essential for the planning process have been initiated to study information at the base. Examples of these works include the collection of baseline environmental information, the study of meteorological and bathymetric information, and various operational feasibility studies.

So that these studies could be conducted, it was necessary to plan and execute maintenance tasks to make the base more habitable for the personnel assigned to carry out these tasks.

In this context, given that more time needed to be devoted to these tasks than the summer campaigns allow, it was assessed whether the staff could remain throughout the year. To this end, as a preliminary step, the environmental impact of continuing the activity at the base throughout the year was assessed, something which had not been done since 1976. In this way , the corresponding Initial Environmental Evaluation (IEE) was prepared by the Environmental Management and Tourism Programme of the National Antarctic Directorate (DNA) for the activities to be carried out in the 2021/2022 Summer Antarctic Campaign, and those to be conducted during a crew’s first winter stay in many decades.

The activities assessed and now underway address the tasks related to the improvement of the base, through the maintenance of the current accommodation, the refurbishment of the emergency housing, the fine-tuning of the base’s systems, and the removal of the unused fuel tanks. The plan for the next campaign is to transfer new tanks to be installed, and repair the hangar gate and its roof to store the road machinery.

The IEE is available in the Electronic Information Exchange System of the Secretariat of the Antarctic Treaty.

***Future plans***

The objective of the Argentine Antarctic Programme is to increase the capabilities of the Petrel Antarctic base, in order to expand and improve the logistical support capabilities for this country's scientific activities in Antarctica, with a view to future challenges for science.

The ongoing planning process is being sustained by the information collected during the 2021/2022 summer, and by the analyses being conducted in the various agencies of the Argentine Antarctic Programme.

In this regard, the construction of new accommodation and new laboratories, the reconditioning of the base’s original airstrip and the construction of a dock are being assessed. This scheme seeks to generate new capacities linked to scientific development in situ, and to enable the logistical possibilities to be expanded.

As the planning stage progresses, the Parties will be informed of the activities to be included in the final project.

Likewise, taking into account that it would be a comprehensive modernisation activity, it is expected that it will be submitted to the Global Environmental Assessment process provided for in Annex I of the Madrid Protocol, to be considered by the other Parties to the Antarctic Treaty System.