The shipboard program will be conducted during the 1959–60 Antarctic summer season, and the small land-based party will begin launchings during early 1960. Shipboard experiments will include studies of atmospheric density (falling sphere method), cosmic rays (utilization of Geiger counters, proportional counters, ionization chambers, and scintillation counters or Cerenkov detectors), ion and electron density (bipolar probe technique), radiowave absorption, ionospheric winds, auroral particles and ultraviolet Lyman-alpha radiation and X-rays from the sun during solar flares. During the winter period rockets will be launched to observe the intensity of cosmic rays at the Antarctic.

Seismology (stations).—The net of station seismographs presently installed at the Byrd, South Pole, Wilkes, and Hallett Stations will be maintained, the latter two in cooperation with Australia and New Zealand, respectively. Personnel engaged in other programs are expected to maintain and operate the equipment.

4.3 Program by stations

Amundsen-Scott South Pole Station.—This station offers a unique opportunity for research in glacial conditions and snow accumulation, studies of the effects on ionospheric properties of the absence of the sun during the protracted winter season, and the auroral phenomenon within the maximum auroral zone.

The current IGY research program would be maintained including the program in micrometeorology. A limited summer traverse program would be conducted with observations in glaciology, seismology, gravity, and glacial geology. An additional ozone program would also be instituted.

Byrd Station.—Location of this station in the interior of Marie Byrd Land facilitates the conduct of a broad summer oversnow traverse program as well as a very important program in meteorology. This station is situated well within the maximum auroral zone, thus adding to the importance of auroral and ionospheric observations. Traverses from this station will study the region due north, which lies adjacent to an unexplored coastline, and also due south, in a region approaching the South Pole.

Beardmore Station.—The disestablishment of Little America will create a major gap in the United States Antarctic scientific program. As it is expected that the Beardmore auxiliary air operating facility would be maintained by the United States Navy, it is planned that this facility be expanded.

The establishment of the Beardmore Station will allow the movement of the majority of the IGY scientific equipment presently located at Little America Station. The scientific program would approximate that of Byrd Station and would include studies in aurora, ionospheric physics, geomagnetism, meteorology, and glaciology. A summer program would take advantage of the proximity of this location to the nearby mountain ranges for geological and glacial geology studies, as well as for a limited traverse program on the Ross ice shelf, which would include a program in glaciology, gravity, and seismology.

Kiel Field (Little America).—It is planned to continue a year-round meteorological station at this location, with modifications made to the existing air operation facilities, to accommodate this facility.

Hallett Station.—The existing scientific program at this station, including studies in aurora, ionospheric physics, meteorology, seismology, and geomagnetism, would be continued on a cooperative basis with New Zealand. It is noted that the bulk of the meteorological program is carried out by United States Navy aerographers, and it is planned to continue this type of operation, which also includes one civilian meteorologist. The program would be augmented by the addition of a program in physiological psychology.

Naval Air Facility, McMurdo—Scott Base (New Zealand).—Planning is based on the continued maintenance of the air facility at McMurdo by the United States Navy. It is highly desirable that a full-scale scientific program, which is presently being conducted at Scott, be continued. It is planned to continue such a program cooperatively with New Zealand at Scott Base, with the United States providing personnel for the programs in aurora, ionospheric physics, and glacial geology. A small wintering land-based rocket program would be established at McMurdo. The current program in meteorology, which is being conducted by the United States Navy, would be continued, with the augmentation of one civilian meteorologist.

Wilkes and Ellsworth Stations.—Except for a reduced program in glaciology, it is planned to provide scientists to maintain these stations on a cooperative basis with other countries. These plans depend upon entering into discussions and agreements with appropriate committees in other countries, and these dis-