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17 November 1958
G/E-87IMPLICATIONS OF SOVIET EXPANSION IN ANTARCTICA
TO THE US POSITION

I. The problem

To determine the implications to the US of current Soviet activities and the projected expansion of the USSR in the Antarctic, and to evaluate the adequacy of the US program.

II. Soviet plans

1. Soviet announcements concerning 1958-59 activities as well as Post-IOY Antarctic plans which were made in August, 1958, at the Second SCAR conference in Moscow and subsequently modified and elaborated disclose a major expansion in future operations as follows:

a. The Soviet network is to be expanded to eight and possibly nine stations by the establishment of three more in the 1958-59 season. Sovetskaya will be retained as an active, observation station. A new station is to be established at the "Pole of Relative Inaccessibility"; a second to be called Bellingshausen is to be set up in the Unclaimed Sector in area of Thurston Peninsula. The third to be called Lazaryev is to be set up on Princess Astrid Coast in Queen Maud Land at approximately 10°E. long.

b. Either Oasis or Pionerskaya, with all the equipment is to be turned over to Poland.

c. Overland geographic and geologic observations and studies are to be undertaken along the coastal areas of the Amundsen and Bellingshausen Seas (85°W-130°W) and along the coast of Queen Maud Land (10°W-45°E).

d. Oceanographic surveys are to be undertaken in 1958-59 in the adjacent Pacific and Atlantic Oceans adjacent to the above two coastal areas.

e. A major tractor traverse, approximately 3,750 miles long, is to be undertaken connecting Mirny - Vostok - South Geographic Pole - Pole of Inaccessibility - Lazaryev Station.

f. Soviets have proposed that an international mapping project for Antarctica at 1:3,000,000 (coastal areas at 1:500,000-1:1,000,000, and special areas at 1:250,000-1:1,000,000) be set up under SCAR. The Soviets have offered to map one-third of the area and any other part which other nations could not undertake, and proposed the use of two Soviet jet-aircraft and equipment.

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2. Other developments or announcements pointing to new or expanded activities that are relevant to this review of the future Soviet build-up in Antarctica include:

a. Organizational changes recently instituted reflect a shift from temporary to permanent arrangements in the planning, coordination and direction of Soviet Antarctic operations and research. An Interdepartmental Antarctic Commission was established under the Praesidium of the Academy of Sciences, USSR, and the long-standing Arctic Scientific Research Institute of the Chief Directorate of the Northern Sea Route was expanded into the Arctic and Antarctic Scientific Research Institute. The reporting of Soviet activities and findings is being stepped up with the issuance of two serial publications. Current activities and preliminary results are being issued in an elaborate Information Bulletin while more definitive studies and findings are to be issued in the Proceedings of the Complex Antarctic Expedition.

b. Progress announcements indicate that the second whaling fleet is in the latter phases of construction. One report indicates that a third may be built.

c. In connection with the description of a Soviet "scientific submarine", scheduled for operations this past summer, a Soviet source indicates that the possibilities for the adoption of atomic energy "opens broad prospects for the future utilization of submarines for scientific purposes in the Arctic and Antarctic for the economic needs of the country".

d. A responsible Soviet scientist has disclosed that atomic energy (form unspecified, presumably for power at the stations) will be utilized in the Arctic and the Antarctic.

e. On May 30, 1958, Nemesyanov, President of the Academy of Sciences, USSR, had reportedly stated to an American in a conference that the Soviet Union is contemplating launching earth satellites from the Antarctic, as well as from Franz Josef Land in the Arctic.

III. Implications of Soviet expansion

3. The expansion of the Soviet network to eight and possibly nine stations is a far cry from the modest original Soviet announcement in July, 1955, of desiring to establish "one and possibly two stations". Moreover, it belies the uncertainties and doubts concerning the Soviet post-IGY network displayed by Somov at the First SCAR Conference at the Hague in February, 1958, when he

seemed to indicate that the six-station net, entirely in the Australian-claimed sector, announced at the Stockholm ICSU meetings in September, 1957, might not be continued. As Soviet transcontinental operations develop we anticipate that additional supply bases will be required in the interior, some of which may become summer-season stations. This would further broaden Soviet presence with an even greater interior network.

4. If established, the Bloc net of eight and possibly nine stations will become the most prominent in number as well as in extensiveness of geographic distribution. The US, on the other hand, operates 3 major stations, South Pole, McMurdo (167°E) and Byrd (120°W) and participates with New Zealand in the joint-operation of Hallett Station (arrangements have been made with Australia and Argentina for the continued operation of Wilkes and Ellsworth Stations, the US contributing personnel to the scientific program). We can expect Soviet propaganda to stress (a) the superiority of their larger effort in station number and coverage, and (b) their major scientific contribution to impress both the scientific as well as lay international opinion with their vigor and capabilities in the Antarctic. We must anticipate that this large scale effort is likely to increase an already-existing apprehensiveness among the countries of the Southern Hemisphere.

5. The possible accomplishment of the difficult feat of establishing the first encampment on the coastal area of the Unclaimed Sector will afford the Soviets a basis for hinging this Soviet achievement to the early Tsarist discoveries of Peter I and Alexander I islands. The Soviets, if successful in the establishment of the Bellingshausen station, will become the first nation in a position to challenge the primacy of US rights in the Unclaimed Sector. If the Soviets prove able to repeat their past achievements with a similar program of exploration, geophysical observation, geographic studies, surveys and mapping such as has been announced for the Bellingshausen area, the resultant record evidenced in scientific reports, and maps and charts will represent an impressive argument with which to challenge the record of US activities in the Unclaimed Sector. Soviet activities, should they continue in the Unclaimed Sector in the magnitude contemplated, would tend to diminish the relative strength of US rights in that area built up through the years by discovery, exploration, and other activities. This would become a serious consideration in the event that the US should decide to make a claim to

this area. This could, in the event of a failure of the proposed treaty, cause difficulty for the US in arriving at any limited arrangements under the provision of which the US might be expected to contribute its claim (or its rights) to the so-called Unclaimed Sector.

6. The presence of a Soviet station within 10° of the Antarctic area of the Security Zone of the Inter-American Treaty of Reciprocal Assistance, and overlooking the approaches to Drake Passage is likely to arouse substantial anxiety not only in Argentina and Chile but among the other Latin American countries as well. In the present missile-jittery environment the Soviet presence less than 1500 miles from the South American continent may well stimulate additional anxieties and complexities in US-Latin American defense relations.

7. The expanding Soviet station network and the prospects of further supply bases that may be set up in connection with the traverse programs adds possible substance to a long-term Soviet settlement and development envisaged in 1956 by Dr. D. I. Shcherbakov, now chairman of the Interdepartmental Antarctic Commission. Expressing his conviction that the Soviets will continue their activities in Antarctica because of their importance of these activities to a number of applied sciences, after the IGY the Soviet stations will be gradually improved and will ultimately become continuously operating bases. He speculates that settlements, built around meteorological and radio stations, may be established and development may progress, as has been the case in the Soviet Far North.

8. The Lazaryev Station in Queen Maud Land represents another area of major historical interest to the USSR. At approximately 10°E the station would lie between the point where Bellingshausen made his discovery of the "icy continent of Antarctica" ($69^{\circ}25'\text{S } 2^{\circ}10'\text{W}$) and his second penetration ($69^{\circ}7'\text{S}, 16^{\circ}15'\text{E}$). The political significance of the region is evidenced by the visit of the Slava whaling fleet in March, 1948, explicitly to verify that the ice field seen by Lazaryev, commander of Bellingshausen's other ship, was a part of the continental ice shield of Antarctica. As early as 1955 the Soviet Antarctic planning chart had given Bellingshausen's name to the two ice shelves and the barrier ice in this area. The station would lie in the Norwegian claim, which only extends along a coastal zone and southward to an undefined extent. The Soviets in their forthcoming traverse to Lazaryev station will

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have the opportunity to cross extensive interior areas never seen by man, and much of which lies in the unclaimed hinterland of the Norwegian claim. If accomplished the Soviets will here also acquire the political advantages of discovery, original scientific observations, and mapping.

9. The recent shift in plans to a traverse across Queen Maud Land to Lazaryev actually represents an expansion since the transantarctic crossing to Bellingshausen station has not been abandoned but delayed. While initially the motivations for these ambitious efforts may have been primarily scientific, there are strong indications that governmental approval was probably given for political reasons and for the propaganda value of scoring an achievement in Antarctic exploration which would outdo the Fuchs-Hillary success. If successful with both crossings, the Soviets, indeed, will have added a spectacular imagination-capturing contribution to the build-up of the Soviet Union as a leading Antarctic power.

10. The sudden possible entry of Poland into Antarctica appears to be a Soviet maneuver to gain another Soviet Bloc voice in whatever possible future administrative machinery that may be created under the proposed treaty and in the Special Committee on Antarctic Research as well.

11. The lack of a reconnaissance-type map coverage of Antarctica represents a basic deficiency in the topographic delineation of the area. The Soviets, aware of this deficiency began mapping and charting from the very outset of their operations, and have repeatedly stressed their progress in new mapping as well as corrections to foreign maps, including US. This boasting, however, is not without considerable justification. Soviet coastal mapping and charting, including ground-controlled aerial photography, radarscope photography and echo-soundings, now covers coastal areas over 126° of longitudinal extent with 100° more scheduled for the 1958-59 season. In contrast the US has abstained almost completely from any systematic mapping during the past three seasons, while charting has been undertaken on a non-interference basis, and principally in the Ross sea. As a consequence a basis has been laid for Soviet leadership in the mapping of the whole of Antarctica.

12. The eventual introduction of a scientific submarine, and probably the atomic ice-breaker into Soviet Antarctic research will not only increase Soviet scientific results but will also carry significant propaganda impact in these two significant topics that rank high in world-wide public interest.

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The great anxiety manifested in Australia over unfounded reports some 18 months ago of the establishment of a submarine base by the Soviets provides ample indication of the stronger reactions that are likely to result when a Soviet submarine should appear in Antarctic waters.

13. Though the Soviet contemplation of the launching of an earth satellite from an Antarctic site is not as yet confirmed by other evidence, and though its occurrence may not be likely for several years, it is not premature to take cognizance of the problem at this time. The chief significance of the report at this time might lie in its possible indication of Soviet intentions to further exploit the psychological impact of the sputniks. At the present time there appears to be no technological or scientific advantage in the launching of satellites from the polar areas themselves. While there is some emergence of scientific thinking that launchings from polar areas over which the belt of radiation in the higher altitudes is believed to be thinnest -- and hence advantageous to the future launching of manned satellites -- this is too speculative at the present time to provide a basis for the reported Soviet plans. If evidence of these Soviet intentions should persist, however, these would seem to indicate the extension of "sputnik diplomacy" designed not only to capitalize on the sputniks as such, but particularly to impress the Southern Hemisphere peoples with Soviet capabilities to launch missiles in this region.

14. Soviet Antarctic operations have been accomplished with an unusually small commitment of men, ships, and aircraft. The establishment of a six-station net (including two nearly 900 miles from the coast) and the extensive coastal mapping and charting, and geologic and oceanographic surveys have been achieved with no more than 3 ships (none of which is a true ice-breaker) about 400 personnel, and 15-20 aircraft. For the 1958-59 expansion into two widely-separated areas of Antarctica the Soviets have increased their commitment by only one ship and by about 100 additional men. Some of the factors that account for their successes with their small logistic effort include (1) multiple use of ships -- logistic, scientific, cargo (hauling freight on return ships), and continuation into summer Arctic operations (2) intensive air operations the year round -- in January-November, 1957, a dozen aircraft on scientific and logistic missions logged more than 3,000 hrs. and flew 420,000 miles, (3) increased mobility by extensive air

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operations from unprepared surfaces in widespread scientific activities, and (4) use of a highly-experienced corps of Arctic professionals. The significance of the economy of Soviet operations is in (1) its minimum diversion of resources from Soviet Arctic operations, and (2) the lesser strain on the Soviet budget. The latter is even lessened by the profits of Soviet whaling operations, which in the 1957-58 season amounted to nearly \$6,000,000.

15. The expansion in Soviet whaling fleet operations poses some long range problems. Soviet benefits from the operations have not been limited to economic profits. The whaling flotilla has also collected scientific data (relative to whaling resources as well as weather, physical geography and climatology) since 1947. In 1957-58 an added scientific team for special studies raised the number of scientists to 10 including a glaciologist and two geologists. For the 1958-59 season two scientific ships are attached. The whaling fleet has also been used for political ends. The 1957-58 season included landings on two islands of the South Sandwich group (56°18'S-59°27'E and 26°30'W), and on most of the five uninhabited Balleny islands (66°15'-67°40'S, 162°15'-164°45'E). Metal stakes or signs were erected noting the landing. In the 1947-48 season the Slava approached the coast of Antarctica, at the two points where it is claimed that the Bellingshausen expedition discovered the continent, in order to verify the physical geographic plausibility of that discovery. With the construction of a second and possibly a third fleet, Soviet capabilities will be increased to augment Antarctic operations, whaling as well as scientific. As a result of mounting Soviet whaling production, the Norwegians have recently expressed alarm at the danger of Soviet domination of the industry in the area. If such were to happen, Soviet presence would be further expanded in another area of activity. Furthermore, if one were to postulate the possibility of Soviet use of the factory ships for hauling artificial earth satellites and even missiles, the fleet could eventually emerge as another significant tool in extension of Soviet power in the Southern Hemisphere. Since the International Whaling Commission has not as yet established an independent observer program to monitor whale-catching regulations governing the conduct of whaling, there is no method by which surveillance could be set up to gain knowledge of use of Soviet factory ships for these purposes. [Program proposed by Norway in 1955 as a protocol to the International Whaling Convention; as of 1958 ratification by Mexico, Brazil and Panama is still lacking; unanimous ratification is required before entry into force].

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16. Soviet refusal to share certain of their results of their Antarctic activities to date -- chiefly, new sailing pilots, hydrographic charts, echo-soundings, radarscope photography, large-scale maps, gravity data, improvements in aids to polar navigation -- creates an imbalance that could have undesirable long-range military implications.

IV. Conclusions

17. The expansion of the Soviet station net into the largest one on the continent, the introduction of another Bloc nation (Poland), the ambitiousness of their traverse plans and their initiative to lead a mapping program of the continent appears to represent a Soviet governmental decision to make the Soviet program the outstanding one on the continent, thereby strengthening the Soviet political position in the Antarctic. If and when augmented by the future employment of scientific submarines and atomic icebreakers the program will not only increase already impressive Soviet scientific results but could overshadow the pre-eminence of US in Antarctic affairs with serious implications to US prestige. If Soviet plans should develop to launch an earth satellite from Antarctica at some time in the future, they will have then extended their "sputnik diplomacy" and the implied threat in the Soviet capability to launch military missiles from Antarctica would have a profound effect on the peoples of the Southern Hemisphere.

18. Since the expanded Soviet program presents a long-range challenge to the US scientific and political position, the scientific program as outlined in the current US Operations Plan for Antarctica cannot be considered adequate to support US interests. The current US program was developed as a reduced minimum program at a time when the Soviet-post-IGY plans indicated a six-station network located entirely within the area of their current operations. The current US program for the first post-IGY season is inadequate particularly because (1) it fails to provide sufficient activities in the interior regions particularly in western Antarctica, (2) there is no assurance that an adequate systematic oceanographic program will be implemented, and (3) of the lack of an adequate program in aerial mapping. These deficiencies if not corrected would (1) weaken the US political position particularly in western Antarctica, (2) eventually lead to the erosion of US pre-eminence and leadership in Antarctic affairs, (3) provide the Russians a field of scientific endeavor in which Soviet science would outpace

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and outperform the US, and (4) yield less coverage of basic scientific data resulting in a deficiency not only disadvantageous to US science but also to long-run US defense capabilities.

19. To meet the challenge of the expanding Soviet program and its adverse political, scientific and defense implications for the United States, it is deemed advisable to augment US activities along the following lines:

a. Expand US interior operations with (1) several small, seasonal stations, and (2) expanded traverse operations. The former would be most advantageous in the area between the base of Palmer Peninsula and the Pensacola and Sentinel Mts. This would (1) permit unique, fruitful geologic investigations, (2) serve geodetic requirements by establishing ground control positions for aerial mapping, (3) provide additional year-round meteorological coverage by the use of automatic weather stations during the winter months, (4) provide imagination-capturing material to publicize US activities and dilute Soviet propaganda, (5) maintain US rights beyond the Unclaimed Sector, and (6) provide stations that would be further useful as air-rescue facilities for the future, when expanded air operations for mapping will be required as well as for the surveillance of Soviet stations and the delivery of Free-World scientist-observers.

b. Outfit either a special icebreaker or an ice-reinforced vessel for a systematic oceanographic and hydrographic survey program, including echo-soundings and radarscope photography. Such a program would not only be valuable to basic science but would also provide significant military as well as psychological advantages. By the collection of its own hydrographic data, the US would not be left behind the Russians in the charting of the oceans. Hydrographic charting and bathymetric data are essential not only to naval preparedness but are also needed for the world gravity survey now underway by the USAF and USNHO for the development of a world geodetic datum for US guided missile requirements. Such a systematic US oceanographic program would also serve to strengthen the US position in obtaining Soviet oceanographic and charting data which have been obtained by the Soviets over the past three seasons and not yet released by them.

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c. Begin systematic 1:1,000,000 aerial mapping as soon as practicable to ensure prior US mapping, particularly in Western Antarctica. Such mapping is to conform to the master plan and specifications developed for the Working Group by its Technical Advisory Committee on Antarctic Mapping. The prior Soviet mapping of any substantial part of the continent, particularly of this area, would be disadvantageous to the US political position therein as well as to its prestige in general. The adverse consequences of US inaction would be further compounded by the opportunity that would be afforded to the Soviets to produce the weightiest possible record of their capabilities and territorial activities.

d. Attempt to secure adequate arrangements in any future political agreement on Antarctica as well as within SCAR for a complete exchange of all scientific results, data and related materials, produced since the beginning of the IGY as well as those produced in subsequent programs. This is aimed especially to (1) secure maps and charts compiled by the Soviets and (2) secure earth satellite tracking data from future observations.

e. Increase US participation at the Wilkes and Ellsworth stations ought step up publicity to emphasize more the joint character of operations at those stations.

f. As a minimum, seek continuation of the Norwegian station, and give consideration to its development as a joint US-Norwegian activity.

g. Develop cooperative arrangements with other friendly countries, such as with Belgians in their traverse operations, to improve the position of Free-World countries in Antarctica, in order to reduce the effect of Soviet achievements and to increase US prestige in Antarctica.

h. Stimulate through Free World members of the International Whaling Commission the establishment of an independent observer program for the surveillance of Soviet whaling operations.

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