

DECLASSIFIED
Authority NND 765054

TOP SECRET

DATE AUG 27 1946
NO. 100-1311-100
CY. NO. # 24 204

32
OP-11
TOP SECRET
CONTROL
NO. 3047/1



~~SECRET~~
~~TOP SECRET~~
~~CONTROL~~
F2 — RETAIN
add

INTELLIGENCE
REPORT

I-102

OFFICE OF NAVAL INTELLIGENCE
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
NAVY DEPARTMENT
WASHINGTON, D.C.

TOP SECRET

TOP SECRET
CONTROL
NO. 3047/1

Authority

DECLASSIFIED

Authority 11110 745054

TOP SECRET

Air Intelligence Report

No. 100-13/1-100

SIGNIFICANT DEVELOPMENTS AND TRENDS
IN AIRCRAFT AND AIRCRAFT ENGINES,
ANTI-AIRCRAFT, GUIDED MISSILES

Air Intelligence Division Study No. 13/1
15 June 1946

Assistant Chief of Air Staff-2 and Office of Naval Intelligence

WARNING: The intelligence contained in this report will not be made available to any agencies or representatives of foreign governments. Reproduction in part or the publication of extracts therefrom is authorized for United States military agencies provided credit is given.

Assistant Chief of Air Staff-2
Hq. Army Air Forces

Office of Naval Intelligence
Navy Department

Washington, D. C.

TOP SECRET

b. Russia has apparently stepped up her exploitation of captured German facilities and personnel for the production of German jet-propelled aircraft. It is known that the Junkers and Siebel aircraft factories and the BMW aircraft-engine plants are being used by the Russians for production of this type aircraft and turbojet engines. Description of the aircraft reportedly produced, plus knowledge of the latest types of German aircraft produced in these factories prior to V-E Day, point to Russian production of the "JU-287" Bomber (509 miles per hour) and the "ME-162" and "ME-262" aircraft.

c. France is known to be experimenting with several new jet-propelled aircraft and with commercial air transports having increased capacity. These include the large 105-passenger conventional four-engine transport (SE 2010) presently under development, the "NC 260" high speed jet-propelled commercial transport, the "NC 270" turbojet, and the "Nord 1600" jet-propelled military aircraft.

The trend in French aircraft development since the March 1946 report now appears to be in improving and re-establishing French commercial air transport, with military development as a secondary consideration due to the great reduction in military appropriations. This development can be expected to incorporate the latest research in the fields of jet-propulsion as soon as France has reached a more stabilized economy and a more settled political outlook.

d. Sweden has shown no new trends in aircraft or aircraft engine development since the March 1946 report. At that time successful purchase of the latest jet-propelled aircraft and engines from neighboring nations to build a modern, if modest, air force was being expedited by Sweden. Some native research, which has not progressed beyond the experimental stage, has been conducted on jet and turbojet engines.

2. Antiaircraft Artillery.

a. Great Britain has stated her policies for antiaircraft development for the next ten years. These policies include research and development for AA for the next two years with a long term policy for continued AA development along conventional lines until this research has resulted in a better means of destroying sonic speed aircraft flying in excess of 45,000 feet. Standardization, where possible, between Army and Navy weapons is planned, as is the organization of a nucleus force of regular troops supported by a readily conscriptable force of volunteers.

TOP SECRET

b. Russia, like other major powers, has shown a tendency to develop larger caliber AA guns. It has also been reported, but not confirmed, that the Soviets are manufacturing radar jamming equipment. A greater flexibility for anti-aircraft defense has been provided by the recent reorganization of the Soviet Armed Forces.

c. German developments for increasing AA effectiveness by increasing muzzle velocity and a discussion of German anti-RCM (Radar Countermeasures) devices is outlined, due to the probable use of these advances by other countries.

d. Sweden and France appear to be in a better position to develop an adequate AA defense than most of the other smaller countries due to the experienced Bofors firm in Sweden and French knowledge of Allied and German AA equipment and methods of operation.

e. Fifteen other nations studied show no significant native developments or trends in the field of anti-aircraft artillery.

f. Japanese shortcomings in AA development show that the value of anti-aircraft artillery was not realized in time to develop it. The lack of coordination between Army and Navy and the lack of properly trained technical personnel to produce modern equipment helped to retard AA development once its value was realized.

3. Guided Missiles.

a. Great Britain is working closely with the United States in the development of her guided missile program. As a consequence, the British are running into similar problems relative to radar guidance, telemetering, fuel combustion, radio signal attenuation, and the means to be used in determining the point of separation of the missile and its boost device. In addition to their own development program, Britain is exploiting German guided missile technical personnel to the maximum. The close working liaison of Britain and the U. S. should allow each nation to profit by the other's mistakes and thus accelerate guided missile development in each country.

b. Russia is known to have acquired German technicians and V-weapon production and experimental sites. She has also acquired Britain for guided missile control experiments. With this combination the Russian potential for development of a guided missile program is great. In addition, German developments in the atomic energy field and the possibilities for use of this energy as a guided missile warhead are known to the Russians.

c. Other nations have shown almost universal interest in atomic energy but little as yet in the research or development of guided missiles.

TOP SECRET

Suiza has acquired the manufacturing right from Rolls-Royce for the production of the "Derwent", under license.

4. U.S.S.R.

a. Significant Designs and Trends of Russian Aircraft.

- (1) The trend of the U.S.S.R., since March 1946 has been to exploit German equipment and to utilize the knowledge of German scientists. A list of Russian aircraft together with the main characteristics of aircraft known to be under development and those operational, including obsolete and obsolescent aircraft, are shown in Annex No. II. These charts do not include foreign aircraft operated by the Russians; many of which have superior performance to similar Russian types. As can be seen from Annex No. II, operational aircraft are conventional, with relatively low speeds and low critical altitudes as compared to U. S. types. The Russians have no turbo supercharger operational except those installed on the "M-30" and "M-42" diesel engine models. The problems encountered by Russia, so far, in the design of turbos has been the metallurgical requirements necessary to counteract the high temperatures encountered around the turbine blades. If the Russians utilize the knowledge of German turbine blade design, this problem should be easily overcome.
- (2) Recent information has indicated that the Russians are operating the Siebel and Junkers aircraft factories and BMW Jet Engine Plants. The Junkers factory is possibly manufacturing the German "Ju-287" bomber for the Russians. This bomber was in the flight test stage at the end of hostilities. It is fitted with from two to six jet units depending on the power of the units installed. The Germans expected to attain the high speed of 509 miles per hour at sea level and 537 miles per hour at 16400 feet altitude with this bomber. Other characteristics of this bomber were ranges of 985 miles with 8800 lb. bomb load, 1175 miles with 6600 lb. bomb load and 1325 miles with 4400 lb. bomb load. With the Junkers Plant available for the

TOP SECRET

TOP SECRET

manufacture of airframes and the BMW plant for power units considerable progress should be made by the Russians. At the present time, the Russians are reported to have on order from these three German factories 6000 aircraft. These may well include the "He-162", the "Me-262" and the "Ju-287".

- (3) The outstanding aircraft the Siebel Company was developing was the "DFS-346", a supersonic research aircraft with expected speed of about 1700 miles per hour at 50 - 100,000 feet altitude. This experimental aircraft, if perfected, would do much to hasten the Russian development of aircraft capable of operating in the transonic and supersonic speed ranges.
- (4) This flight information, together with the available wind tunnels which may have been removed from the Russian Zone of Germany into Russia proper, could decrease the lag in Russian aircraft development. The highest speed wind tunnel known to be in Russian hands is at Dresden. This tunnel possesses a Mach No. 1 test speed, but the test section is so small it could not be of too much value. The most valuable tunnel for high speed research is the .92 Mach number tunnel at Berlin having an 8.8 foot diameter throat which could be used for testing relatively large models. All other wind tunnels in the Russian zone are of low speed.
- (5) It is known that several four engine bombers are under development by Russia as well as some jet bombers and fighters. It is not known how much progress has been made on Russian designed aircraft. Nothing is known of a fully developed Russian jet unit so it may well be that the first Russian jet aircraft will be Russian built but of German design.

5. Sweden

a. Development and Trend of Swedish Aircraft and Engines.

- (1) No new native Swedish aircraft or engine development is known although the Swedes are manufacturing under

TOP SECRET

-17 -

SECRET

APPENDIX "C"

SIGNIFICANT DEVELOPMENTS AND TRENDS
IN GUIDED MISSILES

SUMMARY

1. GREAT BRITAIN

Since the publication of Significant Developments and Trends, dated 15 March 1946, the British have completed and fired several test vehicles and are in the process of evaluating the information gained from the initial trials. The need for improvement in research techniques, equipment and design was immediately obvious and, in an effort to gain ground at an accelerated rate, the British are maintaining close liaison with the U. S. guided missile program. Through the application of mutual assistance to the various problems peculiar to this project, the solution may be effected in such a way as to eliminate repetitious experimentation.

a. Problems. The British guided missiles program, like that of the United States, is beset by difficult problems of guidance (the modified SCR-584 radar is being used for this purpose in both countries), telemetering, fuel combustion, radio signal attenuation in flame, and the determination of the point of separation of the guided missile and its boost device.

b. Exploitation of German Scientists. British exploitation of German technical personnel and V-weapon equipment is continuing and it has been stated that those Germans permitted to enter the British Isles will be given no more information concerning the British experimentation than is necessary to continue their assigned tasks.

2. USSR

a. Guided Missiles. No reports concerning Russian guided missile research and development have been received following the publication of Significant Developments and Trends, dated 15 March 1946. Russia has acquired American radar equipment similar to the type used by the U. S. and Great Britain for guidance control experiments. She has also acquired German technicians and V-weapon production and experimentation sites. If this combination of equipment

SECRET

- 81 -

Authority

4,600
264
1,667

Heavy
those

2,600
315
1,551

next
ent is
most
adar.

SECRET

and brains is being correctly exploited, Russia has the foundation for a guided missile program now.

b. Atomic Energy. German developments concerning Uranium fission are known to the Russians, who can be expected to utilize such information in their own program.

Radioactivity in the atmosphere following the detonation of an atomic bomb can be detected, and will be a means for discovering future atom bomb tests in the USSR.

3. OTHER NATIONS

There is a decided inclination among the various nations of the world to exploit atomic energy.

The economic and political news of the former Axis occupied and Axis satellite nations is overshadowing any information pertaining to research and development in technical fields of guided missiles, electronics and atomic energy.

By-products of the Uranium Bomb and development of a new type of atomic bomb have been reported.

DISCUSSION

1. Synopsis of Preceding Report. The preceding report of Significant Developments and Trends presented an outline of the guided missiles programs of the various nations, with a detailed description of the various experimental missiles now under consideration. The planned procedure was the exploitation of known missiles from Germany and basic research on fuels and controls.

2. Great Britain

a. Scope of British Program. A report giving a clearer picture of the British guided missiles organization was received in March, 1946. It was prepared at the request of the Canadian Interservice Guided Projectile Subcommittee to assist in planning a guided missile development program in Canada, and was dated 10 January 1946 with a note to the effect that it had not been approved by the Director of Guided Projectiles. To date there has been no indication that this report has since been approved. A review of the report follows and it will be noted that some information

SECRET

SECRET

- (f) "Nozzle" - a low angle anti-ship glider. This projectile has been altered from a control glider to a supersonic guided rocket with suitable trajectory for a final underwater approach to the target, thus providing underwater detonation.
- (5) Agencies Employed. This portion of the review deals with the various agencies employed in the guided missile program and their accompanying responsibilities.
- (a) The Admiralty Gunnery Establishment at Teddington is charged with the development of the GAP ground (or ship) radar for tracking the target. (The GAP projectile will automatically guide itself up the center of a radar beam). It is estimated that the first radar equipment will be ready for a GAP trial on X-band (5200-11,000 MCS.) sometime in July of 1946.
- (b) Asiatic Petroleum Company at Langhurst is charged with a threefold responsibility:
1. Investigation of hydrogen peroxide propulsion systems.
 2. Engineering of LOP (Liquid Oxygen-Petrol) motor and fuel systems.
 3. Trials to determine the attenuation of radio waves by rocket flames.
- (c) CEAD (Chief Engineer, Armament Design), Fort Halstead, is charged with the responsibility for the coordination of structural design of the LOP/GAP, and the development of mono-fuel motors with the CSAR (Chief Superintendent, Armament Research).
- (d) COSSOR Radio Ltd., is charged with the responsibility for the development and construction of a radio system for control of an antiaircraft projectile.

SECRET

Authority _____
DECLASSIFIED

TOP SECRET
CONTROL
NO. _____

Do not reproduce or disseminate without authority

SECRET

- (e) CSAR (Chief Superintendent, Armament Research), Fort Halstead, is charged with twofold responsibility:
 1. Applied research on fuels and propulsion.
 2. Collaboration with CEAD on the design and testing of motors, and with RRDE (Radio and Radar Development Establishment) on the investigation of radio attenuation in rocket flames.
- (f) CSAR, White Lea. This organization is charged with development of fuel expulsion equipment using cordite combustion.
- (g) Fairey Aircraft Ltd., was charged with the responsibility for the quick development of a simple guided short-range supersonic missile in May 1945 for use in the Japanese war. With the appearance of the Japanese suicide bomber the project was changed to an antiaircraft development and at the end of the war the entire requirement was withdrawn. Fairey Aircraft, Ltd., has continued independently with its own development program in the hope of producing a useful weapon.
- (h) LOSEC (Ministry of Supply, Experimental Center), Cuxhaven, Germany, is charged with the responsibility of:
 1. Providing a center for collecting and interrogating German scientists who might be able to work in the United Kingdom.
 2. Providing workshop and laboratory facilities for investigating German equipment.

The future of LOSEC has not been decided and it is expected that the organization will be discontinued approximately 1 July 1946.

SECRET

SECRET

(i) The Ministry of Supply, Experimental Station, Walton-on-Naze, is charged with the responsibility of the development and construction (less the radio system) and the trials of "Breakmine" short-range anti-aircraft projectile. This organization will also determine the merits of the COSSOR system of radio control for guided missiles.

(j) PDE (Projectiles Development Establishment) at Aberporth is charged with the responsibility for the design and external ballistics of propulsive ducts and boost units for the guided projectile.

(k) Power Jets Ltd., Pyestock, charged with the responsibility for the general research on the propulsive ducts for MAP (Ministry of Aircraft Production) and the development of a combustion system for a model propulsive duct for GAP.

(l) RAE (Royal Airforce Establishment) Farnborough, charged with the responsibility for ballistics, aerodynamics, propulsive servos and general engineering for the following:

1. "Long Shot"
2. "Journey's End"
3. "Nozzle"

(m) RRDE, Malvern, is charged with the responsibility for:

1. Development and design of a radio receiver and power supplies for the GAP projectile.
2. Measurements of radio attenuation through rocket flames.
3. Modification of the SCR 584 radar for use in controlling the LOP/GAP projectile.
4. Development of radar techniques for recording trajectories of GAP.

- 87 -

SECRET

DECLASSIFIED

Authority

SECRET

- (n) Signals Research and Development, Christ-church, is charged with the responsibility for the development and design of telemetering gear to be used in conjunction with the GAP for transmitting and recording flight data.
- (o) Scientific Research and Experiment, National Physical Laboratory at Teddington is charged with the responsibility for aerodynamics research and design. The principal work has been the supersonic design of LOP/GAP and the propulsive duct GAP.
- (p) Superintendent of Experiments, Ymyslas, is charged with the responsibility for firing trials of the LOP/GAP and propulsive duct GAP.
- (q) TRE (Telecommunications Research Establishment), Malvern, is responsible for the control aspects of guided missile development for MAP. This work includes:
 - 1. Radar self-guiding system for "Long Shot".
 - 2. Radar homing, and television control system for "Journey's End".
 - 3. The general study of homing for guided missiles.
- (r) Westcott is charged with the responsibility for carrying out most of the development and coordination for Admiralty and General Staff requirements.
- (s) An additional Technical Panel "D" was added to the British Guided Projectile organization. The purpose of this panel is to deal with the increasing volume of work in connection with flight observations. Two outstanding problems to be undertaken immediately are:
 - 1. Requirements for the development of adequate observation methods for GAP.
 - 2. The general improvement of range technique.

EU
re
de
ro
ra
to
ha
res
war
up
The

res
Rus
fol
pro

which
Unite
mater

SECRET

3. USSR

a. German Influence. In order to make an estimate of Russian guided missile capabilities the German guided missile program must be reviewed. The German rocket program started previous to World War II, developed two classes of rockets, the long- and short-range anti-aircraft rockets (i.e., Wasserfall and Rheintochter respectively) and the long-range A-series. The latter includes A-4 to A-10, which were developed to a point where their possibilities could be fully appreciated. It has been reported that the German High Command shelved a long-range research program on guided missiles when it was seen that the tides of war were turning in favor of the Allies and ordered work concentrated upon the development of the Vergeltung series weapons (V-1 and V-2). There were to be placed in immediate operational use.

Following the fall of Germany and the partition of German research and development centers by Great Britain, United States, and Russia, the Russians obtained, in addition to scientific personnel, the following sites where research in support of the German guided missile program had been conducted.

- (1) Nordhausen - development of electronics, fuel and assembly of V-2's.
- (2) Karlshagen - development of Wasserfall (long-range anti-aircraft rocket).
- (3) Leba - development of Rheintochter (short-range anti-aircraft rocket).
- (4) Peenemunde - headquarters for scientific research for the entire rocket program.
- (5) Breslau - development of Feuerlilie (short-range anti-aircraft rocket).
- (6) Leipzig - development of control mechanisms for guided missiles.

The acquisitions of these sites afforded the Russians facilities which would place their guided missile program on a par with that of the United States providing the Russians are capable of fully exploiting the material and personnel which they acquired.

SECRET

- 89 -

Authority

DECLASSIFIED

SECRET

b. Indicators of Future Activity. Research upon guided missiles is predicated upon developments in the following fields:

- (1) New Fuels. Research is divided between fuels for anti-aircraft rockets and fuels for long-range rockets. Those for anti-aircraft rockets must be capable of indefinite storage yet available for immediate use. Fuels for long-range rockets can be chemicals of temporary stability, prepared and used on a prearranged schedule. The Russians may follow the American and British course of fuel development and design their rocket propulsion devices around a mono-fuel, such as gasoline. They may continue to exploit the field of German fuels which included combinations of organic hydrocarbons and commercially prepared oxidizing agents.
- (2) Control Devices. Four broad systems are now under consideration: single radar control by the British, two radar control by the U. S., self-homing (favored by the Germans), and a television plus radio-link system commonly recognized as the most promising form of missile control. Russian periodicals must be watched for evidence of activity or interest in these fields.
- (3) Step Rockets. This type of rocket had been considered by the Germans who anticipated ranges of 3,000 miles or more with successors to the V-2. Such a rocket would consist of a main body containing the demolition charge and control units and two or more detachable sections containing propulsion units. These sections would be dropped from the missile as they were exhausted in flight. Such a rocket in the hands of the Russians would make the transpolar routes probable tactical approaches.
- (4) Atomic Warheads. This step will work the final development of missiles for operational use.

c. North Polar Regions. The north polar region is not deemed important as a launching position for guided missiles but it may assume prominence as a location for radar remote control posts, weather stations, early warning radars, and counter-measure sites. Across this area lie

SECRET

the great circle paths between Eurasia and the United States. It is significant that the important paths pass over Iceland or Alaska.

d. Estimate of the Situation. The operations "Musk-Ox" and "Frostbite" clearly demonstrate that our strategists recognize the potentialities of the north polar region.

e. Russian Atomic Energy. The development of atomic weapons and guided rocket projectiles go hand in hand. It was the Germans who realized that the rocket was "the ideal vehicle for atomic warhead" and it has been established that they intended the A-4 (V-2) rocket to be such a vehicle. In the construction of a long-range rocket, space allotted to payload is of necessity reduced to a minimum by the increase in space allotted to fuel. Adaptability of the atomic warhead to such a missile can be fully appreciated because the ratio of destructive power to unit weight is far in excess of conventional explosives and a radical increase in the destructive power is not accompanied by a similar increase in volume of the warhead.

Little is known concerning the Russian activity with regard to atomic energy. Recent developments in the detection of radio-active material in the upper atmosphere resulting from the explosion of the three atomic bombs indicate that Russian atom bomb tests could be detected. This could be accomplished by examination of the upper air known to have originated in or near Russian territory. An increase in radio-active material would indicate experimentation with atomic explosives. The validity of these experiments on the examination of upper air will be more fully shown following the Crossroads experiment.

f. Polar Chart. Annex I shows possible great circle routes across the polar regions.

4. Other Nations

a. Atomic Bomb and Guided Missile Activity. The problem of how to obtain food in the various sections of the world has, during the past several months, far outweighed the problems of technical advancement in the field of guided missiles, electronics, and atomic energy. Occasionally, there have appeared items in the news which indicate that research on new branches of science is proceeding. From these bits of information an attempt is made to assemble a clear picture of future trends. The news must be carefully scrutinized and the fantastic separated from the possible before a hypothesis concerning the trend of research and development can be formulated. In many cases the inferences contained in these reports serve as a "straw in the wind." It is pointed out that in some

SECRET

- 91 -

Authority

DECLASSIFIED

SECRET

cases the "fantastic" becomes a hard reality as in the case of the late Professor Goddard in his original rocket experiments in New Mexico.

b. Argentinian Guided Missiles. With the fall of Germany and its occupation by the Allies, it was assumed that German research on V-weapons was successfully halted. A speculative report from Argentina points out that the Argentinian Army received data from Germany concerning the manufacture of propulsion fluid used in making rocket bombs. In addition to this report of transfer of information, there remains a second possibility that former German scientific personnel, having been successful in evading capture by the Allies, may have found a haven in Argentina.

c. Atom Bomb Production. There have been no reports to date which would indicate that an atom bomb project similar to the one at Oak Ridge is under construction in any other part of the world. There are reports concerning advancements in atomic energy which indicate that a search is being made for materials other than Uranium which can be used in the production of more lethal and devastating weapons.

d. Uranium Control. The movement of various nations to place their Uranium deposits under rigid governmental control has attracted widespread attention. Restrictions may insure the owner of such deposits that the ores will not be exported for use by an aggressive nation, but do not prevent enterprising individuals from devising a similar bomb from other fissionable materials, i.e., "heavy water".

e. Uranium Deposits. The deposits of Uranium ore are widely dispersed and, as a result, available to many nations. The exploitation of these deposits and the refining of Uranium ore for experimental uses is limited at the present time to those nations financially capable of such an undertaking.

f. Atomic Dust. Reports indicate that the preparation of atomic bombs from Uranium yields additional materials which may be of military value. Most interesting of these is the "atomic dust" which is believed to be the "red mist". Mention of "red mist" has been made recently in the news from Europe as being a new atomic weapon. It is thought that the "red mist" may be a radio-active dust emitting powerful radiation. The possibilities for this type of weapon being used to deny entry to or use of wide areas to any enemy during maneuvers and its anti-personnel effect upon camps, industrial areas, and cities are not to be overlooked.

SECRET

SECRET

g. Heavy Hydrogen Bomb. In Germany a letter was picked up by the American censors. It had been written by a German desirous of exchanging information for an opportunity to go to the United States. The writer professed knowledge of "heavy water" research in Germany and of an "even more deadly weapon than the atomic bomb".

h. German Heavy Hydrogen Bomb. During 1943 the Germans were experimenting with the production of "heavy water" in Norway. Their installation at Rjukan, Norway was deemed important enough at that time to warrant a visit from the heavy bombers of the Eighth Air Force. It was evident that the Germans recognized the potentialities of "heavy water" as a source of Heavy Hydrogen and were taking advantage of the abundance of electric power available in Norway for the production of this substance.

The war brought the German activity in connection with "heavy water" to a close but the question can now be posed, "Have the Russians obtained German personnel formerly employed in the project and if so will they exploit them in an effort to devise an atomic weapon which requires none of the radio active minerals so closely guarded throughout the world?" If the Russians are successful in this attempt, they will have within their grasp the new atomic weapon which is reported to have made the Uranium bomb obsolete. Research in the United States confirms the comparison of the Heavy Hydrogen bomb to the Uranium bomb.

i. United Kingdom. It is reported that a 1,000,000 volt cyclotron and a mass spectrograph are under construction at Melbourne University in Australia. England has allocated \$11,200,000 for atomic energy research and a former R.A.F. airfield is being converted to laboratories for atomic research. On 1 March 1946 the Director of Atomic Energy Group assumed his duties. This group was organized to formulate policies with regard to atomic energy.

j. Scandinavian Countries. Sweden proposes that seven million Kronor be set aside for atomic research. She possesses both a cyclotron and deposits of Uranium ore. A Scandinavian conference has been called by Norway, Sweden, and Denmark to discuss the future plans for application and use of atomic energy. Dr. Niels Bohr, outstanding nuclear physicist from Denmark, has received \$125,000 for the continuation of his work and has declined invitations to travel outside of that country.

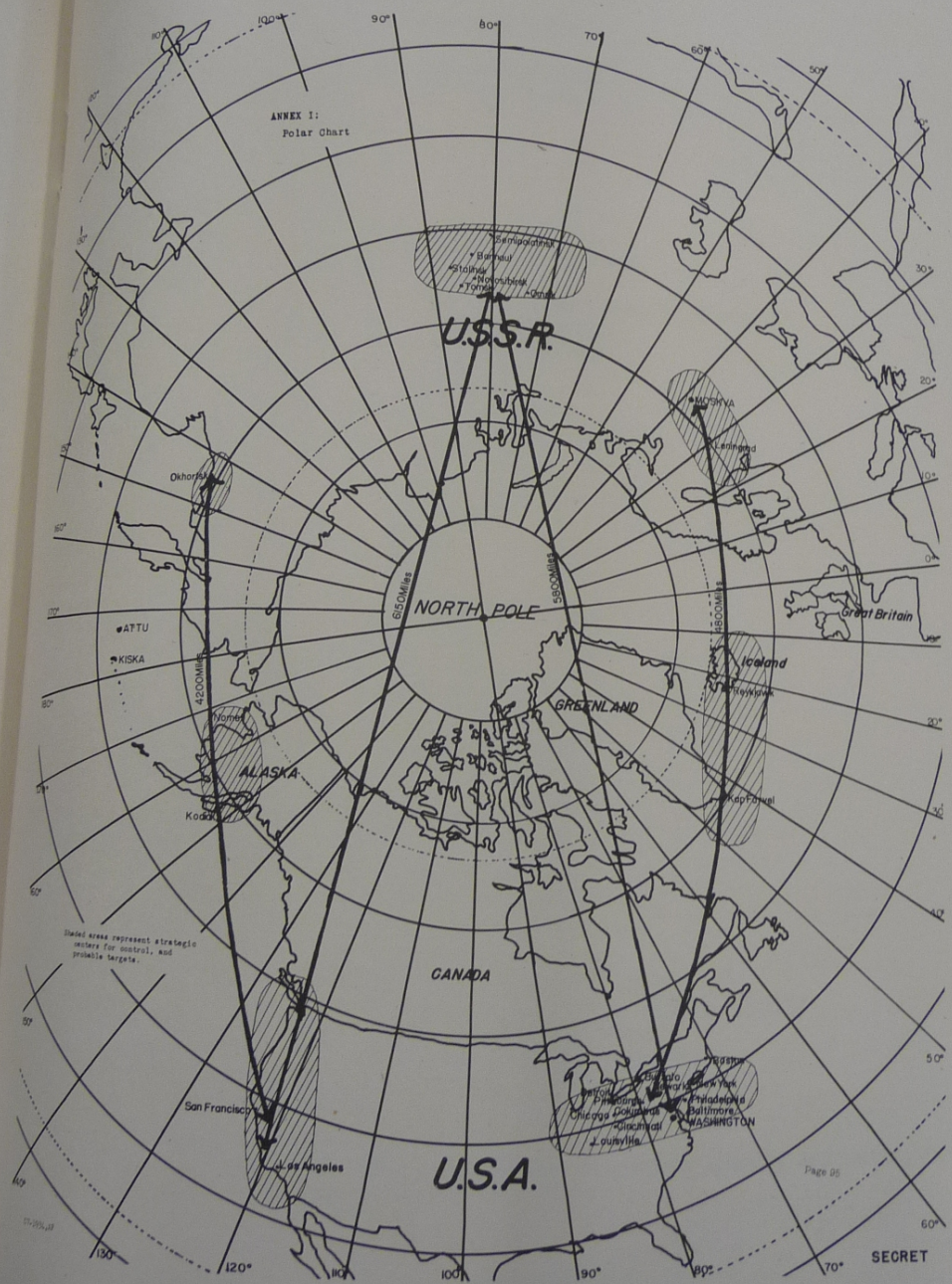
k. France. France has appointed a committee to formulate plans concerning the control of atomic energy. The immediate object of this committee is the establishment of small research plants.

l. Spain. It is reported that Spain has been mining Uranium. This country was recently the center of attention due to concern over reports that German nuclear physicists were employed in atomic bomb research. It is believed that these news reports were Communist inspired and aimed at diverting public attention from Russian activity.

SECRET

DECLASSIFIED
Authority NND 765054

32
09-19-
TOP SECRET
CONTACT
NO.



Use this form for phase (original and copies). Use the 8 by 13 inches plain fold-over as supplied for additional pages. Forward to ONI as original and a duplicate. Officers preparing and those forwarding reports #01-115 leaf page of original and retained the copy of duplicate. (This material is classified SECRET.)

DECLASSIFIED
Authority

DECLASSIFIED
 Authority NND 765054

TOP
 CONT
 NO.

DISTRIBUTION LIST

- 5 Chief of Naval Operations
- 5 Deputy Chief of Naval Operations (Air)
- 3 Chief of Naval Intelligence
- 1 Commander-in-Chief, U.S. Atlantic Fleet
- 1 Commander-in-Chief, U.S. Pacific Fleet
- 3 Commander, Third Fleet
- 1 Commander, Fourth Fleet
- 1 Commander, Fifth Fleet
- 1 Commander, Seventh Fleet
- 1 Commander, Eighth Fleet
- 1 Commander, Twelfth Fleet
- 1 Commander, U.S. Naval Forces, Mediterranean
- 1 Commander, North Pacific
- 1 Commander, South Pacific Area and South Pacific Force
- 1 Commander, Battleships-Cruisers, Atlantic
- 1 Commander, Battleships-Cruisers, Pacific
- 3 Commander, Air Force Pacific
- 1 Commander, Carrier Division Three
- 1 Commander, Carrier Division Five
- 1 Commander, Carrier Division Seven
- 1 Commander, Carrier Division Fifteen
- 1 Commander, Carrier Division Seventeen
- 1 Commander, Fleet Air, West Coast
- 1 Commander, Fleet Air, Alameda
- 1 Commander, Fleet Air Seattle
- 3 Commander, Air Force, Atlantic
- 1 Commander, South Atlantic Forces
- 1 Commander, Carrier Division One
- 1 Commander, Carrier Division Four
- 1 Commander, Carrier Division Six
- 1 Commander, Carrier Division Fourteen
- 1 Commander, Fleet Air Command, Quonset
- 1 Commander, Fleet Air Western Pacific
- 1 Commander, Destroyers, Atlantic Fleet
- 1 Commander, Destroyers, Pacific Fleet
- 1 Commander, Submarines, Atlantic Fleet
- 1 Commander, Submarines, Pacific Fleet
- 1 Commander, Amphibious Forces, Atlantic Fleet
- 1 Commander, Amphibious Forces, Pacific Fleet
- 1 Commandant, U.S. Marine Corps
- 1 Director of Aviation, Marine Corps, Navy Department
- 1 Commanding General, Aircraft, Fleet Marine Force, Pacific
- 1 Commanding General, 2nd Marine Aircraft Wing
- 1 Commanding General, Marine Aircraft, West Coast
- 1 Commandant, Marine Corps Schools
- 1 Commandant, National War College
- 1 President, Naval War College
- 1 U.S. Naval Intelligence School, Naval Receiving School, Anacostia, D.C.
- 1 Naval Staff Committee, United Nations

SECRET

SECRET

SECRET