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DEVELOPMENT OF NUCLEAR CAPABILITIES  
BY FOURTH COUNTRIES: LIKELIHOOD  
AND CONSEQUENCES

Submitted by the  
DIRECTOR OF CENTRAL INTELLIGENCE

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Concurred in by the  
INTELLIGENCE ADVISORY COMMITTEE

on 1 July 1958. Concurring were The Director of Intelligence and Research, Department of State; the Assistant Chief of Staff, Intelligence, Department of the Army; the Director of Naval Intelligence; the Assistant Chief of Staff, Intelligence, USAF; the Deputy Director for Intelligence, The Joint Staff; and the Atomic Energy Commission Representative to the IAC. The Assistant Director, Federal Bureau of Investigation, abstained, the subject being outside of his jurisdiction.

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## DEVELOPMENT OF NUCLEAR CAPABILITIES BY FOURTH COUNTRIES: LIKELIHOOD AND CONSEQUENCES

### THE PROBLEM

To estimate the capabilities and intentions of "fourth countries" with respect to the production of nuclear weapons and related delivery systems over the next decade, and to estimate the consequences in terms of US national interests. (Except as they may affect the above, this estimate does *not* consider nuclear capabilities which might be obtained by the transfer of finished weapons or advanced delivery systems from other powers.)

### CONCLUSIONS

1. Within the next decade a large number of individual countries could produce at least a few nominal-yield weapons and could adapt these weapons for delivery by aircraft. (*Paras. 13-15, 20-25*)
2. However, only France, Sweden, Canada, and perhaps West Germany could independently produce substantial stocks of nuclear weapons and missiles capable of reaching major Bloc cities from their respective territories within the ten-year period. France with a high-priority program could attain a limited operational capability with fission warheads for such weapons in 1963-64 and a substantial operational capability, including some thermonuclear-armed missiles, by 1968. (*Paras. 16-18, 30-42*)
3. A combined effort by France, Italy, and West Germany (the FIG states) could develop thermonuclear weapons by 1963 and could have a limited operational capability with thermonuclear-armed missiles in 1964-67. (*Paras. 26-29, 45-47*)
4. We believe France will begin nuclear testing by the end of 1958 or early 1959 and, failing a substantial disarmament agreement or nuclear weapon assistance from the US, the UK, or both, will probably independently proceed to develop and produce a family of fission weapons within the ten-year period. A program embracing development of long-range missile systems and thermonuclear weapons would place a major strain on French resources, so that the incentive for France

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to enter some cooperative grouping will remain strong. (*Paras. 52-55*)

5. Unilateral production by France could create strong pressures in West Germany and other European countries for a regional arrangement to produce and control nuclear weapons. If neither a common Western program for the production of nuclear weapons nor a substantial disarmament agreement is achieved in the next five years, we believe West Germany will then seek to enter into independent development and production of nuclear weapons and delivery systems. (*Paras. 56-68*)

6. We believe that Sweden will initiate limited nuclear weapons production as the necessary materials become available (about 1961). Other countries which will probably seek to develop limited weapons production programs within the decade are Communist China and Israel. Japan is unlikely to do so. (*Paras. 70-78*)

7. A US-USSR agreement provisionally banning or limiting nuclear tests would have a restraining effect on independent production of nuclear weapons by fourth countries. However, the inhibiting effects of a test moratorium would be transitory unless further progress in disarmament — aimed at effective controls and reduction of stockpiles — were evident. (*Paras. 79-82*)

8. Arrangements by the US to provide Western European countries with nuclear weapons under some form of integrated NATO control would have an important inhibiting effect. Nevertheless, France would probably still produce a few low-yield weapons. US-UK offers to provide technical assistance for common Eu-

ropean production would almost certainly deter production by individual countries. (*Paras. 83-84*)

9. No fourth country is likely to acquire sufficient nuclear capabilities in the next ten years to change basically the dominant positions of the US and USSR. Yet the acquisition in any manner of nuclear capabilities by fourth countries under their exclusive national control is certain to produce difficulties and in most cases would probably tend to increase the chances of general war by an expansion of local conflicts.<sup>1</sup> Further, there is the possibility that nuclear weapons might get into the hands of almost totally irresponsible governments. (*Paras. 85-90*)

10. The production of nuclear weapons by individual European countries over the next ten years is not likely to reduce substantially their dependence on the US.

<sup>1</sup>The Deputy Director for Intelligence, The Joint Staff, does not agree that "fourth country" nuclear capabilities would probably tend to increase the chances of general war. He considers this statement a generalization which is purely theoretical and which is probably erroneous when applied to the specific nations and groups of nations listed in the text as potential possessors of nuclear capabilities.

General war would involve overt engagement of major US and USSR military forces. General war can occur only if one of these two dominant powers decides upon it as a course of action. A localized conflict would be the most likely catalyst for such a decision; but the use of nuclear weapons by one or both antagonists in a local conflict is not considered likely to affect the ultimate judgment of either great power toward undertaking general war. Indeed, as suggested in paragraphs 89 and 90 the dominant powers may multiply their efforts to keep local conflicts local.

Thus, the Deputy Director for Intelligence, The Joint Staff, considers that while it is possible, it is not probable that general war would tend to become more likely due to fourth country acquisition of nuclear capabilities. He believes the sentence should be terminated after the word "difficulties."

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The existence of a major common European program might lessen Western European susceptibilities to Soviet threats, and major European governments might assert greater independence. However, the members of the community would probably continue to regard alliance with the US as essential, at least for some time to come. (*Paras. 91-92*)

11. Although a major European program would exert a degree of deterrence on the USSR, we do not believe that the Soviets

would regard it as increasing the likelihood of Western Europe initiating hostile action. Independent West German production would cause new and sharper threats but of itself would probably not lead the USSR to attack West Germany. (*Paras. 93-96*)

12. The acquisition by the Chinese Communist regime of nuclear weapons over the next decade would not in itself alter Peiping's basic international orientation and policies. (*Paras. 97-98*)

## DISCUSSION

### I. CAPABILITIES OF FOURTH COUNTRIES

13. A small-scale national program for nuclear weapons development and production requires only: (a) one or more fairly large research or power reactors for producing plutonium, (b) access to a supply of uranium, and (c) personnel with an understanding of nuclear physics. These requirements can now or will within ten years time be met by a large number of countries. Nuclear know-how applicable to reactor technology is rapidly being spread throughout the world by national and international programs for the peaceful development of atomic energy. Many countries either have or anticipate such programs. Most widely in demand are dual-purpose reactors which generate both power for peaceful uses and plutonium. Although high-grade deposits of natural uranium are relatively limited, exploitable low-grade deposits are widely available. Lastly, the basic principles of weapons design are becoming more widely known in top scientific circles throughout the world. Once a country can produce a few kilograms of plutonium, with a little additional investment in ordnance research and facilities it can produce low-yield fission weapons.

14. More substantial weapons programs designed to achieve a large annual output of fission weapons, a diversified range of such weapons or, as a further step, the fabrication

of thermonuclear weapons would require the construction of major specialized facilities. These would consist for example of large plutonium-producing reactors and of isotope separation plants if U-235 is to be obtained. Extensive weapons fabrication, development, and testing facilities would also be required. The investment required by such a substantial program in terms of money, skilled manpower (especially scientists, engineers, and technicians), energy, and natural resources is so large, particularly for the production of U-235, that only a few fourth countries could by themselves achieve such a program over the next decade.

15. In order to translate nuclear weapons into a meaningful politico-military capability, weapons delivery systems must be developed. In this, as in the production of nuclear weapons, there is a wide disparity between the nominal capability to adapt nuclear weapons for delivery by aircraft and the capability to undertake national programs for producing nuclear-armed ballistic missiles. Light bombers capable of delivering all but the crudest or largest fission weapons are commercially available to all countries. However, only a few of the more industrially advanced states have the scientific and industrial capabilities independently to develop and produce both ballistic missiles and adaptable nuclear warheads.

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### A. Nuclear Weapon Capabilities of Individual Countries

16. Based on the current status of their nuclear energy programs, France and Canada already have the capability to achieve a weapons program using only native resources. The French are conducting nuclear weapons research and are establishing a nuclear weapons proving ground in the West Sahara. We believe that France can produce and test its first fission weapon of 20-40 KT yield by late 1958 or early 1959. If France carries out its reactor program on the scale initially announced in 1955-56, it could have the capacity to produce 350 KG of plutonium per year by 1953 and 800 KG per year by 1968. (Table 1.) In addition, a very small pilot isotope separation plant is in operation, and plans for a major gaseous diffusion facility capable of producing 350 KG a year of weapons grade uranium (U-235) are under consideration. Such a plant could be in operation about five years after the decision to begin construction. The cost of a facility to produce 20 percent enrichment of uranium has been estimated by the French at about \$200 million; for enrichment to weapons grade, there would be an additional cost, perhaps on the order of \$50 million. The availability of a stockpile of fissionable material would permit the French — with a very high priority program involving extensive tests — to design and produce over a ten-year period a family of weapons ranging from small diameter fission weapons capable of being employed as guided missile warheads to weapons of megaton yield.<sup>2</sup>

17. Canada now has agreements for the sale to the US of all of its plutonium production, currently 40 KG a year. Should these be revoked, it would be in a position to undertake a substantial weapons program. On the basis of presently operating and planned reactors Canada would have the capability to produce plutonium at an annual rate of 100

<sup>2</sup> See Annex (Restricted Data), "Weapons Development Capabilities of Selected Fourth Countries and Groupings" for a discussion of French development capabilities in greater detail.

KG in 1963 and 350 KG in 1968. (Table 1.) A two to four-fold expansion of this program would be well within Canadian capabilities. The fabrication and testing by Canada of an initial nuclear device would be possible within approximately a year after the decision to proceed had been made.

18. Within the next five years, Sweden and perhaps West Germany are the only other countries which could successfully initiate nuclear weapon production from native resources alone. Both countries have or can develop adequate manpower, although the use of this manpower for a sizeable nuclear weapons program would involve some diversions from other efforts. From the large-scale reactor program currently being planned, Sweden could have plutonium in quantities sufficient to fabricate an initial weapon by 1961-62. Although Sweden has a native source of uranium in shale deposits, its processing facilities are not adequate to supply all the required reactor fuel. If an increased supply of fuel is obtained, either through expansion of domestic processing facilities or purchases abroad, Sweden could produce plutonium at a rate of 75 KG per year by 1961, 200 KG by 1963 and 400 KG by 1968. (Table 1.)

19. West Germany is considering plans for nuclear power stations, but to date no firm program has been initiated. West Germany would have a serious problem in finding suitable test areas. If the West Germans solved this problem and obtained unrestricted access to the fissionable material output of a reactor program or to high-grade uranium ores, they could also commence weapons production within three to five years from the date of decision.<sup>3</sup> However, if entirely dependent on its own supplies of low-grade ores for fissionable materials, West Germany would be in a position to commence weapons production only near the end of the ten-year period of this estimate.

<sup>3</sup> For discussion of the treaty limitations affecting a possible nuclear weapons program by West Germany, see paragraph 57.

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TABLE 1  
ESTIMATED OUTPUT OF PLUTONIUM FROM  
ASSUMED REACTOR PROGRAMS IN  
SELECTED COUNTRIES  
(Annual Rate in Kilograms)

	1958	1961	1963	1965	1968	Possible Date of First Weapon
France	20-40		350	550	800	1958
Canada <sup>a</sup>	40		100	200	350	1959 <sup>a</sup>
Sweden <sup>b</sup>		75	200	300	400	1961

<sup>a</sup> Canada is now under agreement to sell all of its plutonium to the US.

<sup>b</sup> Sweden would have to obtain additional supplies of uranium fuel to realize this potential.

20. Countries which possess the necessary resources to produce their first nuclear weapons in 5-10 years from now are Belgium, East Germany, Czechoslovakia and perhaps India and Poland. Each of these countries has rich deposits of uranium ores within territory under its control, with the exception of Poland which has only low-grade but extractable ores. Belgium could commence weapons production without further foreign assistance by 1967. The three major Eastern European countries are only in the early experimental stage of nuclear energy programs and would almost certainly encounter Soviet checks over military use of uranium ores. India could produce weapons only by extraordinary efforts and by assigning the highest priority to a weapons program.

21. Other countries which could commence nuclear weapon programs 5-10 years hence if they could obtain access to fissionable materials without restrictions as to use, are Japan, Italy, Switzerland, Norway, and the Netherlands. Each of these countries has planned power reactor programs, but lacks high grade uranium ores. At present reactor fuels are available to have-not countries from major producers in the Free World only on terms intended to prevent diversion to weapon application. However, occurrence of uranium and thorium are common throughout the world and processes for economic recovery of relatively low-grade deposits are now being developed. For example, Japan is investigat-

ing the prospects for recovering uranium from its low-grade deposits. As world uranium production expands and commercial sales of power reactors are extended, it appears likely that present restrictions on the availability of fissionable materials for weapons application will be progressively reduced.

22. Compared with the countries discussed above, Communist China, Australia, and Israel possess fewer of the requirements for a successful program and would require major foreign assistance to produce even the first weapons within the next ten years. Each of these countries is already receiving important assistance in the development of nuclear energy programs. Communist China could with Soviet assistance produce fission weapons on its own territory. If Israel should obtain substantial foreign assistance for a reactor program, it has the technical capacity to produce a few low-yield weapons during the next ten years.

23. In terms of quantity, none of the countries listed in paragraphs 20-22 above is likely without foreign assistance to have the capability over the next ten years to produce enough weapons-grade fissionable material to support the production of more than a few nominal-yield weapons. Only France, Sweden, Canada, and West Germany could independently produce substantial stocks of nuclear weapons in this period. We believe that it is possible for these latter countries to develop the capacity to produce a few high-yield weapons (500 KT or above) in this period. Production of such weapons would require a major priority program for France, and an all-out effort by the others if the requisite fissionable materials production and other facilities were to be developed. Such programs would also involve an extensive effort on delivery systems to be meaningful.

24. In all of these countries the time required for developing a weapons production capability could be significantly reduced, and the scale of weapons programs increased, by receipt of assistance from the US, the UK, or the USSR, particularly if such assistance included development of isotope separation facilities or weapons design information.

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25. A technological breakthrough could markedly increase the capabilities of the countries discussed in this paper, but probably would not enlarge the list of those countries able to produce nuclear weapons within the next ten years.

### B. Nuclear Weapons Capabilities of Combinations of European Countries

26. There is a possibility — the likelihood of which is discussed later in this estimate — of various European countries pooling their nuclear weapons efforts in some degree. The possible combinations include the "FIG" countries (France, Italy, and West Germany), the six European Community countries (FIG plus Benelux), and a WEU grouping (the Six plus the UK).

27. *France-Italy-West Germany.* An arrangement which brought together in a sustained common effort the missile and nuclear energy programs of the French and the technological and industrial capacities of the Germans would mean the emergence of a major "fourth power" in Europe. An extension of the present FIG effort to nuclear weapons would aid in overcoming the obstacles which tend to deter individual nations — especially the high financial costs and the complex problems involved in initially developing advanced weapons and delivery systems. If the FIG states were to undertake a combined nuclear weapons program, they could construct processing facilities for weapons-grade fissionable materials on a large scale and could initiate a substantial weapons program. Production of the first fission weapons, starting in 1958-59, would result primarily from the French effort. However, such a combined effort could accelerate the development of thermonuclear weapons by a year or so, and could produce such weapons more rapidly and with considerably less strain than France alone.

28. A combined effort by the SIX would contribute an important source of uranium from the Belgian Congo as well as additional financial and technical support to the capacities of the FIG states, but the time required for the development of weapons would be approxi-

mately the same as for the FIG pool. If the SIX also obtained the uranium output of South Africa, they could produce by about 1968 a variety of fission weapons in substantial numbers plus a moderate number of thermonuclear weapons.

29. *The addition of the UK* to the above community effort, in a WEU framework, would provide highly significant additional weapons technology and fissionable materials production facilities. Any such combination, if begun in the near future, could produce advanced weapons in substantial numbers within five years.

### C. Delivery Capabilities of Fourth Countries

30. A country possessing a few nominal-yield weapons could deliver them by unorthodox or crude means, such as cargo aircraft or merchant shipping. As previously noted, aircraft which can be adapted for the delivery of nuclear weapons are widely available on world markets. However, advanced aircraft for carrying nuclear-armed missiles or heavy nuclear bombs are within the independent capabilities of only a few countries. Generally, these are also the states which have or could develop the capacity to produce ballistic missiles.

31. *Aircraft Delivery Systems.* Of the four countries already noted as having the most important nuclear weapon potential during the next decade, France, Sweden and Canada are leading producers of advanced military aircraft, and West Germany has an industrial base which could be expanded for this purpose. The recently developed French Vautour jet light bomber, being produced at the rate of four per month, could deliver the types of fission weapons we estimate that France would develop initially. The Super Mystere jet fighter and a new delta wing jet interceptor could provide first-class delivery vehicles for some of the more advanced nuclear weapons France could have by 1961. Canada has demonstrated the capacity to develop modern aircraft delivery systems with its CF 100 and the CF 105 fighters. Both France and Canada, more-

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TABLE 2

## INDICATORS OF NUCLEAR WEAPON PRODUCTION CAPABILITY

Country	Domestic Source of Uranium	Nuclear Research Program	Nuclear Power Program	Industrial Resource Capacity
France	XX	XXX	XXX	XXX
West Germany	X	X	P	XXX
Italy	X	X	P	XX
Belgium	XXX (Congo)	XX	P	XX
Netherlands	—	X	P	X
France-Italy-Germany	XX	XXX	XXX	XXX
The SIX	XXX	XXX	XXX	XXX
Canada	XXX	XXX	XX	XXX
Sweden	XX	XX	XX	XX
Switzerland	—	X	P	XX
Norway	—	XX	P	X
India	XXX	XX	P	X
Japan	P	XX	P	XX
Israel	X	XX	P	X
East Germany	XXX	X	P	XX
Czechoslovakia	XX	X	P	XX
Poland	X	X	P	X
Communist China	XX	X	P	X

XXX Major  
 XX Moderate  
 X Small  
 P Potential over longer term

over, have aircraft carriers from which light bomber or fighter types could be operated. Sweden's latest high performance fighter (J-35 Draken) and fighter bomber (A-32 Lansen) also compare favorably with those of the leading powers. West German production is presently limited to trainer, light liaison, and transport types, virtually all under license arrangements with other countries.

32. None of these countries now has or is likely to undertake in the next ten years a program for the development of medium or heavy bombers.

33. Apart from their independent capabilities, the major allies of the US — including West Germany, France, Italy, and Japan — have or are in the process of obtaining advanced types of US military aircraft which could be adapted for the delivery of nuclear weapons.

34. Potential Bloc fourth countries — Communist China, East Germany, Czechoslovakia, and Poland — are dependent on aircraft of Soviet manufacture or design. Aircraft types now in the hands of these countries — notably Communist China's force of BEAGLE jet light bombers plus a few BULL piston bombers — could be readily adapted for nuclear weapons delivery.

35. *Missile Delivery Systems.* In our examination of possible missile delivery systems, we have focused entirely on surface-to-surface missiles capable of reaching the USSR from the territory of the country concerned. There is considerable evidence that such missiles are in the forefront of thinking in those countries considering substantial nuclear weapons programs. Moreover, from the capabilities standpoint alone, we cannot visualize any fourth country over the next decade putting any ma-

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for part of its nuclear weapons development and production into nuclear warheads for surface-to-air or short-range surface-to-surface missiles, since (a) the weapons types required are either of advanced design or expensive in materials, or both: (b) the numbers of weapons required for a meaningful capability are large, especially in the surface-to-air field.<sup>4</sup> For the same reasons, we exclude the possibility of artillery delivery systems. As to possible local war use of nuclear weapons in limited numbers, we believe air delivery would be preferred to short-range missiles and artillery. Finally, we also exclude nuclear-armed air-to-surface missile delivery systems since these would require medium or heavy bombers for delivery.

36. In the long-range SSM field, we believe that the eventual goal of the effort of major fourth countries would be missiles employing solid or storable liquid propellants. As to warhead yield, we believe that the eventual goal of the effort would be a thermonuclear warhead with a yield in the megaton range. For interim purposes, however, a fission warhead would be accepted, and numbers of delivery vehicles might be produced on this basis. Even though a fission warhead would be inadequate to meet requirements against all military targets, it would be adequate to threaten major damage to important urban areas.

37. Although a comprehensive missile program similar to that of the US or the USSR would be enormously costly, we estimate that 100 IRBM's with a range of 1500 miles<sup>5</sup> could probably be developed, produced, and operationally sited for about US \$2 billion.<sup>6</sup> The maximum expenditure in any one year of a

<sup>4</sup> Sweden and perhaps Japan may be exceptions to these conclusions.

<sup>5</sup> In giving missile ranges the term "miles" means nautical miles throughout this paper.

<sup>6</sup> These estimates are general approximations which vary widely with the standards of performance being sought and the comparative technological advantages of individual countries. In each case, the research and development costs could be reduced if information on design and technology was made available by either the US or the USSR.

ten-year program could be about \$375 million. A comparable program for surface-to-surface missiles with a range of 300-500 miles would probably cost about \$1 billion.<sup>6</sup> Such programs are within the capabilities of the larger countries of Western Europe and possibly of Japan. These countries have high educational standards and outstanding scientists capable of solving without major foreign assistance the critical problems of propulsion, guidance, and warhead design. In each case, a major effort would be required, one which would mean an all-out mobilization of scientific talent and a priority allocation of financial and industrial resources, with consequent major sacrifices in other scientific and industrial areas.

38. Since research and development constitute a high percentage of the cost of missile programs and involve the greatest sacrifice of scientific and engineering talent, assistance to potential fourth countries by the US or the USSR would greatly reduce the strain of such programs. As US missile systems become available to its allies, their knowledge of technical possibilities and requirements will be extended. To the extent that the US helps potential fourth countries, particularly France, with delivery systems, they will be in a position to devote more effort to nuclear programs and warhead development. Most countries which have the potential to develop nuclear weapon systems will almost certainly seek foreign assistance, not only from the US or the USSR but from other countries as well.

#### France, Sweden, West Germany, and Canada

39. *France.* Using entirely native resources and with a high priority program, we believe that France could attain a limited operational capability with nuclear missiles (ten 1500-mile missiles armed with fission warheads) by 1963-64, and an important operational capability (100 missiles with fission warheads) by 1966-67. With a high priority program, France could commence the arming of long range missiles with thermonuclear warheads at least by 1968, and perhaps two or three

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years earlier with an all-out effort.<sup>7</sup> The French have some 25 missile projects underway encompassing every category except long range types and they are actively studying the possibilities for these. French capabilities are substantial but they are under financial restraint, in part as a result of military operations in Algeria. Further, while the country is strong in theoretical and experimental sciences, it is less strong in industrial application.

40. *Sweden.* With a concerted national effort, we believe the Swedes could independently obtain by 1966-68 a limited operational nuclear missile capability (10 missiles with fission warheads) with a range encompassing the 700 miles to Moscow. Sweden could commence production of shorter range missiles (200-500 miles) as early as 1963, but problems of fitting a nuclear warhead would probably delay their operational availability until near the end of the ten-year period. Sweden has an active missile program and has demonstrated its ability to develop efficient short-range and coastal defense missiles. We believe the Swedes could solve the more difficult problems of adapting fission warheads and guidance for longer range missiles, although without foreign assistance the guidance system which they could devise would probably be less refined than desired.

41. *West Germany.* Under a priority program and provided it obtained access to flight test facilities, West Germany could develop and produce a limited operational capability with a 1000-mile range missile by 1966 and with shorter range missiles (200-500 miles) perhaps as early as 1963. By an all-out mobilization of resources (including access to nuclear test areas) the West Germans could arm such missiles with fission warheads by 1966 and perhaps with fusion warheads by 1968. Although present German missile programs are limited, the Germans have great potential in the field and are believed to have recently designed an 800-mile ballistic missile with an inertial guidance system.

<sup>7</sup>For discussion of the problems of developing thermonuclear warheads and their probable weights, see Annex (Restricted Data).

42. *Canada.* In order to establish a national deterrent capability against the USSR, Canada would need to develop an ICBM. Although Canada is capable of doing so within ten years, the sacrifices which would be involved in an independent effort of this magnitude would be enormous.

#### Other Possible Individual Countries

43. *Japan and Italy* also could acquire a limited operational missile capability (10 missiles) against major targets in the USSR and Communist China within the next ten years, but neither could produce nuclear warheads within this period without foreign assistance.

a. *Japan.* With an all-out effort Japan could independently develop and produce perhaps by 1968 ballistic missiles capable of reaching coastal targets in China and Manchuria (over 750 miles). The Japanese almost certainly could not fabricate fission warheads for such missiles before the early 1970's.

b. *Italy.* The Italians have a substantial potential for missile development and if long-range test facilities were made available, they could probably produce a 1500-mile missile capable of reaching Moscow by 1968-70. However, Italy has been directing its efforts in the missile field into cooperative endeavors with other countries, including development projects jointly undertaken with the US and with France.

44. We do not believe that Communist China will have the capability by 1968 independently to develop and produce missile systems capable of carrying nuclear warheads. However, the Chinese Communists could develop a cadre of trained personnel for manning operational missile sites jointly established with the USSR on Communist Chinese territory.

#### Combinations of European Countries

45. *The FIG Countries.* We do not believe that West German and Italian cooperation would significantly affect our estimate that France alone could have a limited capability with fission-warhead 1500-mile missiles by

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1963-64. However, such cooperation would greatly ease the burdens on France, and would make possible earlier and larger efforts to produce the fissionable materials necessary for thermonuclear warheads. Accordingly, we believe that a FIG combination might be able to produce an initial capability with thermonuclear-armed missiles by 1964-67, rather than the 1965-68 estimated for France alone.

46. *The SIX*. The addition of Belgium would simplify uranium supply problems for a major effort, and both Belgium and the Netherlands could contribute important technical manpower. However, such assistance would prob-

ably not advance the dates estimated for the FIG grouping.

47. *UK Participation*. We believe the UK will achieve within the next year a thermonuclear weapon suitable for an IRBM warhead. This together with its existing program for a 2200-mile missile would make it the clear leader in any program in which it participated. We believe that a WEU combination could achieve a limited operational capability with a thermonuclear-warhead IRBM (though not necessarily up to yields now sought by the US) in 1960-61, with a stockpile of 100 such missiles a year later.

TABLE 3

ESTIMATED DATES BY WHICH FOURTH COUNTRIES COULD DEVELOP, PRODUCE, AND DEPLOY LONG RANGE NUCLEAR MISSILES, USING ONLY NATIVE RESOURCES

Country and Missile Range	Missile Only	Warhead Only <sup>2</sup>	
	Limited Operational Capability <sup>1</sup> (10 missiles)	Fission (initial capability)	Fusion (initial capability)
<u>France</u>			
1500 miles	1963-64	1960-61	1965-68 <sup>3</sup>
<u>Italy</u>			
1500 miles	1968-70	—	—
<u>West Germany</u>			
1000 miles	1966	1963-65	1966-68
200-500 miles	1963-64	—	—
<u>France-Italy-Germany</u>			
1500 miles	1963-64	1959-60	1964-67 <sup>3</sup>
<u>The SIX</u>			
1500 miles	1963-64	1959-60	1964-67 <sup>3</sup>
<u>WEU (SIX plus UK)</u>			
1500-2000 miles	1960-61	1958	1959
<u>Sweden</u>			
700 miles	1966-68	1963-65	—
200-500 miles	1963-65	—	—
<u>Japan</u>			
750 miles	1968	early 1970's	—
<u>Canada</u>			
3500 miles	1968	—	—

<sup>1</sup> A limited operational capability is defined as 10 missiles, together with essential ground support equipment, in the hands of trained personnel at one or more sites. Once this point had been reached, a country could produce and operationally position 100 missiles in ten or more sites within a further one to three years.

<sup>2</sup> The dates indicated in these columns are those of possible initial development. The production of 100 fission or fusion warheads would not present serious fabrication problems, but might be delayed by limitations on the availability of fissionable materials. Such delays might be several years for fusion warheads.

<sup>3</sup> See Annex (Restricted Data).

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## II. PROBABLE COURSES OF ACTION IN FOURTH COUNTRIES IN THE ABSENCE OF DISARMAMENT AGREEMENTS

### A. Factors Affecting the Initiation and Ex- tent of Programs to Acquire Nuclear Capabilities

48. For those fourth countries which are or may become capable of producing nuclear weapons, there are several factors which may impel them to produce nuclear weapons. Foremost among these are:

- a. Desire for national prestige.
- b. Desire for military capabilities that may be used, politically or militarily, in local conflicts particularly with non-nuclear nations or forces (such as rebels).
- c. Belief that the development of nuclear capabilities is the most efficient use of the manpower and resources available for defense.
- d. Desire to buttress a neutral position.
- e. Desire by major US allies to acquire (alone or in combination) enough military power to exercise some degree of deterrence on the USSR independently of the power of the US.

Of these, the desire for national prestige and the belief in military effectiveness are common in some degree to all fourth countries. The factor of possible use in local conflicts is of particular relevance in France, but almost irrelevant in Sweden and Canada, for example. The buttressing of neutrality now applies principally to Sweden.

49. The most difficult factor to assess — and the one of crucial importance in estimating the extent of possible European fourth country programs — is the desire to acquire a degree of independent deterrent power. The needs inspired by desire for national prestige, local conflict considerations, and the buttressing of a neutral position may be met by relatively modest programs. However, the attainment of any significant degree of independent deterrent power vis-a-vis the USSR involves capabilities of a more substantial nature, including advanced types of delivery systems and weapons adapted to them.

50. Over the past year or two, the desire to attain some degree of independent deterrent capabilities has clearly gained ground among major allies of the US. With the growth of Soviet capabilities making the US itself appear far more vulnerable than before and with the prospect that the ICBM and seaborne missiles will make the US less dependent on foreign bases, European leaders increasingly fear that the US might not stand firmly with Europe against Soviet pressures and actions in matters of vital European concern. Moreover, the example of British stress on nuclear deterrent power under the 1957 White Paper has had wide influence, and it has appeared to the continental allies that the UK has enhanced its influence with the US by that policy. Should this desire for independent deterrent power grow among the continental NATO powers, the cost of the required effort would tend to favor combinations among these powers. In any event, this element in the fourth country outlook is of much greater importance than at this time last year.

51. Over against these factors, generally tending to favor fourth country nuclear programs, are a number of important restraining factors. The most obvious of these is diversion of usually scarce scientific and technical resources from other projects. Financial costs, though not major in a nominal-scale program, become great in any substantial program. Among major US allies an important inhibiting factor is concern for the effect of an independent program on ties with the US. While major US allies are unlikely to consider that their US ties would be severed completely by their decision to enter the nuclear field independently, they may weigh heavily the possibility that such a decision might lead over time to a considerable loosening of these ties. Finally, even after the initiation of a program, fourth countries are likely to remain uncertain as to its military effectiveness; in particular they may well be troubled by the time lag before their capabilities could become substantial, and also by doubts as to whether their nuclear striking power, once acquired, could be made sufficiently invulnerable to Soviet pre-emptive action to constitute any realistic deterrent to Soviet action.

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## B. Major Western European Allies of the US

52. *France.* There has been growing French support over the past year for fabrication and testing of at least a few nuclear devices to restore French prestige and to reestablish France's status as a great power. Conditioned by nationalist fervor, the French press has apparently accepted the eventual production of nuclear arms as a foregone conclusion and there has been no significant public expression of opposition to such a program since the Suez crisis. Right wing elements are vociferous in their demands that France obtain nuclear weapons under unilateral control and are highly critical of US nuclear stockpile proposals. They insist that France must control all arms on its territory.

53. We believe that the de Gaulle government intends to begin nuclear testing as soon as possible. Preparations for testing are well advanced, and an atomic device can be exploded in the Sahara by late 1958 or early 1959.

54. Furthermore, we believe that France will proceed to produce at least a few low-yield plutonium weapons to establish itself as a full-fledged nuclear power. The extent to which the French will carry an independent program beyond this point will depend on whether they are furnished nuclear weapons on satisfactory conditions, and whether the US, the UK, or both furnish major technical and material assistance to a common weapons program. If neither of these developments occur, we believe that France will continue with an independent program with a sufficiently high priority to achieve at least a family of fission weapons within the ten-year period.

55. In the existing French situation, a broadly based long-range program to include adequate delivery systems and thermonuclear weapons is unlikely. Moreover, the carrying out of the EURATOM nuclear power program will engage some of France's technical manpower and resources. However, the effect of these restraints may diminish over time. Above all, a scaling down or ending of military op-

erations in Algeria would make possible far greater financial support of nuclear activities. Moreover, over the ten-year period, French Gross National Product will continue to expand and the EURATOM program may provide additional training facilities of help to France's national program. Nonetheless, it is highly unlikely that France will reach a point within this period where it could support a major nuclear weapons program without serious strain on its resources; hence, the incentive for France to enter some grouping arrangement will remain strong.

56. *West Germany.* In the absence of a disarmament agreement, it is the declared policy of the Adenauer government to arm West German forces with tactical nuclear weapons supplied by the US under NATO arrangements. Chancellor Adenauer and Foreign Minister Brentano have stressed that the Federal Republic does not wish to produce nuclear weapons but would like to undertake research on them in cooperation with other countries.

57. There are major restraints upon the independent production of nuclear arms by the Federal Republic. Under the Paris Agreement of 1954, West Germany accepted treaty obligations not to manufacture atomic arms and larger types of missiles on its territory. These restrictions do not apply to research, the purchase of these weapons from other states, or cooperative schemes for their production outside Germany. Further, certain restrictions can be relaxed, upon the recommendation of SACEUR, by agreement with West Germany's WEU allies. For example, the West German government recently applied for and obtained permission through WEU to manufacture an anti-tank missile. Removal of the restriction on manufacture of nuclear weapons would, however, require amendment of the WEU treaty.

58. Most West Germans have accepted the arming of US troops in Germany with nuclear weapons, but there remains intense opposition, led by the Social Democrats, to the nuclear arming of West German forces. This opposition is based largely on fear of Soviet reactions, on fear of German involvement in

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nuclear war, and on concern that the acquisition of nuclear weapons would prevent, or at least make far more difficult, the eventual reunification of Germany. However, barring substantial Soviet concessions in the areas of disarmament or reunification, we believe the Adenauer government will proceed with its plans to obtain US tactical nuclear weapons for West German forces.

59. To date, the issue of West German production of nuclear weapons has not been widely debated in Germany, but it seems certain that elements which now oppose acquisition of US weapons would also oppose proposals for independent production.

60. In the event that West Germany should seek to enter the nuclear armaments field, the restrictions imposed by the Paris Agreements and the limitations on West Germany's domestic resources, especially lack of high-grade uranium, a testing area, and up-to-date weapons know-how, would provide powerful practical incentives for West Germany to seek some cooperative arrangement with France. Thus, an influential group within the German government, led by Defense Minister Strauss, views cooperative programs as the only practical means for achieving a nuclear weapons status independent of the US. The idea of a more independent role for a grouping of European states — on the basis of independent atomic forces — has a growing appeal in influential West German circles. Part of this appeal is based on concern to head off fourth power status for France by seeking to tie French nuclear capabilities to either a Franco-German or a broader European program.

61. We do not expect the West Germans to press these objectives in the near future in a way that would risk alienating the US. If, however, the French were to seek West German assistance — on a FIG or broader basis — we believe the West Germans would be receptive, while insisting on a full share in the technical data produced and an effective German voice in the deployment and possible use of the resulting weapons, at least in Western Europe.

62. By about 1962-64, the Germans will have made good much of their postwar lag in scientific and military research. Consequently, they will be in a position to produce a family of missiles, as well as nuclear weapons, in from four to five years from the time of decision. We believe that French possession of nuclear weapons, German pride, scientific and military momentum, and their concern over continuing dependence on the US for security would be powerful stimuli for such a course. Therefore, we believe that if by this time there is neither an East-West understanding nor a common Western program for the production of nuclear weapons, the Federal Republic will probably seek to undertake unilateral production of nuclear weapons systems despite Socialist-led opposition and concern over adverse effects on chances for reunification. We believe that West Germany would seek to obtain amendment of the WEU Treaty and would accept some delay to do so. In the unlikely event they failed, however, we believe that in the last analysis they would probably go ahead anyway, having concluded that Western cooperation in WEU and NATO was at a virtual end. There would be a somewhat greater delay in making a final decision in favor of unilateral production if the government were controlled by the Social Democrats, but we believe such a government too would eventually go ahead.

63. *Other European NATO Countries.* Independent production by either France or West Germany would stimulate other European countries to seek a share in the control as well as in the production of these weapons. Fear of an unrestrained nationalist resurgence in West Germany and France would be supplemented by other motives, such as a desire to establish some degree of independent European deterrent within the framework of the NATO alliance. Italian leaders have already considered joining France and West Germany in a nuclear weapons pool, but they have been anxious to obtain prior US approval and support. Similarly, the Belgians and the Dutch would rest more easily if French and German nuclear capabilities could be harnessed to a broader NATO program. If France and Ger-

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many — either separately or together — decided to produce nuclear weapons, we believe there would be strong pressures in Belgium, Italy, and the Netherlands to join them. In the absence of such an arrangement, one or more of these countries might eventually go ahead with unilateral production efforts.

### C. European Cooperation in the Production of Nuclear Weapons

64. *FIG Combination.* Franco-German collaboration in the missile field has been underway since early 1956. Following the orbiting of the first Sputnik and about the time of the Eisenhower-MacMillan Declaration of Common Intention of October 1957, the defense ministers of France, Italy, and West Germany drew more closely together and extended their plans for cooperation in military development and production. Tentative agreements have been reached on the development of a solid propellant 1750-mile missile, an anti-missile missile, and other arms projects. These deliberations included a review of the prospects of giving France technical and financial assistance for the production of nuclear weapons to be shared by the three countries.

65. However, France-Italian-German discussions on nuclear weapons cooperation appear to have encountered difficulties. The French have been interested in immediate and substantial assistance without strings and have probably been unresponsive to German insistence on guarantees of precise future benefits. As discussions became more widely known, objections were expressed not only by other NATO countries but also by elements within the national governments of the three countries. The German socialist "campaign against atomic death," French preoccupation with Algeria, and general uncertainty over US intentions are other factors which have given pause to FIG leaders. Although the evidence is inconclusive, we believe that proposals for FIG cooperation in a nuclear weapons program have been postponed, at least pending the outcome of French bilateral efforts to obtain nuclear weapons and weapons technology from the US.

66. Until the general European posture of the de Gaulle government becomes clearer, it is impossible to estimate whether the FIG combination will be strengthened in the missile field and extended into the nuclear field. On the one hand, de Gaulle may seek a maximum of independent French strength and cut down French cooperation. On the other hand, it is possible that he might attempt to build up the FIG combination as a counterweight to the US and UK within NATO. Over the next two years, if France continues under the burden of conflict in Algeria, the practical incentives for entering a cooperative arrangement on the continent might become stronger. In the meantime, nationalist sentiment in France might be assuaged by initial nuclear testing by France on a unilateral basis.

67. *The SIX.* If the FIG states gave evidence of proceeding with a nuclear weapons program, the desire of the Benelux countries to have a voice in the deployment and use of these weapons as well as the ties of the European integration movement would probably lead to a common effort by the Six states of the European Communities. The European Atomic Energy Community (EURATOM) is designed to promote and will probably be confined to the development of peaceful uses of nuclear energy, since Socialist support, in particular, for EURATOM is premised on its non-military program. Nevertheless, a new political decision to develop and produce weapons jointly could be taken by the SIX either by amending the existing treaty or negotiating a new treaty. However, at least Belgium and the Netherlands would prefer a NATO arrangement and would seek to encourage US and UK participation in any European advanced weapons program.

68. *The Position of the UK.* The UK is strongly opposed to the production of nuclear weapons by any fourth country, including France, and would be particularly concerned at any arrangement which might put nationally controlled nuclear weapons in German hands. The British reaction to FIG has been to try to bring it under WEU and NATO scrutiny and to encompass FIG production planning in a larger multilateral framework. Despite

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marked continental mistrust of British motives, UK collaboration in a joint advanced weapons program — especially if accompanied by further evolution in British political attitudes toward European integration — would probably be welcome by the SIX. The UK is likely, however, to take such a far-reaching step only under two conditions. First, the UK would have to be reasonably convinced that either independent or collective continental programs would eventually succeed, in which case a common program might be an advantageous alternative. Secondly, the UK would probably not proceed without US concurrence, if not urging, given the importance attached to its special relations with the US and its close collaboration and commitments in the field of nuclear information. On balance, in the absence of such concurrence, we think the chances are less than even that the British would opt for a common WEU nuclear program on conditions acceptable to the continental powers.

#### D. Probable Courses of Action in other Fourth Countries

69. *Canada* has the capability to produce nuclear weapons at an early date. However, since the Canadians realize that their security is inextricably intertwined with that of the US, we believe they will continue to depend primarily on US deterrent capabilities. Nevertheless, the government and the people will increasingly seek a larger Canadian role in matters affecting the security of North America. In particular, they are likely to seek nuclear weapons from the US for air defense purposes. If the US provides these weapons, whether US-controlled or not, no compelling motive would appear likely to lead the Canadians to undertake their own nuclear weapons production program.

70. *Sweden's* consideration of a national weapons program is largely influenced by its own peculiar situation vis-a-vis the USSR. Sweden will have sufficient plutonium from its atomic power reactors to initiate the manufacture of fission weapons in the next few years, but the debate on whether to do so has evoked a conflict of humanitarian and security

arguments. In addition to strong opposition to nuclear weapons on moral grounds, there is uncertainty as to whether Sweden's traditional neutrality is better served by foregoing or by producing atomic arms. A highly vocal minority contends that atomic arms in Sweden would only invite attack in event of war. The major political parties and most leaders are inclined to compromise this issue by supporting the manufacture of tactical and air defense atomic weapons, while avoiding — at least initially — the more "provocative" longer range missiles. We believe that in the absence of substantial progress in disarmament, Sweden will initiate production of nuclear weapons as the necessary materials become available.

71. *Japan* possesses the industrial, scientific, and technological resources necessary to produce nuclear weapons independently, and could probably achieve a modest nuclear capability within the period of this estimate. However, Japanese public opinion at present is overwhelmingly opposed to such a program. Moreover, defense requirements have a very low priority in the current plans of Japan's responsible conservative leaders (including Prime Minister Kishi), who take the position that Japan's future greatness must rest primarily on economic rather than military strength. While the long-range defense plans of these leaders are still tentative, there is nothing to suggest that they intend to modify their present policy of relying primarily on the US for Japan's defense, or that they are seriously considering an independent nuclear weapons program for Japan.

72. We believe that, in the absence of effective international controls, Japan will seek to equip itself with modest defensive (air-to-air, surface-to-air) missile systems, and the US will probably be asked to assist in producing such systems and also to provide the necessary nuclear warheads. Despite the unique sensitivity of the Japanese people to nuclear weapons and the threat of war, popular acquiescence in such a program can be obtained. However, Japan will insist at the very least that such weapons be placed under shared control.

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73. We believe Japan is unlikely to attempt to produce its own nuclear weapons within the next decade. However, over a ten-year period it is, of course, possible that there could be major shifts in Japanese attitudes toward nuclear weapons, as well as a marked growth in Japanese desires for independent power. In the event of such changes, the probable existence of a going nuclear power program might lead Japan to initiate weapons production at least on a small scale.

74. *Bloc Countries.* Chinese Communist leaders almost certainly aspire to gain nuclear weapons in the hope of building a deterrent to the use of US nuclear weapons in the Far East and in order to advance Communist China's claim to great power status, enhance its power and prestige in Asia, and eventually lessen dependence on the USSR. Since Communist China cannot produce its own weapons for some years, we believe that the Communist Chinese will press the USSR for missiles and nuclear weapons, especially if the US should increase its nuclear capabilities in the Far East and the Western Pacific. The USSR will probably be reluctant to meet Chinese requests, hesitating to divert such weapons from its own programs and fearing to contribute both to Peiping's capabilities to take independent action in the Far East and to Peiping's prestige and influence in the Bloc. While relying chiefly on its own capabilities to counter US nuclear strength in the Far East and the Western Pacific, the USSR, in the interests of harmonious relations with its Chinese ally, will nevertheless probably provide the Chinese Communists with some varieties of missiles and other weapons adaptable to nuclear use, but at least initially without nuclear warheads. Unless barred by an effective international agreement, nuclear weapons are likely to be positioned on Chinese territory<sup>a</sup> within the next five years, although almost certainly under Soviet control. In any event, even if Soviet nuclear weapons were not de-

<sup>a</sup> The Director of Intelligence and Research, Department of State believes this should read "may be positioned," which is in accord with the conclusion on this point in paragraph 74 of NIE 13-58, "Communist China," dated 13 May 1958.

ployed in Communist China, they would be readily available if Sino-Soviet interests required them.

75. Although firm evidence is lacking, we believe that the Chinese Communists have also decided that they must begin now to undertake a modest developmental program of their own, designed eventually to produce at least token amounts of such weapons, even though this will entail some difficult diversions of vital resources. To implement such a program Communist China would need to obtain substantial scientific and technical support from the USSR. To date the Soviets have given Peiping a nuclear research reactor to be completed this year, and Chinese scientists are being trained in nuclear physics and in certain phases of Soviet missile programs. The Soviets would be reluctant to give assistance on a scale that would permit a significant Communist Chinese nuclear weapon program. However, Soviet assistance in processing Chinese uranium for domestic use is likely, and the USSR will probably share certain of its experience in weapons design and testing. With such assistance Communist China will probably develop a small independent nuclear weapon capability with the next ten years.

76. We believe that the USSR would not give its consent to independent nuclear weapons production in East Germany and Czechoslovakia, the two satellites with the greatest potential for production over the next ten years. The USSR will almost certainly decide that any requirements for the physical location of nuclear weapons in Eastern Europe must be satisfied from its own stockpiles and under arrangements which assure that effective control is retained by its own forces.

77. *Other Fourth Countries.* Israel would almost certainly attempt to achieve modest nuclear capabilities if it could obtain fissionable material. Such material could well come from a power reactor program initiated with the assistance of a foreign country. Indian opposition to acquiring or producing nuclear weapons might decline if Communist China were known to possess nuclear weapons.

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78. Apart from the countries discussed above, nuclear weapons production does not appear likely in any other fourth country within the next ten years.

### III. EXTERNAL DETERRENTS TO PRODUCTION IN FOURTH COUNTRIES

#### A. Effect of Agreements Restricting Use of Fissionable Materials to Peaceful Purposes

79. The clauses barring diversion to military uses which are contained in the statute of the International Atomic Energy Agency (IAEA) and in US, UK, and Canadian bilaterals will not preclude most fourth countries from initiating nuclear weapons programs. The IAEA restrictions are not binding on countries in a position to export nuclear materials on a bilateral basis. For example, the USSR has indicated a willingness to supply research reactors and fissionable materials on a bilateral basis without apparent restriction on the use of reactor by-products, and even the UK and Canada may be willing over time to relax restrictions. Finally, neither France nor Sweden is dependent on foreign assistance for initiation of a weapons program.

#### B. Effect of Disarmament Agreements

80. In the interest of encouraging progress in disarmament among the major powers, there is popular support throughout most of the world for a ban on tests. Hence, a US-USSR agreement provisionally banning or limiting tests would bring into play strong public pressures against testing by fourth countries, even though such countries might not initially be parties to the agreement. Although it would be possible for some fourth countries to develop and produce a few rudimentary weapons without testing, the extent and variety of such weapons programs would be severely limited.

81. The country most immediately affected would be France. De Gaulle is opposed to a test ban separate from a broader disarmament agreement, and the French would only reluctantly agree — if they would agree at all — to a short test moratorium. While France would

fulfill any commitment it made to refrain from testing, it would probably begin to test and produce its own weapons soon after expiration of the moratorium, unless a more extensive international agreement involving at least cessation of nuclear weapons production had been reached or appeared to be imminent. If France were not a party to a US-UK-USSR test suspension agreement, the French government might assert French "independence" by testing at least one nuclear device. Nevertheless, popular pressure, among other reasons, would probably force the Government to postpone further tests. In the longer run, France would be most reluctant to restrict its right to make weapons and would almost certainly do so only as a part of an arrangement which required reduction of the stockpiles of the major nuclear powers.

82. Should France proceed, the effectiveness of any agreement in restraining other countries would be impaired, and European states would probably follow the courses of action outlined earlier in this estimate. In Japan not only the public but the government as well would welcome any agreement which promised to be effective. Even if Japan possessed a nuclear capability or were closely approaching it, the Japanese would probably accept whatever restrictions were imposed, although they would be reluctant to accept restrictions greater than those accepted by other fourth countries, notably Communist China. The Chinese Communists probably would not be deterred from nuclear weapons production by a limited disarmament agreement, except insofar as they might be prevented by Soviet adherence and Soviet withholding of assistance from China for development of a weapons program.

#### C. Effect on European Countries of the US Providing Nuclear Weapons

83. The US proposal for a NATO nuclear stockpile under US control, although approved by the NATO governments, has not substantially diminished the keen interest of some of these countries in acquiring independent nuclear capabilities. A US transfer of nuclear weapons to integrated NATO control

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might satisfy for some time allied desires for a degree of independent deterrent power. Such a US move would be even more effective if weapons were supplied to a European pool with the decision on use being left to the European countries acting in concert and without a US veto. Nevertheless, in the first of these cases we believe that France would probably produce a few low-yield weapons, and it might do so even in the second case.

84. Alternatively, US-UK offers to provide technical assistance for common European production and control would almost certainly deter production by individual countries. While some European groups, particularly in France, would not regard arrangements for multinational pooling of weapons as a fully adequate substitute for independent production, we believe the European NATO governments would welcome help with the building of a nuclear weapon industry in Europe and would accept a multinational authority for controlling the means of production and the resulting weapons. At the same time, the technical information, facilities, and experience provided by such an arrangement would probably be considered a guarantee of future capability to carry out national programs should they prove desirable.

#### IV. CONSEQUENCES OF THE POSSESSION OF NUCLEAR WEAPONS BY FOURTH COUNTRIES

85. In the preceding paragraphs we have not attempted to cover all possible cases of fourth countries obtaining nuclear capabilities by the transfer of finished weapons and advanced delivery systems from other powers. Some countries may obtain nuclear capabilities in this way. In this concluding section we assess the consequences of a spread of nuclear weapons to fourth countries, whether by independent production, by foreign military assistance, or in the long run even by purchase.

##### A. General Effect on the World Power Situation and Likelihood of War

86. No fourth country is likely to acquire sufficient nuclear capabilities in the next ten years to produce a change in the basic world power

situation. The US and the USSR will still be so far ahead of all others as to dominate the scene without much question. Yet the acquisition of nuclear capabilities by a fourth country signifies a sudden and vast increase in the power of that country; this may be true of a small state even though its nuclear capability is merely nominal. Such a development is certain to produce strains and difficulties, if nothing worse.

87. The actual effect on the world situation of the acquisition of nuclear capabilities by a fourth country is likely to depend largely on the country itself: the character of its government, the nature of its national aims and aspirations, the identity of its principal rivals, the alliances and alignments in which it is involved, and the chief problems of its foreign relations. There are some countries which would use their added power exclusively for defense, and so would merely become harder to impose upon. There are others which might use it or more likely threaten its use for offense, to achieve some deeply-felt national aim. Most nations would come somewhere between these two extremes, employing their additional power at various times in various ways. Such matters cannot be predicted a decade ahead with enough confidence to make the prediction useful.

88. With more and more countries possessing nuclear capabilities, the chances become greater that a war will occur in which fourth countries initiate use of nuclear weapons. And, while it may be possible to keep such a war limited in size and scope, it would probably be more difficult to do so in most cases than if the war were fought without nuclear weapons. Broadly speaking, therefore, the acquisition of nuclear weapons by fourth countries probably would mean an increase in the likelihood of general war coming about in this way, although it is not easy to judge whether such an increase would in fact be very substantial.<sup>9</sup>

<sup>9</sup> For the dissent of the Deputy Director for Intelligence, The Joint Staff, see footnote to paragraph 9.

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89. It may be that both the US and USSR, aware of the changed situation presented by fourth countries acquisition of nuclear capabilities, would multiply their efforts to keep local wars from expanding. However, a particularly dangerous type of situation might arise if one country which possessed nuclear weapons, and which was an ally, associate, or client of one of the two great powers, were tempted to impose its will on another country which did not possess nuclear weapons, but which was protected by the other great power. Despite the restraints operative between the US and USSR, the compulsion upon the second great power in such a situation to take strong measures for the protection of its weak friend would be great in many cases.

90. Finally, there is the possibility that nuclear weapons might get into the hands of almost totally irresponsible governments. If this were to occur in countries of major rank, having widespread interests in the world, the consequences could be disastrous. If it occurred in minor countries having only localized interests, neither the US nor the USSR would be likely to allow the actions of such a government to inflame the entire world. Only if the country were for special reasons deeply involved in a controversy of worldwide significance — as, for instance, is Israel — would its actions, however irresponsible, be more likely to lead to a general conflagration.

#### B. Specific Consequences of Fourth Country Production in Western Europe

91. The principal effects of the limited nuclear capability that France is likely to develop unaided would be (a) to reinforce French demands to be treated as a "great power," both within and outside NATO; (b) to generate pressure in Germany for removal of the WEU Treaty restrictions on German weapons production; (c) to make more evident to Europeans their need for a joint European effort in order to obtain a significant deterrent capability vis-a-vis the USSR, and (d) to increase somewhat the danger of strong French action in North Africa and the Middle East, e.g., in support of Israel.

92. The production of nuclear weapons by individual European countries over the next ten years is not likely to reduce substantially their dependence on the US. A continental European community could achieve a more sizeable nuclear capability, and might hence become less susceptible to Soviet threats. Its confidence in its independent capability to deter the USSR would, however, remain uncertain for many years, although this period would be reduced markedly if the UK participated. The members of the community would probably continue to regard alliance with the US as essential, at least for some time. Yet the fact that they had acquired their nuclear capability largely as the result of their own efforts, and the experience in cooperation gained in the very act of that effort, would tend to give them an increased solidarity and a feeling of independence which might render them less responsive to US policy. At the same time, if there were effective shared European control of the weapons and responsibility for decisions as to their use, this would probably reduce the chances of European "adventures" with nuclear weapons.

#### C. Soviet Reactions to Fourth Country Production

93. The spread to fourth countries of a nuclear weapons manufacturing capability has apparently not been a matter of major concern to the USSR, except insofar as West Germany and possible Communist China may be involved. Aside from these cases, the Soviets have shown far less concern over the risks that fourth countries possessing nuclear weapons might trigger off a nuclear war than over the risks inherent in the US-Soviet nuclear confrontation.

94. The threat posed by a nuclear armed West Germany and by the possibility of resurgent German militarism is a serious concern to Soviet leaders. Soviet support for campaigns by European socialists and other groups against nuclear arms, and Bloc proposals for a nuclear-free zone in Central Europe are probably motivated in part by Soviet uneasiness over the prospect of Germany nuclear armament. However, we believe that the pri-

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mary Soviet motivation is directed toward the advantages which could be obtained from any withdrawal of US nuclear and other deterrent power from Germany. Independent West German production of nuclear arms would cause new and sharper threats but of itself would probably not lead the USSR to attack West Germany.

95. The Soviets would be concerned if the Western European countries embarked on a large-scale regional program for nuclear arms production, particularly one in which the Federal Republic appeared to exercise a strong influence. In this event the USSR would intensify its efforts to exploit European suspicions of Germany, to drive home the preponderance of Soviet military strength, and to stimulate public anxieties and opposition to a European buildup. A major European program would exert a degree of deterrence on the USSR and would tend to make the Soviets more circumspect in their dealings with the participating countries. We do not believe, however, that the Soviets would regard such a program as increasing the likelihood of Western Europe initiating hostile action. Soviet leaders would probably calculate that a multinational program in Western Europe, with its cross-currents of national interests, would inhibit "adventurism." The USSR would continue to play on these diverse interests and to exploit opportunities for loosening the ties between the US and the European group.

96. We believe that European fourth country production, whether on a unilateral or co-

operative basis, is unlikely in itself to lead to fundamental changes in the Soviet position in Eastern Europe or otherwise to alter basic Soviet policies.

97. Achievement by Sweden of fourth country status would have little effect on over-all Western relations with the Bloc. Moscow probably would not regard a Japanese nuclear weapons program as materially affecting its own military position, but would find it more difficult to refuse Communist Chinese requests for support of a similar weapons program in Communist China.

#### D. Consequences of Acquisition of Nuclear Capabilities by Communist China

98. The acquisition by the Chinese Communist regime of nuclear weapons over the next decade would not in itself alter Peiping's basic international orientation and policies. Peiping would probably continue to recognize its fundamental dependence on the USSR for strategic security.

99. The possession of nuclear weapons probably would not of itself lead Peiping to resume its expansionist military policies in Korea, the Taiwan Straits, or mainland Southeast Asia, since the deterrent effect of the threat of US counteraction would remain. However, Communist China would probably estimate that the intimidating effect on neighboring countries of its military strength had been increased and that this would further its interests.

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