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ANALYTICAL SUMMARY

RESULTS OF NSSM 128

A. STRATEGIC ISSUES

DECLASSIFIED in Part  
PA/HO, Department of State  
E.O. 12958, as amended  
Date: 8/6/07

-- A CTB is not likely to make any significant difference to our  
-- or to the Soviet's -- strategic deterrent capability, given currently  
projected forces and threats over the next decade. Whether or not there  
is further nuclear testing to develop new strategic warheads, both sides will  
retain substantial and well-hedged assured destruction capabilities. More-  
over, under a CTB the U.S. would retain substantial capabilities to attack  
the Other Military Targets system while maintaining a sufficient assured  
destruction reserve. We could still meet the NSDM 16 criteria.

-- A CTB might prevent or at least constrain Soviet MIRVing of  
the SS-9 and SS-11 ICBMs and the SS-NX-8 SIBM, and thus reinforce SALT.  
However, if warheads are already available for these purposes, our analysis  
indicates our assured destruction deterrent would be degraded only by about  
[REDACTED]. Even if our ICBM and bomber  
forces could be destroyed, our SLBMs alone could inflict [REDACTED] fatalities.  
However, the longer nuclear testing continues, the less likely is a CTB to  
prevent Soviet MIRVing, particularly MIRVing of the SS-9 to the level postu-  
lated in the severe threats which could jeopardize MINUTEMAN. A CTB  
could also inhibit Soviet development of SAM-upgrade or ABM-capable SAM  
and thereby reinforce SALT.

-- [REDACTED]  
and for maneuvering RVs (MaRV), would preserve our capability [REDACTED]

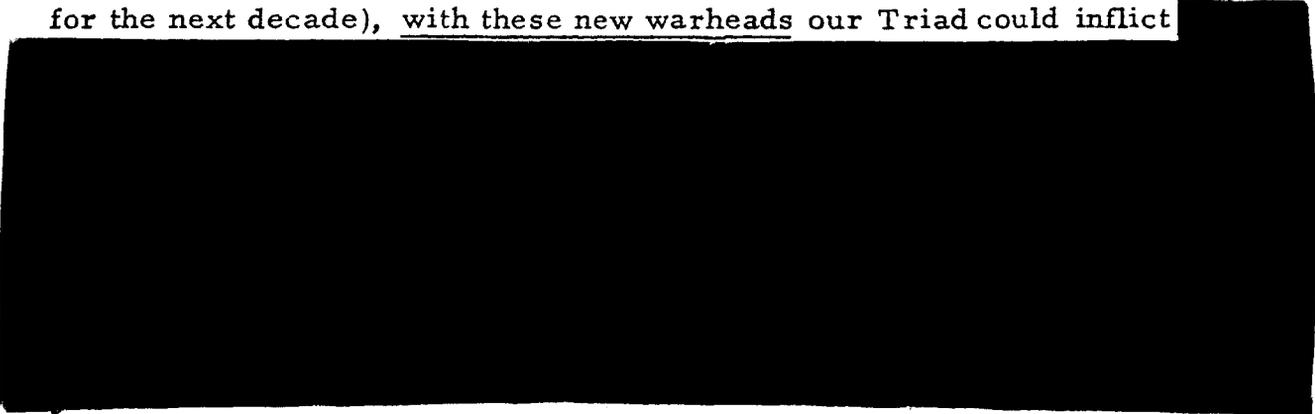
[REDACTED] However,  
survivability improvements appear to be equally promising countermeasures,  
but possibly more costly. These unforeseen threats are highly discounted  
by intelligence estimates for the next decade. SALT also bears the  
postulated ABM threat.

-- Increased nuclear force capabilities would not be prevented by  
a CTB. Improved strategic capabilities could be obtained through advances  
in non-nuclear technology (egs., better guidance accuracy, increased  
booster throw weight, MIRVing the entire MINUTEMAN force, adapting  
existing warheads to new delivery systems, improved ASW, better survivability  
measures for nuclear delivery systems -- silo hardening, SSBN quietening,  
penaids, aircraft sheltering and dispersal, etc.).

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-- New higher yield warheads are of marginal value for strategic retaliatory attack, unless extensive hard target kill is sought. The driving factors are force survivability, Damage Expectancy desired and number of very hard targets attacked, if a damage limiting counterforce capability is sought.

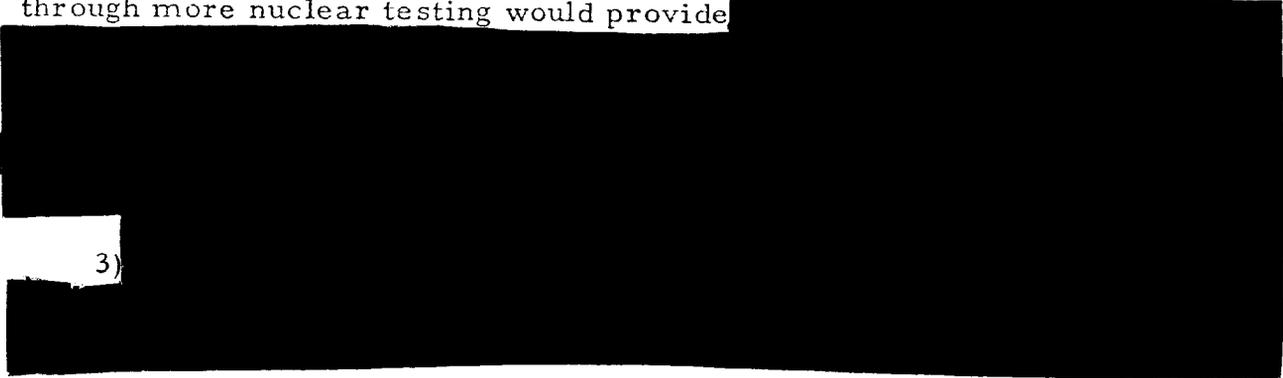
For ASW/ABM attrition of RVs below 25 % (the maximum estimated threat for the next decade), with these new warheads our Triad could inflict



-- A CTB would constrain or prevent our development of several types of new nuclear weapons now under consideration. The real issues are whether these new warheads are essential to develop. Analysis suggests their value is marginal at most.

1) ULMS. Using current warheads, we could deploy ULMS at 4000 - 5000 mile ranges in 6-9 million square miles ocean area. With a new nuclear warhead, ULMS range could be extended another 1000 miles. The marginal value of another 1000 miles range to SSBN survivability is likely to be very small. Moreover, given about 2 years of further testing we could develop the longer range ULMS warhead. This could be done during test ban negotiations, if there were no moratorium -- but the Soviets could develop MIRVs, too.

2) MaRV aboard our SLBMs to elude thousands of postulated Soviet ABM-capable SAMs (despite SALT prohibitions and possible prevention of ABM warhead development by a CTB). SLBMs with a MaRV developed through more nuclear testing would provide



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quite likely to MIRV their ICBMs and SLBMs with similar or larger yield warheads which would cancel any U.S. gains in damage limiting capability. Moreover, these ~~warheads~~ warheads would not provide us with an improved assured destruction retaliatory capability due to offsetting gains in Soviet counterforce capability.

4) Hard Site Defense. We already have the SPRINT warhead for this purpose. Moreover, our SALT objective is to prevent ABM proliferation.

5) Tactical Modernization. The real issue is whether we need such modernization, and whether it would really provide better deterrence or war fighting capabilities than we already have. NSSM 128 did not take this issue on directly. However, the study did indicate that other improvements to tactical nuclear warfighting capabilities were more important than new warheads, e.g., command-control, survivability, viable plans. Moreover, it is difficult to argue an imperative for new tactical warheads given the Soviet force and doctrine as we know it and our expectations for tactical nuclear war.

-- We (and the Soviets) would be denied the rarely used option to test stockpile weapons to investigate and correct suspected or known deficiencies. Such testing is not now a normal stockpile reliability verification procedure, but it has been used on occasion as a quick, economical and sure means to correct a deficiency. To date, the deficiencies found in our weapons could have been corrected without nuclear testing, but at much greater expense of time and money.

-- A CTB would prevent us (and the Soviets) from further testing to discover possible hidden vulnerabilities in stockpile weapons to the radiation effects of enemy nuclear bursts.

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-- The nuclear weapon design and technology advancement capabilities of our laboratories are likely to atrophy from stagnation without the incentive of nuclear testing. Restoring these capabilities after a hiatus of several years could take up to three years. By occasional very low yield clandestine testing, the Soviets could keep some design teams active, and thereby might get a head start on us in developing new weapons if open testing were resumed. However, we should be able to keep some nuclear scientists active through non-weapons research and work on peaceful uses of nuclear energy or nuclear weapons improvements not requiring testing.

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If Peaceful Nuclear Explosions were permitted under international safeguards, we could keep nuclear explosive research active.

-- A seismic threshold test ban (TTB) offers a temporary half-way house between a CTB and no test ban, and a graduated phased approach to a CTB that could defer a CTB indefinitely.

[REDACTED]

### B. VERIFICATION

-- Verification of a CTB by national means alone is technically feasible with high confidence. By investing around \$20 million, we could improve our Atomic Energy Detection System (AEDS) to the point that about 98% of Soviet seismic events of magnitude [REDACTED] could be identified as of nuclear or natural origin.

[REDACTED]

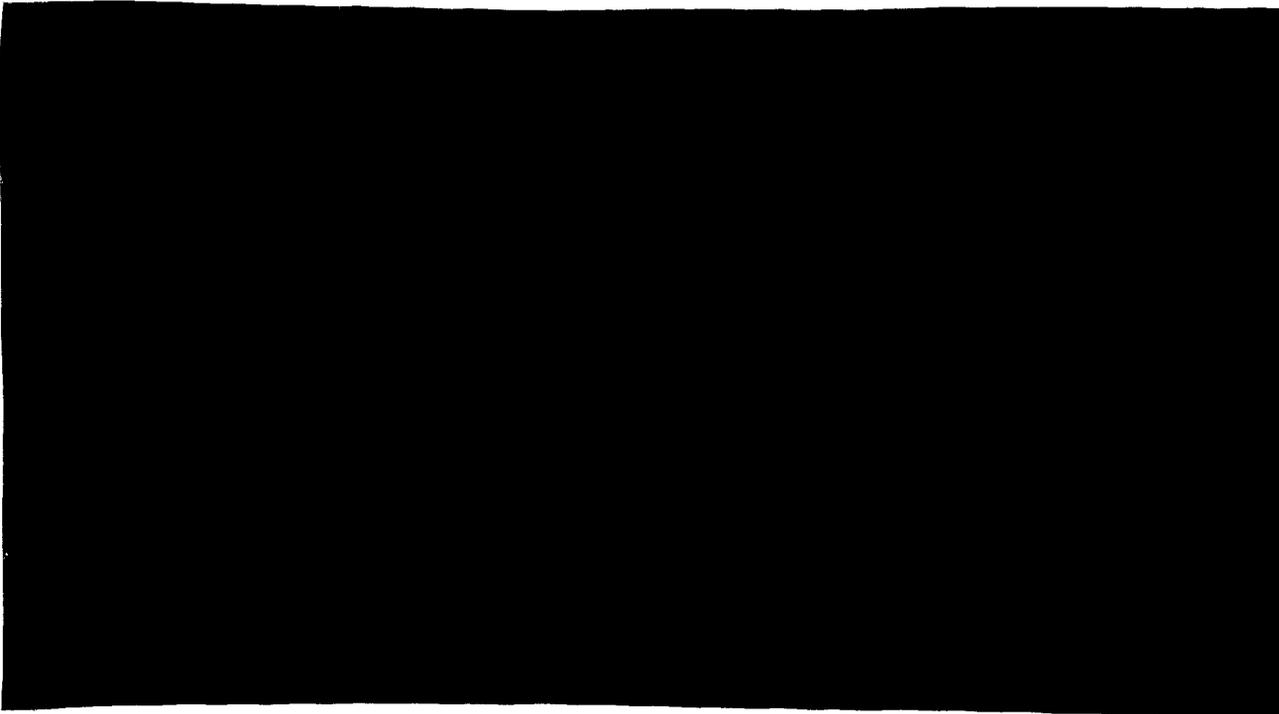
-- There are evasive testing techniques which might reduce the effectiveness of AEDS.

[REDACTED]

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There are no known underground testing techniques capable of hiding yields over 100 KT.

-- The strategic significance of possible successful clandestine testing depends upon yield levels and the number of tests.



Thus, the least risky forms of clandestine testing create no significant threat to our strategic posture. The high risk and technically questionable techniques are required to produce the type of warheads that might affect the strategic balance -- ABM-capable SAMs and Poseidon-type MIRVs. The real issue is whether the Soviets would accept the technical risks of clandestine testing and the political consequences of being caught.

-- On-site inspections (OSI). Conceptually OSIs could be the last resort in resolving the cause of a detected but ambiguous seismic event. However, they probably could be defeated by a determined evader. The more defensible grounds for retaining some right to OSIs is that they could enhance public confidence in CTB enforcement and possibly contribute somewhat toward deterrence of violations. However, the more the technology of national means of verification improve, the weaker becomes the case for insisting upon OSIs.

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[REDACTED]

[REDACTED] merits of such a system would be to give public confidence in test ban verification, deter cheating, and provide internationally credible data to support any public charge of violation. We would not want to rely solely on such a system and should improve our AEDS system for our own confidence in verification.

-- [REDACTED]

verification, in conjunction with our current AEDS, and would be somewhat more effective against some of the more difficult -- and theoretical -- clandestine testing techniques. However, it is unknown whether the Soviets would submit to such intrusion of their territory.

-- Peaceful nuclear explosions (PNEs) would have to be prohibited or else subjected to highly intrusive and complex internationally administered safeguards -- which are technically feasible but probably of very difficult negotiability. We do not know whether the Soviets would be willing to ban PNEs or would accept the safeguards necessary to continue PNEs.

[REDACTED]