

**“I know who you are,
and I know what you do.
And I know that none of
what is written here is true.”**

Victor Karpov, Deputy Minister of Foreign Affairs, to Col. Kanatjan Alibekov [Ken Alibek], when Alibekov came to deliver the VPK/Biopreparat-authored response to the US-UK May 15, 1990 démarche alleging Soviet BWC violation.

In Alibek’s own book: “A lie from beginning to end.”

Context

- Biological weapons are one of the three “weapons of mass destruction” (WMD), together with nuclear and chemical weapons
- Biological weapons are bacteria, viruses and toxins derived from these that can kill or injure people, plants or animals
- The Biological Weapons Convention, signed on April 10, 1972 and ratified and entered into force on March 27 1975 forbids the development, production, testing or transfer of biological weapons
- Until the Chemical Weapons Convention over 20 years later, the only treaty to ban an entire class of WMD.

Significant Soviet personalities and bureaucratic actors

- **Vladimir Pasechnik**, first major Soviet BW defector, October 1989, Director of one of the four major “Biopreparat” BW R&D institutes
- **Ken Alibek** [Kanatjan Alibekov], second major Soviet BW defector, fall 1992, Deputy Director of Biopreparat and previously head of one of the largest Soviet BW production facilities
- **The 15th Directorate of the Soviet General Staff**, a small group responsible for the military portion of the Soviet BW R&D, production and testing program
- **The VPK**, “Military Industrial Commission,” responsible for oversight of all aspects and every phase of all Soviet weapon system development and procurement, from facility construction to the final weapon
- **Lev Zaikov**, Central Committee Secretary for the Defense Industry under Gorbachev, and **Vitaly Kataev**, a key deputy to Zaikov

Outline

1. History and infrastructure
2. Policy
 - Why did they do it? What was it for? What did it achieve?
 - After the BWC, 1972/1975 to 1985
 - Gorbachev, 1985-1992: And why he failed
 - Yeltsin, 1992-1996: And why he failed
3. Unresolved questions
4. Lessons for today and the future

1. History and infrastructure-1

- Program originated in 1928
- No other country at the time (possibly France) had a BW program (Japan next)
- An outgrowth of the USSR's Military Chemical Agency established in 1925
- By early/mid-1930s had 3 island test sites; first use of Vozrozhdeniye Island in Aral Sea
- Program combined defensive (vaccines) and offensive efforts; early pre-WW2 focus on typhus

1. History and infrastructure-2

- In 1939 Lavrenty Beria (NKVD) appointed director of the Soviet BW program
- Program managed by the Main Military Medical Directorate, Red Army, Gen. Yefim Smirnov
- Main facility, the Military Medical Scientific Institute, “Kirov”
- WWII program did produce several pathogens
- Allegation of Soviet **use** of *Tularensis* at Stalingrad in 1942 is spurious

1. History and infrastructure-3

- After 1945, use of information from Japanese WWII BW program, personnel and documents captured at Harbin (Khabarovsk trial, 1949)
- Much more importantly, use of information from Theodor Rosebury's 1947 monograph and 1949 book, both based on US WWII BW R&D program (Rosebury had headed the 1942-45 Fort Detrick airborne infections lab)
- Rosebury's role and significance; personal analogue to US Smyth report (WWII US nuclear weapons development program) vs Merck report; and Rosebury 1947 UN effort

An important historical US note

- Vannever Bush and James Conant to US Sec War Stimson, October 1944, analogue to what became Acheson Oppenheimer, Lillienthal, Plan (nuclear weapons)
- By 1946, Clark Clifford and George Elsey memo to President Harry Truman:

“Whether it would actually be in this country’s interest to employ atomic and biological weapons against the Soviet Union in the event of hostilities is a question that would require careful consideration in the light of the circumstances prevailing at the time. ... But the important point is that the United States must be prepared to wage atomic and biological warfare if necessary.” [Last line suggested by **George Kennan**]

1. History and infrastructure-4

- Soviet post-1945 MOD BW program used classical genetic selection techniques
- US program at Fort Detrick (R&D), Pine Bluff (production), published large quantities of information in the 1960s on agents being worked with
- Unfortunately, unclassified DOD 1963 and declassified DOD 1974 publications included US BW bomblet designs
- USSR knew of US field tests from 1949 on, particularly the large-scale over ocean tests in the Pacific in 1960s using live pathogens

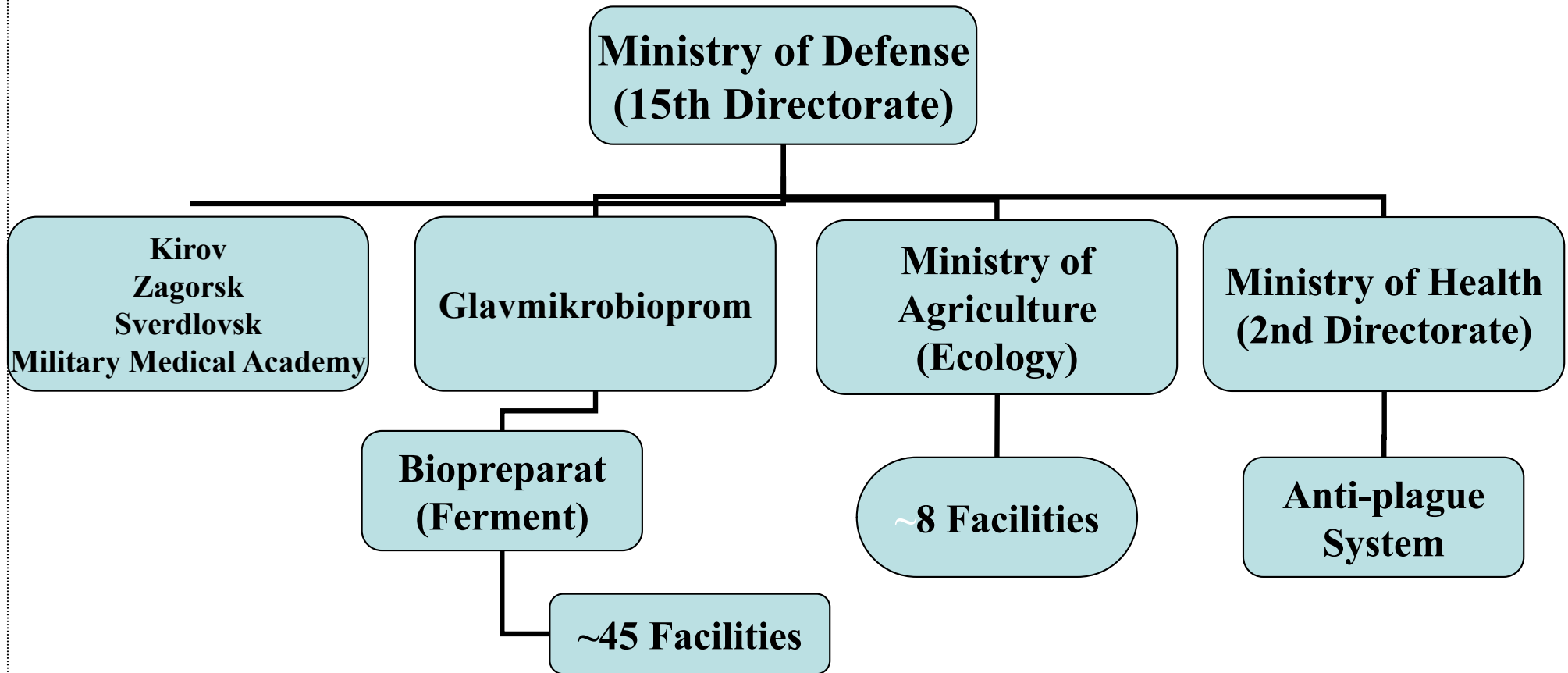
False Soviet allegations against the United States of BW *use*

- False allegations of WMD use are a serious arms control problem
- Began as early as 1949
- Korean War allegations by USSR, China and North Korea the major ones, 1951-1953
- GDR, potato beetles, 1950...
- Cuba, over 20, man, animal and plant
- USSR, dozens; continued to the 1987-88 AIDS allegations
- **All fraudulent** – Soviet Central Committee documents of April-June 1953 re Korean War BW allegations obtained and published in 1988 explicitly explain fraudulent nature of the charges
- All the old stories resurrected in mid-late 1990s by Yevstigneev, Petrov, old Soviet MOD BW generals
- Renewed spurt in 2nd half 2013 (re Georgia etc)

US unilateral renunciation of BW, and the BWC

- US announcement **Nov 25, 1969**.
- UK already had, unannounced (in late 1950s?)
- Destruction of stocks completed in mid-1971. Subsequent conversion of Fort Detrick, Pine Bluff. Soviet ministerial level officials invited to visit; dismissive, disdainful
- UK offered separate BW treaty. (US had opposed idea in 1967-68. Treaty tabled July 1969.)
- USSR first opposed, switched in 1971.
- US and USSR negotiated final text; deleted R&D ban and verification, both in UK treaty.
- **BWC signed April 1972**, one month before US-USSR SALT I. UK, US and USSR co-depository states. USSR **ratified in Feb 1975**, claimed it had nothing to notify: "...does not possess any BW."

USSR BW LINES OF AUTHORITY (ca 1986)



Also contributing research programs in the:

- **Academy of Sciences** – in 4 main institutes
- **Ministry of Chemical Industry**, toxins
- **Ministry of Health**, Third Directorate, Flute

[Domaradski heads the Biopreparat “Research Council”]

USSR Ministry of Defense BW Facilities

- Institute of Microbiology, **Kirov**
- **Virology** Institute, **Zagorsk** (now Sergiyev Posad)
- Institute of Military Technical Problems, **Sverdlovsk** (now Ekaterinburg)
- Kirov Military Medical Academy, Leningrad (now St. Petersburg); probably only defensive work, “The Fifth Problem”
- **Aralsk-7** open-air field test facility on Vozrozhdeniye Island (defunct since April 1991)

Biopreparat BW Facilities

- Institute of Applied Microbiology (**SRCAM**), **Obolensk** – bacterial studies;
- Institute of Molecular Biology (eventually “**Vector**”), **Koltsovo** – viral studies;
- Institute of Highly Pure Biopreparations (**IHPB**), Leningrad – peptide studies & formulations; [Pasechnik is the Director]
- Institute of Engineering Immunology (**IEI**), **Lyubuchany** – immunological system studies, vaccines;
- Progress Scientific and Production Base (**SNOPB**), **Stepnogorsk**, Kazakhstan – development and production plant;

40 additional Biopreparat facilities, **including production units and mobilization plants** (Berdsck, Omutninsk, Penza etc)

Ministry of Agriculture's *Ekology* Program

- All-Union Scientific Research Foot and Mouth Disease Institute, **Vladimir** (FMD virus, ASF virus, Rinderpest)
 - All-Union Scientific Research Institute of Virology and Microbiology, **Pokrov** (anthrax)
 - Scientific Research Agricultural Institute, **Otar**, Kazakhstan (Capripoxvirus)
 - Scientific Institute of Phytopathology, **Golitsino** (anti-crop weapons)
 - Scientific Institute of Phytopathology, Tashkent, Uzbekistan (anti-crop weapons)
- (Plus a number of mobilization production plants, including Pokrov and Vladimir)**

**20,000 liter
fermenter at
Stepnogorsk**



Batch Fermenters, Pokrov



Embryonated Egg Incubators, Pokrov



Two Generations of the Soviet BW Program

First Generation, 1928-1971: utilized classical microbiology techniques of mutation, selection, and propagation. Developed type classified weapons based on:

- *Bacillus anthracis* [anthrax]
- *Yersinia pestis* [plague]
- *Francisella tularensis* [Tularemia]
- Venezuelan Equine Encephalitis virus
- Variola virus [smallpox]
- [Botulinum neurotoxin]

Second Generation, 1972-1993: Ferment Program, utilized genetic engineering to endow known pathogens with **1)** unique pathogenic properties, enhance their abilities for infection and virulence, and **2)** new capabilities to circumvent or defeat enemies' defenses (vaccines, antibiotics and detection techniques). **These research paths replicated readily identifiable research trends in the pre-1969 US offensive BW program.**

Ferment's Main Subprograms

- Bonfire Project (included Metal)
- Factor Project
- Hunter Project
- Chimera Project
- Probably others; e.g., Flute



Fetish, the KGB's poisons program was outside of Biopreparat/Ferment

Bonfire Project

To develop:

- **Multiantibiotic resistant** bacteria
- Strains of bacteria and viruses with **modified antigenic structures**
- Hardier bacterial and viral strains than found in nature
- Safety requirements and practices to guide Ferment R&D

Examples:

- Multiantibiotic resistant *B. anthracis*, *Y. pestis*, etc.
- *B. anthracis* + *B. cereus* hemolysin gene

Factor Project

To develop:

- High virulence
- High stability
- Surprising new disease outcomes

Examples

- *Legionella pneumophila* + peptide genes (to alter human neuropeptide regulators and modulators)
- *Y. pestis* + diphtheria toxin gene

Hunter Project

- To develop hybrids of bacteria-viruses
Use of an antibiotic to kill the bacteria would release the virus

Chimera Project

- To develop viruses containing exotic viral genes
Vaccinia virus + VEE virus; Vaccinia virus + Ebola virus

Flute, MOH 3rd Directorate

- Various human neuropeptide regulators, modulators; possible/probable use for assassination

Table 10.1 Agents Validated for Biological Weapons by the United States and the Soviet Union

United States	Soviet Union
Bacteria	
<i>Bacillus anthracis</i>	<i>Bacillus anthracis</i>
<i>Brucella suis</i>	<i>Brucella</i> species
<i>Coxiella burnetii</i>	<i>Coxiella burnetii</i>
<i>Francisella tularensis</i>	<i>Francisella tularensis</i>
	<i>Burkholderia mallei</i>
	<i>Burkholderia pseudomallei</i> (?)
	<i>Yersinia pestis</i>
Viruses	
	Marburg virus
Venezuelan Equine Encephalitis virus	Venezuelan Equine Encephalitis virus
	Variola virus
Toxins	
Botulinum toxin	Botulinum toxin
Staphylococcal enterotoxin B	

Zaikov's May 1990 memorandum to Gorbachev states that "By 1985 [the MOD had] **12** recipes and means for using them."

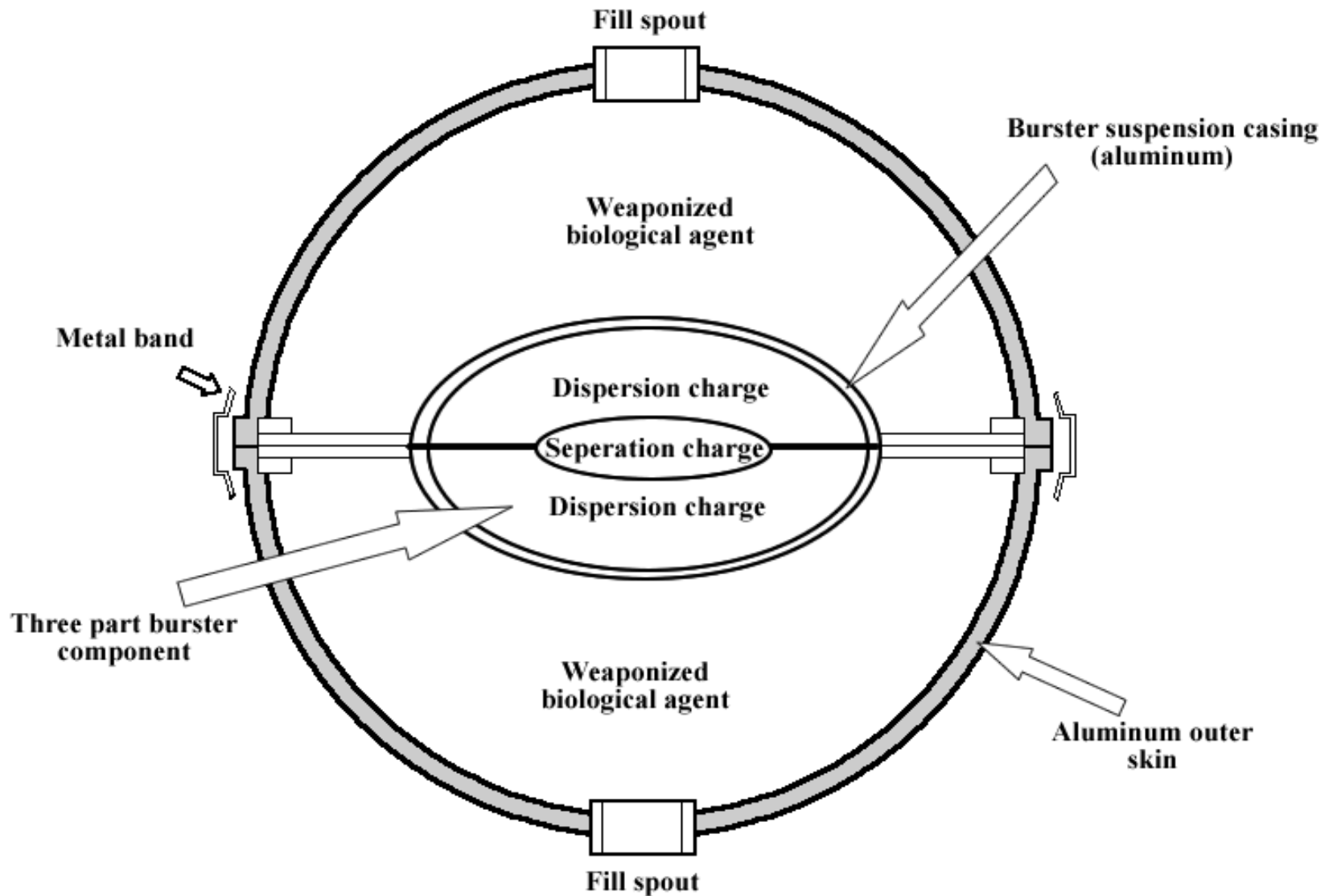
Table 10.2 Planned Annual Rate of Biological Agent Production during a Pre-War Mobilization Period

Facilities	Agents	CIA/DOD estimates ^a	Alibek public estimates ^b
MOD Institutes			
1. Sverdlovsk	<i>B. anthracis</i>	~300 tons	> 1,000 tons
2. Kirov	<i>Y. pestis</i>	~70 tons	~ 200 tons
3. Zagorsk	Variola virus	~30 tons	~ 100 tons
Biopreparat mobilization capacity production facilities			
4. Berdsk	<i>Y. pestis</i> , <i>F. tularensis</i> , <i>B. mallei</i>	~300 tons	> 1,000 tons
5. Stepnogorsk	<i>B. anthracis</i> , <i>F. tularensis</i> , <i>B. mallei</i>	~300 tons	> 1,000 tons [elsewhere 300 tons <i>B. anthracis</i>]
6. Omutninsk	<i>Y. pestis</i> , <i>F. tularensis</i> , <i>B.</i> <i>mallei</i>	~300 tons	> 1,000 tons
7. Kurgan	<i>B. anthracis</i>	~300 tons	> 1,000 tons
8. Penza	<i>B. anthracis</i>	~300 tons	> 1,000 tons
9. Koltsovo (Vector)	[Variola virus, Marburg virus?]	A few tons	"dozens" tons
Other Ministries			
10. Pokrov	Variola virus, VEEV	~70 tons	> 200 tons
11. Viral production facility in Georgian SSR	Unknown	—	Unknown

a. US DPD and CIA officials assert that the annual production tonnage figures for *B. anthracis* and the other pathogens provided by Alibek are highly exaggerated. More accurate figures are said to be one-third of the tonnages that Alibek has attributed in public.

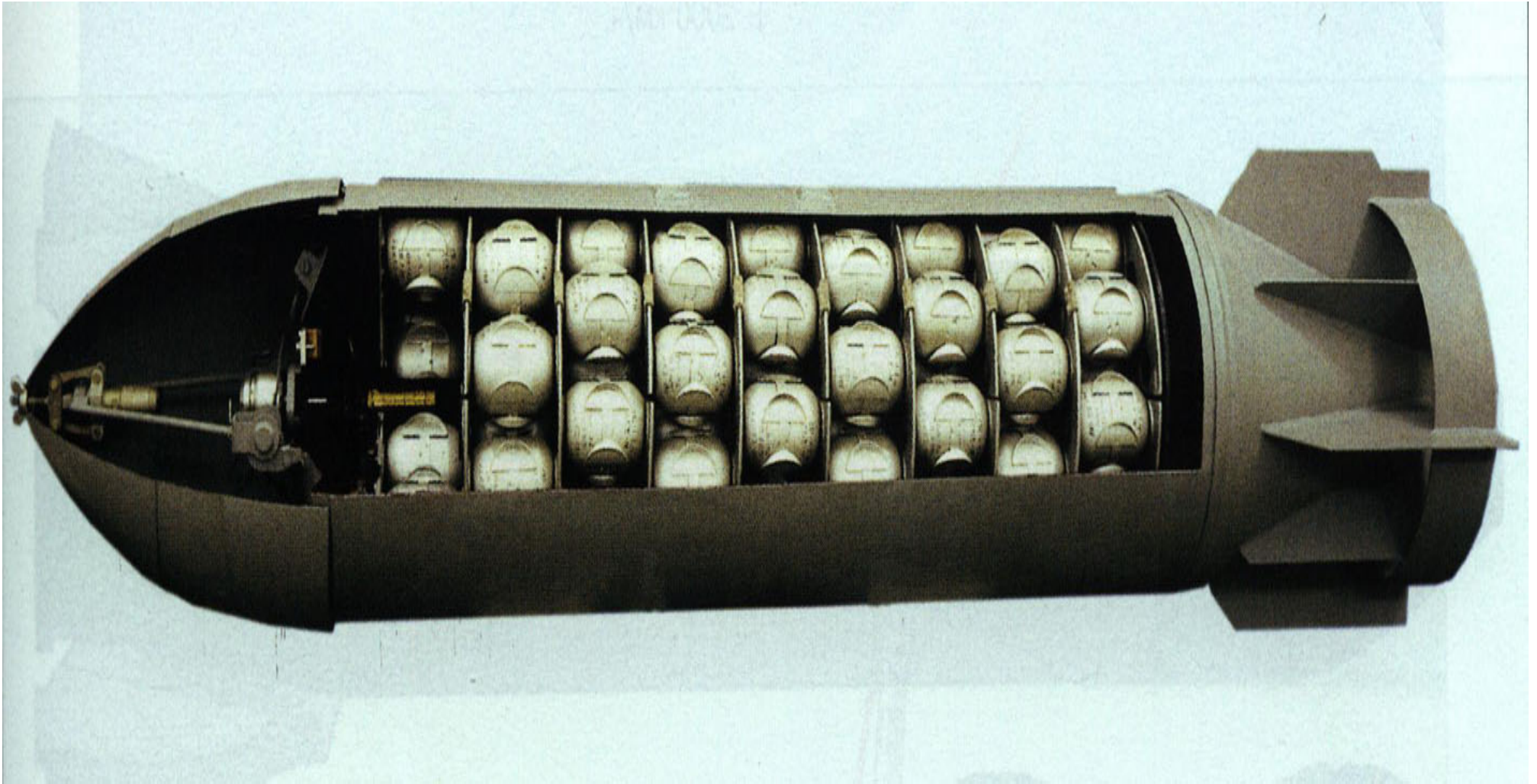
b. Ken Alibek presentation at DTRA meeting at Institute for Defense Analysis, June 1, 2000.

Type Classified *Gshch-304* (ГЩ-304) Bomblet



- **Adapted almost directly from the US E-130R2 or E-120 BW bomblets**
- Discrepancy between Soviet informant and CIA/DOD/contractor information

Soviet Cluster Bomb with Bomblets



Soviet BW weapons systems, targets

- **The bomblet.** From US design? Attendant confusions: Round versus “racetrack”? BW dedicated?
- **Cluster bomb.** 500 kg, 108 bomblets each ~ 0.5 kg formulation, 15-60 km² area coverage
- **Spray tank delivery.** “~20” medium-range Ilyushin IL-28, “Beagle”. 2 ton payload, 1000-4000 km²
- **NO ICBM. NO SS-18.** (Not in Alibek debriefings; US intel community does not believe it existed) **NO ICBM test** other than SS-11 Mod 4 MRV Shary Shagan test between 1974 and 1979 (not “Kamchatka”)
- SS-18 development had started in 1970s (not as Alibek claimed re 1988 “never before”). Had stalled, never completed.
- **WHO WAS THE TARGET?** If not the US, and if not China, then Europe. No apparent tactical BW munition. Are targets military or civilian?

Secrecy and internal deception-1

- Central Committee/Politburo documents refer to BW as **“Special Problems”**
- Post Office Box numbers for institute addresses
- The legend system for Biopreparat
 - **Open legend**: Institute does **civilian work** (15% was, for purposes of cover, to tell the local population, etc.)
 - **Closed legend**: Institute does **defensive BW** work [“The Fifth Problem”]
 - **Third awareness level**: Work is offensive BW; “F clearance” [**Vector**, total staff 4,200 **had 30 at F clearance**]
 - In contrast, Domaradski’s remark “The milk would not yet be dry on lips not to understand what the work was for.”
- 2 KGB departments in each institute, “First” and “Second”, responsible for security, maintaining documents and records including “recipe” books, and all communications.

Secrecy and internal/external deception-2

- Scientists at **MOD** institutes **were** informed of the BWC; told “US is doing it; your job is to defend the Motherland.”
- Biopreparat scientists claim they were not informed of BWC. KGB would present occasional “Threat briefings”; said “US is doing it” but **never** presented **any** evidence. (Alibek’s ~1990 GRU story)
- Pravda had published news of BWC Entry Into Force, but did not print Article I or Article II.
- Grand cover up of 1979 Sverdlovsk anthrax accident. 1986-88, Burgasov’s charades at Geneva BWC and in US. 6-7 Carter and Reagan admin démarches. MFA replies: “You are harming the BWC.” “You are destroying détente.” After 1992, degree of Yevstigneev public lying vs private remarks.
- Jan 1990 Central Committee documents, Karpov MFA versus Yazov MOD. MFA retracts.

Why did the USSR do it?

- The scientists 1971 memorandum to the Central Committee (Ovchinnikov, Baev, Scriabin, Zhdanov) offered possibility of making BW advances where classical selection technology had not. Motive however was parochial: competition for resources to engage in molecular genetics research. But ---
- Role of VPK? There must have been one (linked to Ovchinnikov, Zhdanov).
- US program had ended. An opportunity to gain unilateral advantage. Arkady Shevchenko on Gromyko and MOD; pure cynical deception.
- US covert disinformation/deception effort; ~1965 to mid-1971 (next slide).

US covert disinformation/deception effort

- Rediscovered after Pasechnik comment on defecting; led to CIA study “What did the Soviets think after 1969?”
- **1964 US CW** disinformation effort, Operation Shocker, run by FBI/Army, included some documents on bot tox
- US Pacific BW test series. Turned GRU agent in the US, Dmitri Polyakov, and others used to initially mislead Soviets on US BW agent selection.
- After Nov 1969 added that US maintained a covert offensive BW program.
- **FBI briefing mid-1971** to DOS group, SALT near completion, 1 participant with brains passed word to the NSC. CIA was then informed, and **program “ended,” still in mid-1971**
- **But how?** With message? If so, saying what? With no message?
- Henry Kissinger chaired inter-agency High Level Group/40 Committee/303 Committee. Supposedly had oversight over all US covert ops, except some FBI
- **HOWEVER: NO** evidence/mention in any of the available Politburo documents. **NO** mention in any of the renditions of the 1971 memorandum or Central Committee decision. **NO** informant had ever heard of.

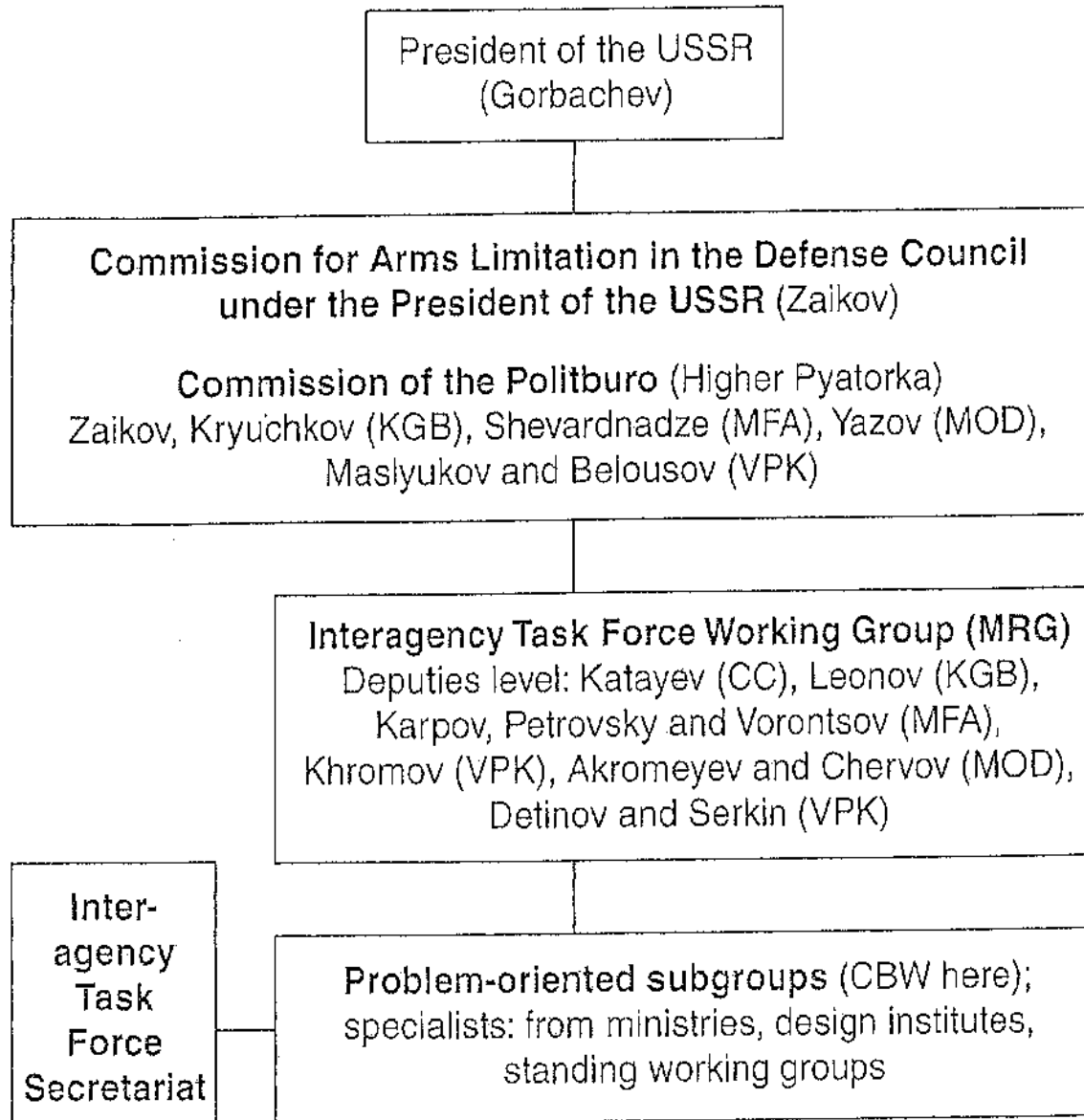
History and infrastructure - 5

- MOD not enthused with 1972 decision; in part continued with classical selection techniques
- No production of mycotoxins [US Reagan Admin Yellow Rain accusations]
- WTO member states contributed slightly: GDR produced largest fermenters; Czechoslovakia, the Techonin aerosol test facility
- **ALL BW agents produced and stockpiled were 1st generation; NO genetic modification.**
- 2nd generation agents tested and ready by 1990; time and events caught up with program
- Removal of BW bomblet filling machines and BW stockpile and test site destruction between 1989 and 1991.

Central Committee Secretaries for Defense Industry

Dmitry Ustinov:	1965–1976	Grigori Romanov:	1983–1985
Yakov Ryabov:	1976–1979	Lev Zaikov:	1985–1988
Andrei Kirilenko:	1979–1983	Oleg Baklanov:	1988–1991

Organization for the Preparation of proposals for military political issues



CPSU Policymakers and Organization

Early Gorbachev



1985: With Gorbachev's accession as General Secretary, the name of the CPSU department was changed from "Defense Industries" to "Defense Department."

At the end of 1989



By 1991, Baklanov had replaced Zaikov as CPSU Committee Secretary, and the Department's name was again changed to "Department on the Issues of Defense and Security in the President's Administration of the USSR."

The "Higher *Pyatorka*"

1. Lev Nikolayevich Zaikov: CPSU Central Secretary, Committee on Defense Department
2. Viktor Mikhailovich Chebrikov
Succeeded by Vladimir Alexandrovich Kryuchkov: Head, KGB
3. Eduard Abromosovich Shevardnadze: Minister of Foreign Affairs
4. Dimitri Timofievich Yazov: Ministry of Defense
4. Yuri Dimitrievich Maslyukov: Head, VPK (Succeeded by Igor S. Belousov)

Table 21.1 The Lower Pyatorka

CPSU Central Committee Department of the Defense Industry	Vitaly L. Kataev
	V. A. Popov
KGB	V. A. Kryuchkov
	Nikolai Sergeivich Leonov
Ministry of Foreign Affairs	Yuli Mikhailovich Vorontsov
	Succeeded by Vladimir Fyodorovich Petrovsky
	Viktor N. Karpov
	G. S. Stashevsky
Ministry of Defense	Marshal Sergei Fyodorovich Akhromeyev
	Col. Gen. Nikolai Fyodorovich Chervov
	Gen. Yuri V. Lebedev
VPK	Nikolai Nikolaevich Detinov
	G. K. Khronov
CPSU Central Committee, International Department (later combined with other Central Committee departments)	Georgi Markovich Kornienko (formerly MFA)
	General Victor Pavlovich Starodubov (formerly MOD)

Table 20.1 BWC Review Conferences

First Review Conference	March 3–21, 1980
Second Review Conference	September 8–26, 1986
Third Review Conference	September 9–27, 1991
Special Conference	September 19–30, 1994
Fourth Review Conference	November 25–December 6, 1996
Fifth Review Conference	November 10–22, 2001
Sixth Review Conference	November 20–December 8, 2006
Seventh Review Conference	December 5–22, 2011

- 1991-1994: VEREX exercise
- 1995-2001: Ad Hoc Group negotiations for a BW Verification Protocol
- 2001: The US rejects the draft protocol and renounces the entire process, destroying the possibility for BWC verification measures

Gorbachev 1985-1992 and why he failed

- **The question.** Gorbachev's arms-control achievements, START, INF, CFE (40,000 tanks, and attack aircraft destroyed). The Soviet MOD chiefs give up the main basis of Soviet military power. TNW agreement also. CWC anticipated, MoU. But BW escapes.
- **The Kataev documents.** Surprise that by Nov 1986 the Politburo is discussing BW, provoked by CWC negotiations and anticipation of on-site visits. Politburo establishing timeline for destroying all stockpiles, weapon filling lines. 18 months, but MOD/ Biopreparat push successive extensions into 1990.
- BUT NO stop to advanced R&D, and paradoxically, production continued and was expected to until mid-1991.
- Nevertheless, all during the MG years the Russian BWC CBMs lie, "USSR only has defensive BW program."

Gorbachev, cont'd

- **Pasechnik defects Oct 1989**, several months debriefing. Politburo anticipates. First US/UK démarche May 1990, to Berdennikov. US/UK “We don’t want any public discussion. Let’s settle quietly.”
- **Zaikov’s 3 page memo to MG**. “Here is our program.” But contains some disinformation, plus “US is doing it also.”
- **Only 4 individuals “know everything.” Yazov, Zaikov, Kryuchkov, MG**. Presumably the VPK did also. What Shevardnadze had to do in 1990 to get additional information when dealing with Baker.
- Then Bush, Baker, Thatcher, Hurd, US/UK ambassadors. US hands over repeated versions of CIA summary from Pasechnik briefings. UK very tough, opposes reciprocity.

Gorbachev, cont'd

- **MG lies:** “I don’t know, but I will find out.” Follows with “We don’t have any.” Shevardnadze the same. MG adds “But I hear that you do.”
- Bush **terrible** (if Soviet docs, MG book to be trusted); keeps being ambiguous, saying “I’m not sure.” Finds it too challenging to read and deliver the 10 page CIA summary himself.
- **Post-1990 challenges for MG:** USSR already out of Afghanistan. 1989-90, end of WTO and German reunification; March 1990, Baltics declaring independence; by mid-end 1990, MG turns to the hardliners, KGB and military; spring 1991, anticipation that country will run out of food; April 1991, Yeltsin’s challenges begin and beginning of Union Treaty deliberations; mid-1991, coup attempt. All through this period major weakening of MG. KGB controls all information to MG and role of lying and deception by MOD. All this too much and MG at his politically weakest, gullible, harrassed and indecisive in 1991-92. US/UK did not want to weaken him further. (Later the same with Yeltsin.) Time caught up with BW program but it also caught up with MG. This apparently best answer possible.
- Nevertheless, first on-site visits take place in 1991. Soviets still lie about what they see. Reciprocity starts to take its toll.

Yeltsin 1992-1996 and why he failed

- US gives CIA memorandum to Kozyrev at end of 1991. Yeltsin [BY] also gets a good report from a deputy late 1991.
- After Jan 1992, BY public disclosure forced by US. He also privately tells UK/US that the Soviets had lied.
- **Yevstigneev and Kalinin** recommend Russia continue.
- BY establishes a commission, Feb 28, 1992, with **Kuntsevich** as head. April 11 BY “decrees” the program’s end and Russian commitment to BWC.
- Alibek defects in the fall of 1992.
- BY promises to fire Yevstigneev, Kalinin, Kuntsevich, Petrov “soon.” He never does.

Yeltsin, cont'd

- D eb acle of 1992 Russian BWC CBM, Form F.
- Another defector from IHPP, **US/UK force the Sept 1992 Trilateral meetings in Moscow**. US/ UK/Russia sign statement in which Russia admits Soviet violation, “experimental” lines of production until March 1992. Document promises access to Russian MOD sites.
- BY then complains his deputies are being stonewalled and he can’t find out what is happening. US Non-Compliance statements up to 1995 say “Yeltsin **wants** to, but ...”
- Trilateral visits do take place, 1992-1994, confirm US/UK beliefs.
- **By 1993**, BY’s foreign policy less cooperative, fires Kozyrev
- Meetings in Gore-Chernomyrdin Commission produce nothing. Sec State Christopher, Pres Clinton all try. **By 1996**, BY tells Clinton Buzz off, don’t bother me any more about this.
- BY never serious to begin with or 100% incompetent. US Ambassador Goodby says “Yeltsin not at home. ... Wizard of Oz. ... Didn’t run his own government.”

Yeltsin, cont'd

- Russia [MOD/VPK] kills Trilaterals from end 1993 to 1996 with 2 tools. Trilaterals had enshrined “reciprocity.” Russian negotiators demand agreement on “rules of the road” and “modalities,” and lists of definitions all to be settled beforehand before MOD sites can be visited. Russians claim previous absence of these led US/UK to make false accusations.
- Russian 2nd demand, access to US overseas NAMRUs and US AMRUs.
- **By 1994** MOD and VPK leading MFA around by the nose again. Reversing everything that MFA negotiators agree to during Trilateral meetings.
- Parallel of post-CWC EIF Russian chem stockpile ammunitions destruction. Bad times financially but from Wyoming MoU in Sept 1989 on Petrov and Kuntsevich oppose Russian chem demil. Duma appropriates no funds to 2001. As of April 2001 “not one gram of CW had been destroyed.”
- **Role of Oleg Ignatiev (VPK)** from early 1980s on, then BY’s Commission, then Zinovy Pak’s Armaments Directorate, continuing to present (?). Always in charge of BW.

Proliferation after 1992 minimal

- No transfer of pathogens
- Biotech trade fair in Teheran initiated by Russia in 1997. Opened door for **Iran** which then tried **very** hard to recruit at Vector, Obolensk in **1997**.
- ~10-12 identified individuals went to Iran. None from the 4 major Biopreparat institutes. Half stayed, half on short term contracts through Academy of Medical Sciences (Gamelaya) with official cognizance.
- **Iraq: 1994-95**, Russia negotiates with Iraq for complete turnkey production facility to replace al-Hakam, while UNSCOM is operating in country.

Essentially unresolved questions-1

- We don't know what the MOD was going to do with the BW weapons (from 1930-mid 1990s; 60 years). Mobilization capacity production facilities certainly imply intentions of use, and after 1971 couldn't be in "retaliation". To be used against who? By what delivery system? In what contingencies?
- Were such notions, "plans", ever discussed at the Central Committee level?
- What have the 3 MOD facilities been doing since 1992?
- To this day Russia has never provided a summary of Soviet offensive BW program that would fulfill the requirements of BWC CBMs; How to get it to do so? And how to prevent backsliding? [Next slide]

Essentially unresolved questions-2

- As a (strategic) weapon acquisition history: massive research enterprise, massive production capability, but if delivery concepts/systems weak-to-lacking, then an MOD/VPK acquisition program run amok. Policy débâcle. Policy set by 15th Directorate, VPK, 2-3 on Central Committee staff. No legislative “SASC,” intel oversight committees. No oversight in the government
- **Putin’s in Feb-March 2012. 28 tasks for MOD.**
Task no. 4: “The development of weapons based on new physical principles; radiation, **geophysical**, wave, **genetic**, psychophysical etc.”

Geophysical and genetic respectively violate the 1978 ENMOD and 1975 BWC

Lessons for the future

- Without verification a state can decide to, and is able to, cheat, successfully for 18 years, on a strategic weapon arms control treaty. **But US kills BWC Verification Protocol in 2001.**
- In an authoritarian state, secret decision-making, highly limited number of individuals involved, a government agency previously given powers of decision and operation will lie to other members of government and even to its 2-3 superior political officials.
- A government established not to be internally transparent is not likely to be transparent to others.
- The US 1969-71 covert BW deception program: inconceivably stupid, but again a problem of secrecy, cognizance, oversight, governance.
- As best as can be ascertained from **declassified** portions of US intelligence agency reports from 1945 to 1976-1980 the intelligence community did extremely poorly at understanding what the Soviet BW program was (“USSR capable of”). Assessments much improved after the early 1980’s.