

BW ↓↓

FEB 17 1987

Questionnaire D 10

I. Verification (Part 1)

The panel (N = 19) gave the following responses to the question, "Do you think that it is possible for the United States to monitor the development, production, or stockpiling of microbial agents in another country?"

	YES	NO	NOT ANSWERED
Development:	5	11	3
Production:	8	8	3
Stockpiling:	8	9	2

Your response to this question was:
 Development: No Production: Not Answered Stockpiling: Not Answered

The following reasonable measures were specified by the panel as a means to monitor development, production, or stockpiling of microbial agents in another country. Please place an "x" in the space provided to indicate your judgment of the effectiveness of the measure for monitoring development, production or stockpiling.

Note: E = effective, NE = not effective, ? = do not know.

MEASURES	EFFECTIVENESS OF MEASURE FOR MONITORING								
	DEVELOPMENT			PRODUCTION			STOCKPILING		
	E	NE	?	E	NE	?	E	NE	?
a) open-inspections (international teams, on-site, & on demand)									
b) intelligence gathering							✓		
c) monitoring of research		✓			✓			✓	
d) defectors		✓			✓				✓
e) sampling (technical means to detect microorganisms)		✓			✓			✓	
f) self-inspection		✓				✓			✓
g) international cooperation		✓				✓			✓

Please reconsider and respond to the question: "Do you think that it is possible for the United States to monitor the development, production, or stockpiling of microbial agents in another country?"

Development? Yes ___ No ✓

Production? Yes ___ No ✓

Stockpiling? Yes ✓ No ___
?

Comments about this page:

Effective vs. NOT

... Not Black+white...

"sufficient to warrant confidence in compliance under current political conditions...." approximates my answer.

If USSR were more forthcoming, my answers would shift.
 (?) = some use but limited

Ia. Verification (Part 2)

The panel (N = 19) gave the following responses to the question: Do you think it is possible to monitor an incident of BW use?

YES: 14 NO: 4 NOT ANSWERED: 1

Your response to this question was Yes.

The following reasonable measures were specified by the panel as a means to monitor an incident of BW use. Please place an "x" in the space provided to indicate your judgment of the effectiveness of the measure for monitoring BW use. Please indicate if you believe the measure would be effective for monitoring small scale and large scale use of BW.

Note: E = effective, NE = not effective, ? = do not know.

MEASURES	EFFECTIVENESS OF MEASURES FOR MONITORING BW USE					
	SMALL SCALE USE			LARGE SCALE USE		
	E	NE	?	E	NE	?
a) epidemiologic investigations			✓	✓		
b) medical examination of casualties	✓			✓		
c) site inspections			✓	✓		
d) sampling (technical means to detect organisms at a site)	✓			✓		
e) analysis of organism and "vehicle"	✓		✓	✓		✓
f) international committee			✓	✓		
g) intelligence gathering			✓	✓		
h) international inspection teams			✓	✓		

Please reconsider and respond to the question: Do you think it is possible to monitor an incident of BW use? Yes ✓ No

Comments about this page:

IF we had full access to suspicious sites!

II. Secrecy (Part 1)

The issue of secrecy in BW research in the United States arose from the first questionnaire. When you answer questions in this survey regarding secrecy in BW research, are you assuming a) the U.S. does conduct secret BW research, or b) the U.S. does not conduct secret BW research? Does _____ Does not ✓.

The following statements were made by panelists in the first round questionnaire. Please indicate (by placing an "x" in the space provided) if you agree or disagree with each statement.

	AGREE	DISAGREE
1. There is no secret research on BW in the U.S..	✓	
2. Secrecy may increase the potential for violations of the 1972 BW Convention.	✓	
3. Secrecy may increase the potential for violations of the 1972 BW Convention in other countries but not the U.S..	✓	
4. Secrecy is probably perceived by the Soviets as necessary for national security.	✓	
5. Secrecy is not necessary for U.S. national security.	✓	
6. Secrecy is necessary only for offensive, not defensive research.	✓	
7. The U.S.S.R. will not comply with plans for increased exchanges of information on BW.	WAITING to see	
8. The U.S. Department of Defense does not sponsor any secret BW research.	✓	
9. In the U.S., it is the right of microbiologists to conduct secret research, if they so choose. (if not in violation of law)	✓	
10. It is reasonable to expect microbiologists to "avoid" secret research, but not realistic.		
11. Secrecy in defensive BW work is not justified.		✓
12. Secrecy excludes the opportunity for critical scientific review by the scientific community.	✓	
13. High quality peer review is still possible within secrecy restrictions.		✓

Comments about this page:

secret BW OFFENSIVE Research is violation of treaty. e; other than reported to Congress. Some defensive research is classified and so reported.

II. Secrecy (Part 2)

Your response and the responses of the panel (N = 19) in the first round questionnaire are indicated after each of the following questions. Please indicate how you would answer the same questions in light of the previous page and the responses of the panel.

1. Do you think the secrecy surrounding some BW research has a significantly adverse effect on the quality of the research?

PANELISTS RESPONSES:	Yes: 7	No: 11	Not Answered: 1
YOUR ROUND 1 RESPONSE:	Yes <u>Yes</u>	No _____	Not Answered _____
YOUR ROUND 2 RESPONSE:	Yes <u>✓</u>	No _____	

2. Do you think secrecy increases the potential for violations of the 1972 BW Convention?

PANELISTS RESPONSES:	Yes: 11	No: 7	Not Answered: 1
YOUR ROUND 1 RESPONSE:	Yes <u>Yes</u>	No _____	Not Answered _____
YOUR ROUND 2 RESPONSE:	Yes <u>✓</u>	No _____	

3. Do you think secrecy in BW research is necessary for national security?

PANELISTS RESPONSES:	Yes: 9	No: 2	Not Answered: 8
YOUR ROUND 1 RESPONSE:	Yes _____	No _____	Not Answered <u>X</u>
YOUR ROUND 2 RESPONSE:	Yes <u>✓</u>	No _____	

4. The 1986 Review of the BW Convention resulted in agreements for 1) sharing of BW information, 2) scientist exchange programs and 3) publication of BW research. Do you think that these measures will significantly decrease secrecy in BW research?

PANELISTS RESPONSES:	Yes: 4	No: 13	Not Answered: 2
YOUR ROUND 1 RESPONSE:	Yes _____	No _____	Not Answered <u>X</u>
YOUR ROUND 2 RESPONSE:	Yes <u>✓</u>	No _____	

IF complied with!

5. Do you think it is reasonable to expect microbiologists to "avoid" secret research? Please cite the main reason for your answer.

PANELISTS RESPONSES:	Yes: 3	No: 6	Not Answered: 10
YOUR ROUND 1 RESPONSE:	Yes _____	No _____	Not Answered <u>X</u>
YOUR ROUND 2 RESPONSE:	Yes _____	No _____	

Comments about this page:

III. BW Research

The following key elements were suggested by the panel in the round 1 questionnaire to DISTINGUISH offensive BW research from defensive BW research. The elements listed here may or may not be measurable. Please indicate (by placing an "x" in the space provided) if you believe the element is effective or not effective for distinguishing offensive from defensive BW research, and if you believe the element is measurable or not measurable.

INSTRUCTIONS:

- CHOOSE ONE: (E) - Effective for distinguishing offensive from defensive BW research
 (NE) - Not effective for distinguishing offensive from defensive BW research

- CHOOSE ONE: (M) - Measurable (can be observed externally) *but on site*
 (NM) - Not measurable

KEY ELEMENTS	CHOOSE ONE		CHOOSE ONE	
	E	NE	M	NM
1. Research design criteria	✓			✓
2. Extremes of research	✓			✓
3. Purpose in the mind of researcher		✓		✓
4. Observation that BW agents have been made into weapons (ie. placed into delivery systems)	✓		✓	
5. Evidence that research is to protect against BW	✓		✓	
6. Evidence that research is to produce vaccines	✓		✓	
7. Quantity of BW agents	✓		✓	
8. Form of BW agents	✓		✓	
9. Evidence that research is to increase virulence and length of survival of organisms	✓		✓	
10. Evidence that research is designed to increase infectivity	✓		✓	
11. The degree of secrecy involved	✓		✓	
12. A committee using hindsight to determine the purpose of the research				
13. A neutral third party to make a judgment to distinguish offensive from defensive BW research		<i>who's neutral?</i>		
14. An evaluation of the purpose of the research, after an incident of BW use	✓		✓	

PLEASE WRITE ANY COMMENTS ON THE BACK OF THIS PAGE.

IV. Prophylactic, Protective and Peaceful Purposes (Part 1)

The following examples of Prophylactic, Protective and Peaceful Purposes were generated from the round 1 questionnaire. In the space provided, please indicate if you believe the example CLEARLY represents a prophylactic, protective or peaceful purpose. A CLEAR example would be a purpose that could not be construed as non-Prophylactic, non-protective or non-peaceful.

CLEAR EXAMPLE OF A PROPHYLACTIC, PROTECTIVE OR PEACEFUL PURPOSE?			
	YES	NO	DO NOT KNOW
1a. To prevent or study a disease.	✓		
2a. Epidemiologic or immunologic research.	✓		
3a. Any defensive measure except retaliation.	✓		
4a. Study of organisms that occur naturally.	✓		
5a. Working with organisms for the purpose of education	✓		
Research or development on:			
1. Rapid detection systems	✓		
2. Vaccines	✓		
3. Drugs	✓		
4. Treatment	✓		
5. Protective devices	✓		
6. Physical protection	✓		
7. Antibiotics	✓		
8. Serum monoclonal antibodies	✓		
9. Counter agents			
10. Shelters and decontamination methods	✓		
11. Detection and microbial identification systems	✓		
12. Blocking the entry of released organisms into target population	✓		
13. Industrial applications	✓		
14. Food Production	✓		
15. Assay systems	✓		
16. Impeding an organisms spread	✓		
17. Immunoaugmentative immunomodulation	✓		
18. Defensive measures	✓		
19. Nitrogen fixers for plants	✓		
20. Improving the health of a population	✓		

PLEASE WRITE ANY COMMENTS ON THE BACK OF THIS PAGE.

IV. Prophylactic, Protective and Peaceful Purposes (Part 2)

Your response and the responses of the panel (N = 19) in the first round questionnaire are indicated after the following question. Please indicate how you would answer this same question in light of the previous page and the responses of the panel.

Do you believe that clarifying the concepts of "prophylactic, protective and peaceful purposes" would weaken or strengthen the perceived strength of the 1972 BW Convention.

PANELISTS RESPONSES:

Strengthen: 9 Weaken: 1 Neither: 5 Not Answered: 4

YOUR ROUND 1 RESPONSE: Not Answered

YOUR ROUND 2 RESPONSE (Please check one):

Strengthen _____
Weaken _____
Neither ✓

Comments about this page:

*The convention is clear in authorizing
all of the above.*

V. BW and Recombinant DNA Technology (Part 1)

Your response and the responses of the panel (N = 19) in the first round questionnaire are indicated after each of the following questions. Several comments made by panelists regarding each question are listed. Please indicate how you would answer the same questions in light of these comments and the responses of the panel.

The following comments are based on responses of panelists.

- Existing organisms are sufficient.
- Recombinant DNA technology will increase the chance of BW being used in the future, especially if the engineered agent will weaken the enemy and not kill.
- The inability to guarantee the safety of one's own personnel has been a disincentive to BW use in the past, therefore the availability of increased defenses against BW, provided by recombinant DNA technology, will increase the chance of BW being used in the future.
- It is not necessarily a disadvantage that genetically engineered organisms do not survive well in the environment.

PLEASE RECONSIDER THE FOLLOWING QUESTIONS AND INDICATE YOUR SECOND ROUND RESPONSE IN THE SPACE PROVIDED.

1. Do you think that the capability of designing organisms to the specifications of military planners will increase the chance of BW being used in the future?

PANELISTS RESPONSES: Yes: 10 No: 6 Not Answered: 1 Do Not Know: 2
YOUR ROUND 1 RESPONSE Yes
YOUR ROUND 2 RESPONSE: Yes ✓ No _____ Do Not Know _____

2. Do you think that the availability of increased defenses against BW, provided by recombinant DNA technology, will increase the chance of BW being used in the future?

PANELISTS RESPONSES: Yes: 6 No: 10 Not Answered: 1 Do Not Know: 2
YOUR ROUND 1 RESPONSE No
YOUR ROUND 2 RESPONSE: Yes _____ No ✓ Do Not Know _____

3. Do you think BW agents produced by recombinant DNA technology offer any significant advantage over conventional agents in a conflict situation?

PANELISTS RESPONSES: Yes: 9 No: 6 Not Answered: 1 Do Not Know: 3
YOUR ROUND 1 RESPONSE No
YOUR ROUND 2 RESPONSE: Yes _____ No ✓ Do Not Know _____

(Today)

V. Recombinant DNA Technology (Part 2)

4a. Do you think that genetically altered organisms survive well in the environment?

PANELISTS RESPONSES: Yes: 1 No: 10 Not Answered: 2 Do Not Know: 6

YOUR ROUND 1 RESPONSE

No

YOUR ROUND 2 RESPONSE:

Yes _____

No

Do Not Know _____

4b. If you answered "no" in 4a. above, do you think this trait can be easily "overcome" by genetic selection? (N = 18)

PANELISTS RESPONSES: Yes: 4 No: 6 Not Answered: 4 Do Not Know: 4

YOUR ROUND 1 RESPONSE

Yes

YOUR ROUND 2 RESPONSE:

Yes

No _____

Do Not Know _____

ADDITIONAL COMMENTS OR QUESTIONS