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Directorate of
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Monitoring the Biological and Toxin Weapons Convention: Looking for a Needle in a Haystack

An Intelligence Assessment

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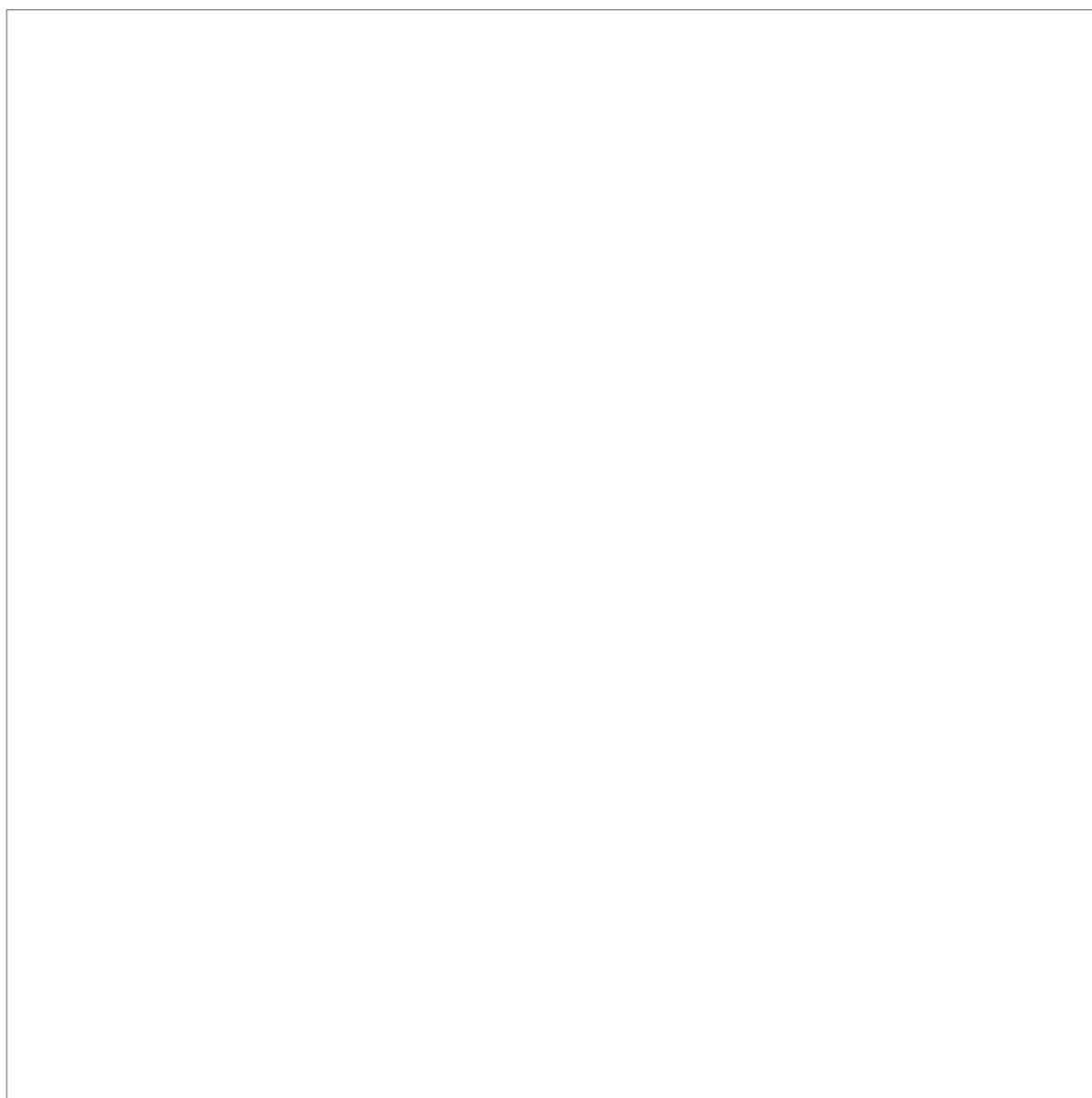
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February 1991

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An Intelligence Assessment



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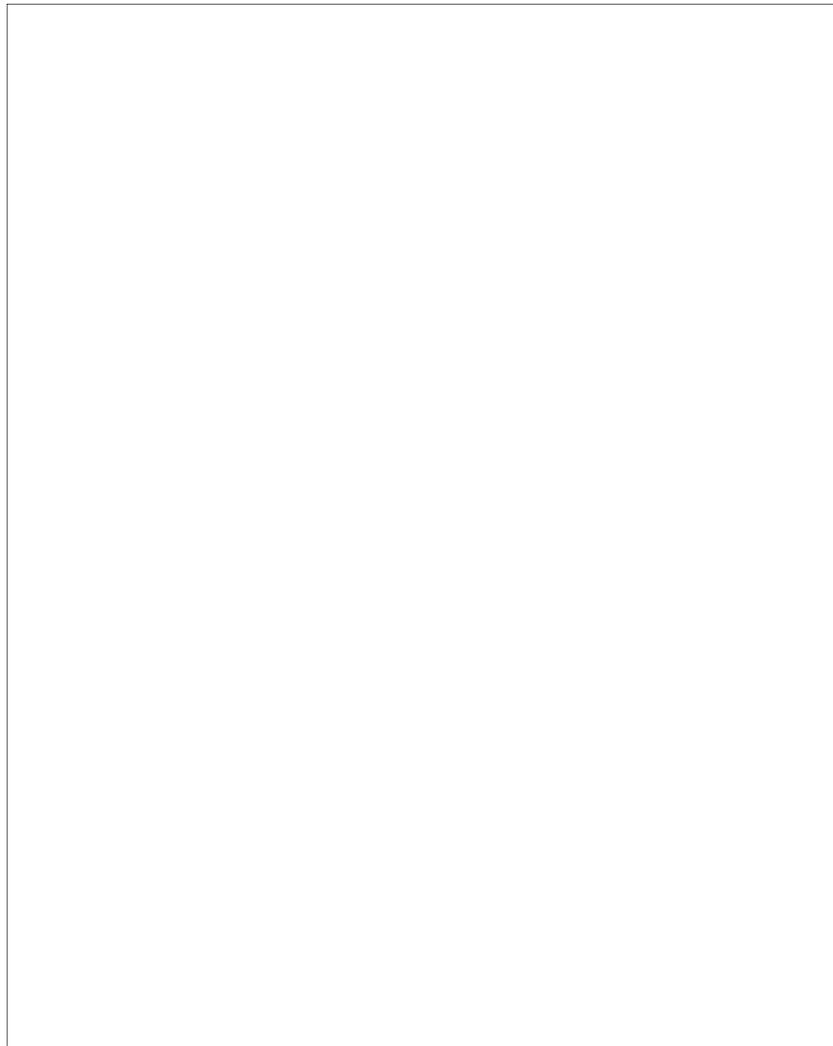
**Monitoring the Biological and Toxin
Weapons Convention: Looking for
a Needle in a Haystack**

Key Judgments

*Information available
as of 15 February 1991
was used in this report.*

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Insets

The BWC: Checklist of Prohibited Activities

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Monitoring the Biological and Toxin Weapons Convention: Looking for a Needle in a Haystack

Introduction

The Biological and Toxin Weapons Convention (BWC)—signed in 1972 and entered into force in 1975—is the international vehicle for the elimination of offensive biological warfare (BW) capabilities. Approximately 111 countries are signatories to the Convention—including the United States, the United Kingdom, and the Soviet Union, the depositories for the Convention.

The BWC defines and prohibits BW activities that are deemed to have an offensive intent but permits maintenance of a defensive capability (see inset).

Article I of the BWC is the key provision prohibiting offensive BW activities. Such work would include developing an organism or toxin for use as a BW agent, producing micro-organisms or toxins to be used as BW agents, or stockpiling biological products as BW weapons.

The BWC: Checklist of Prohibited Activities

The Biological and Toxin Weapons Convention was negotiated in 1972 and is officially entitled the "Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction." Articles I, II, and III provide the specifics of prohibited activities:

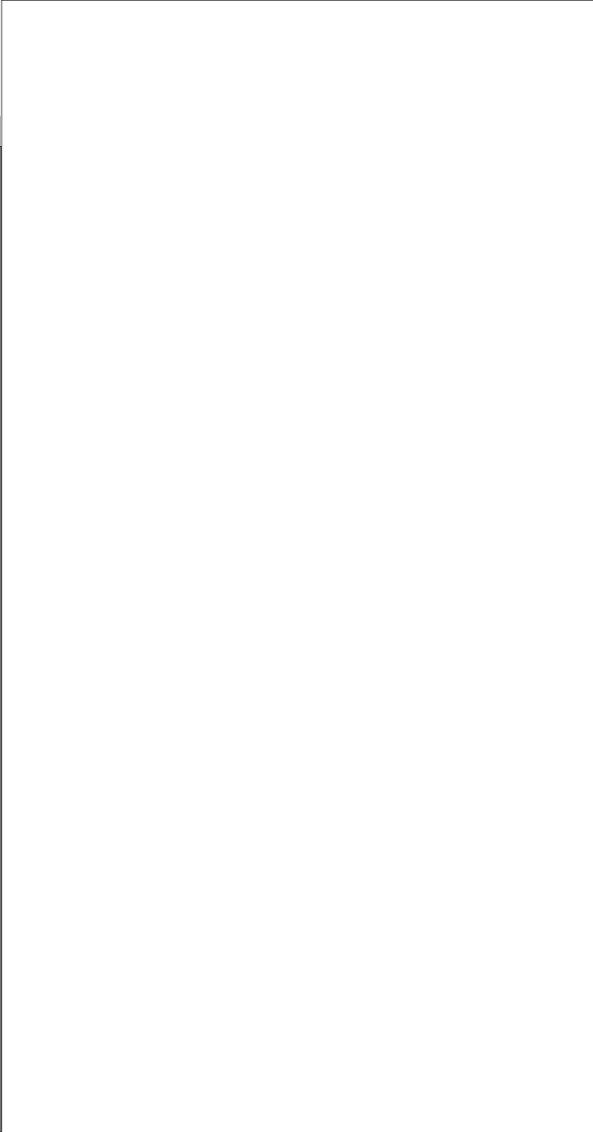
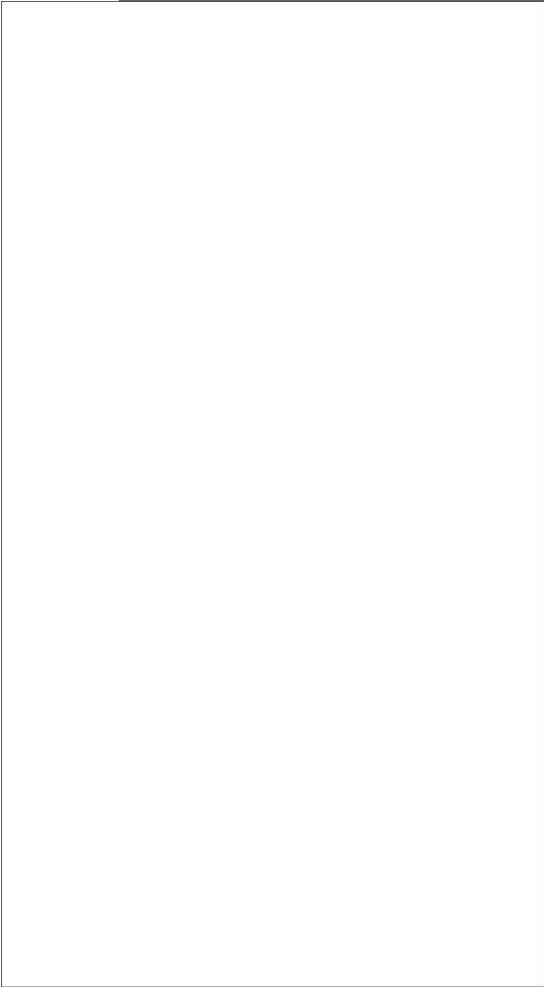
- **Article I.** "... never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain: (1) microbial or other biological agents or toxins, whatever their origin or method of production, of type and in quantities that have no justification for prophylactic, protective, or other peaceful purposes; (2) weapons, equipment, or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."
- **Article II.** "... to destroy, or to divert to peaceful purposes, as soon as possible but not later than nine months after the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in Article I."
- **Article III.** "... not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage or induce any State, group of States, or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment, or means of delivery specified in Article I."

Article III was an attempt to stop the proliferation of biological weapons.

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No international consensus has been reached on the technical requirements for defensive development and production—that is, how much agent can be developed or produced and still be considered defensive BW work.



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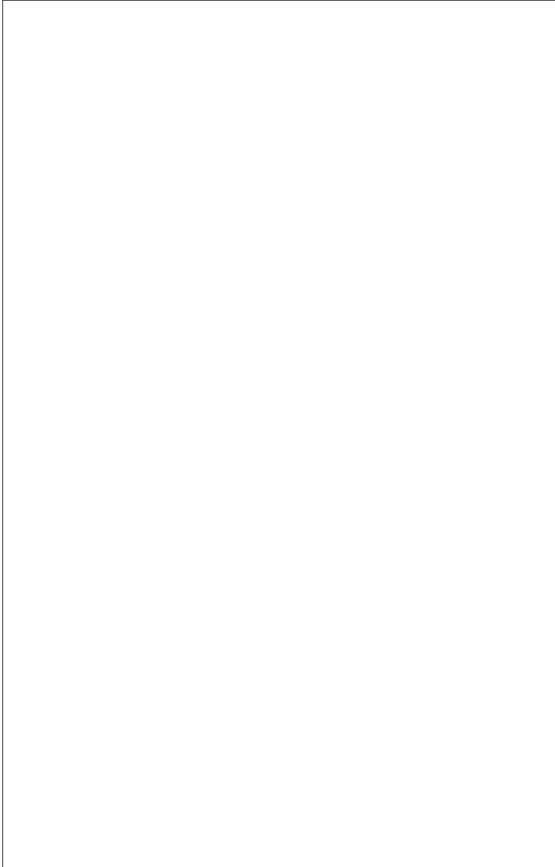
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In recognition of the inherent weakness of the BWC, the States Parties adopted a set of CBMs at the 1986 RevCon. They were adopted partly to avoid stricter

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- A written declaration stating the locations of all government-owned, high-biocontainment laboratories at the P-3 level and all laboratories at the P-4 level (see appendix C).



monitoring proposals presented by several States Parties. One of the CBMs adopted was a formal declaration process that included an exchange of the following data, which could be associated with BW programs:

- A budget breakdown of all military funding for biological research programs.
- Listings of publications on research related to infectious diseases and toxins.
- A declaration for each facility engaged in government research on infectious diseases, specifically listing the micro-organisms being studied

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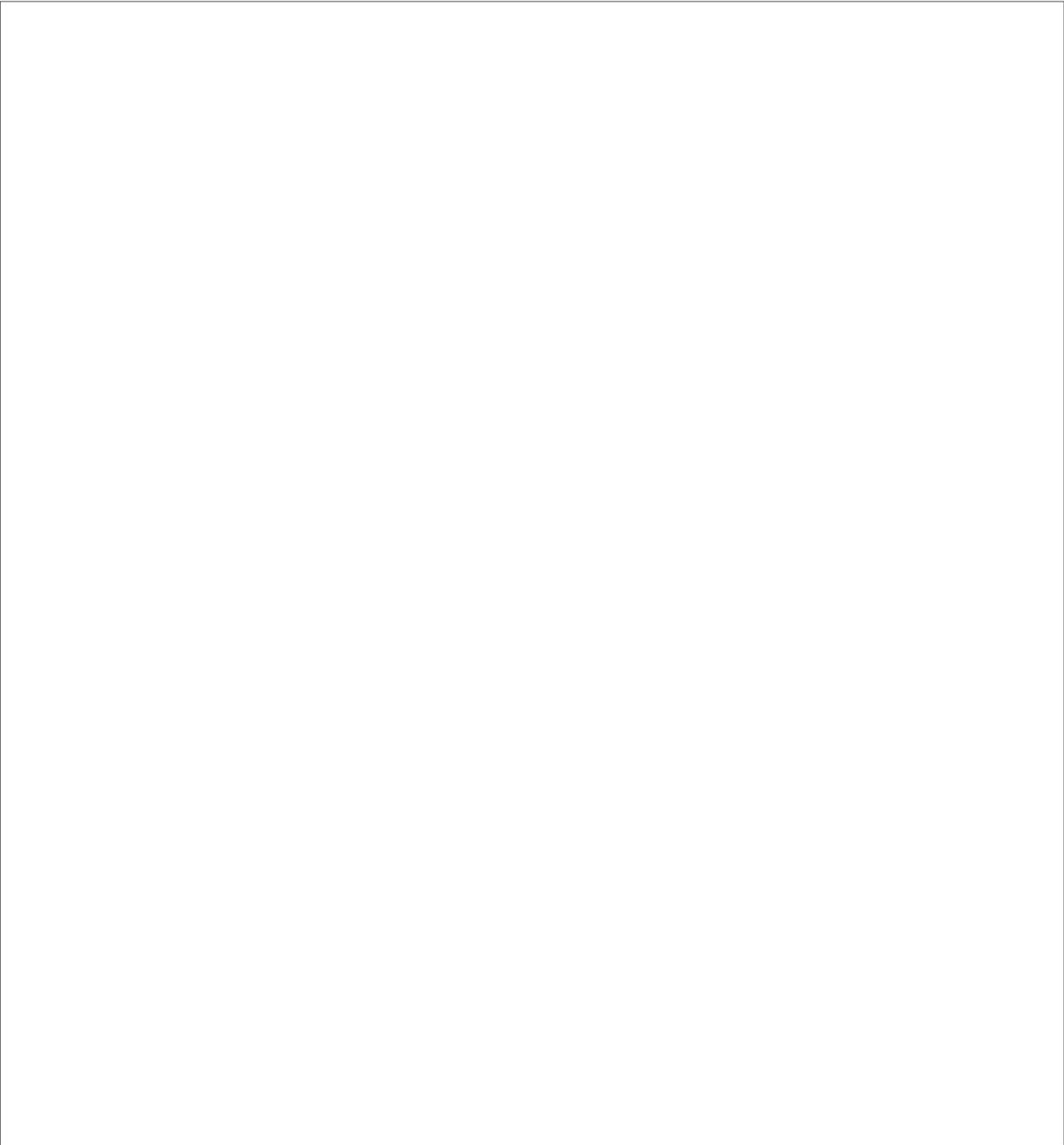
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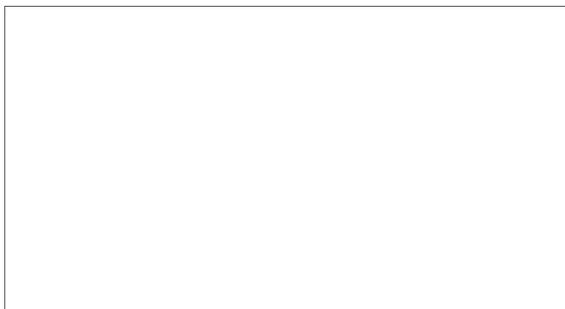
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Appendix A

**Summary of Confirmed and Suspect
Offensive BW Programs Worldwide**

	<p>Indonesia [redacted] NUBIKA, the Indonesian Army's nuclear, biological, and chemical warfare directorate, conducts limited research ostensibly in defensive measures to biological weapons. NUBIKA has reportedly researched and attempted to culture several pathogenic bacteria and viruses since 1987. [redacted]</p>

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Appendix B



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Appendix C

Biological Hazard Containment

Prophylactic measures must be taken at special health care and biological research facilities to prevent the spread of disease-causing organisms, viruses, and biotoxins. The US biological research community created an internationally accepted scale of biological hazard-containment measures conforming to various levels of risk associated with biohazards. The four internationally recognized biohazard-containment (or biosafety) levels are P-1 (for basic precautions), P-2, P-3, and P-4 (for maximum biocontainment).

The P-1 biosafety level consists of standard microbiological laboratory practices and safety techniques. No special biocontainment facilities or safety equipment are required.

The P-2 biosafety level includes P-1-level practices plus the use of laboratory coats and protective gloves, decontamination of all infectious waste, limited or controlled access to P-2 areas, and biohazard warning signs. In addition, a P-2 facility would have partial-biocontainment equipment for performing procedures that have a high risk of exposure. The biocontainment equipment would typically include class II (low biocontainment) or class III (complete biocontainment) biological safety cabinets, also known as hoods, that maintain internal negative pressure to control potential leaks. The safety precautions associated with a P-2 laboratory are roughly analogous to what might be expected in a hospital room.

The P-3 biosafety level includes P-2-level practices plus use of special laboratory clothing and controlled access to the P-3 area. In addition, the facility would

have high-biocontainment biological safety cabinets, also known as glove boxes, for manipulating infectious materials. Negative pressure would be maintained throughout P-3 laboratory areas to control potential leakage from glove boxes and biocontainment equipment. The safety precautions associated with a P-3 laboratory are similar to those used in clean rooms in the aerospace and semiconductor industries.

The P-4 biosafety level includes P-3-level practices plus a change and shower room at the entrance and exit points to the P-4 laboratory and decontamination of all waste leaving the facility. In addition, negative pressure would be maintained in areas surrounding the laboratory area, lower negative pressure would be maintained in the P-4 laboratory, and still lower negative pressure would be maintained for biocontainment equipment in the laboratory. The equipment would include either class III biological safety cabinets or partial biocontainment equipment in combination with use of full-body personnel suits supplied with positive air pressure.

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