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ORD #1476-65

21 MAY 1965

MEMORANDUM FOR: Deputy Assistant Director, Office of Research and Development

SUBJECT: The Dolphin as a Potential Sensor Emplacement Asset

REFERENCE: ORD Memo 1284-65, dated 5 May 1965, same subject

1. The following ideas on possible dolphin missions have been suggested by components of the Office of Scientific Intelligence. We would be pleased to discuss these with you in more detail.

2. Atomic Energy

a. Considering the likelihood of acquiring information through use of the dolphin, the possibility of obtaining acoustic tapes of Soviet nuclear submarines which would be free of noise from the receiving platform perhaps is of most significance in the atomic energy area. Results could vary from a general assessment of the overall noise-frequency spectrum and its relation to US passive surveillance systems, including SOSUS, to a detailed recording of the internal noise generated by pumps, motors, drive systems, and other equipment. The more detailed recording, possibly obtained through attachment of the recording apparatus to the hull, may lead to a definitive understanding of the primary, secondary, and drive circuits of the nuclear propulsion systems used aboard the different types of Soviet nuclear submarines.

b. Of lesser current importance, though possibly of more significance in several years, would be the sampling of rivers at the upper limit of brackish water for the presence of induced radioactive elements. Sampling methods could include the use of concentrators for reactor activation products or the taking of small whole water samples for the

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presence of tritium. Logical sampling sites in several years would be

c. There are several locations

However, the short life of the currently available power supplies used in intercept equipment makes this less attractive.

d. If the weights of Teller light or electromagnetic pulse equipment could be reduced significantly, dolphins possibly could be used to emplace such equipment

Such equipment could obtain close-in data on the fine structure of nuclear explosions.

3. Missiles

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4. [redacted]

a. Attach an acoustic noise-maker to the animal to test reaction [redacted]

b. Observation of submarine installations through use of a camera attached to the dolphin.

c. Testing of direction finding capabilities and reaction to a radio transmitter attached to a dolphin.

d. Emplacement of a sensor to establish movement patterns for [redacted]

5. Biological Warfare

a. Dolphin possibly could carry a sampler for BW material. This capability would be useful probably only in a very limited sense and only in installations which would be near enough to the sea to dump either their waste or products of testing into the ocean.

[redacted]

[redacted]

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OSI:EXEC:[redacted]:bet/5609 (20 May 1965)

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