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CONTROL SYSTEM

A. Organization

(1) Internal

The overall direction, programming, and financial management of the NRP non-operational R&D program is the responsibility of the DNRO and his Staff (Director of the Staff and Comptroller). The Office of the Secretary of the Air Force (Special Projects) and the CIA (OD&E and OR&D) act as agents (Program Offices) for the implementation of approved projects. While some conceptual and basic feasibility studies are conducted in-house, most laboratory and development work is performed by contract with industry under the direction of the NRO Program Offices.

(2) External

External coordination of the R&D program is accomplished at the DNRO Staff and program office levels through cleared individuals in related activity organizations (Air Force, DDR&E, ASD(I), Army, Navy, ARPA and NASA).

B. Decision Process for R&D Program Approval


The following are the general review criteria used within the NRO in the R&D decision process:

- Should the NRO undertake the work?
- Is the program in response to NRO needs; is it inherently "black"; and is any other entity working in the technology area?
- Should the project be done within the NRO R&D program?
- Is the project specific to an operational system or applicable to several systems? Is there an end product in mind?
- At what level should the work be funded?
- Is the project time critical; is the level adequate to accomplish the established goals?

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In February of each year, the DNRO Staff translates the above questions into specific technology areas and provides guidance to the program offices for the R&D program to be pursued in the near-term (coming FY) and long-term (FYDP). The program office submissions emerge in May-June and provide considerable technical/financial detail on prior year, current year and projected efforts. The R&D program is then evaluated by the DNRO Staff and technical advisors in terms of priority, duplication, external agency activities, program objectives and funding constraints. After several iterations, the recommended program involving about 200 separate efforts is submitted to the DNRO and NRP ExCom in July for approval. Updates of the program are formally submitted to the DNRO/ExCom in November for final structuring of the current and next FY R&D program. Notwithstanding the above formal approvals, the DNRO Staff continually reviews the R&D program throughout the year and reprograms efforts where necessary to meet changing technology requirements.

C. Categories (Unique)

For non-financial management purposes, the NRO Support R&D program is organized functionally within unique categories as follows:

- Readout Imaging Systems
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- High Resolution Imaging Systems
- SIGINT Systems
- Communication/Data Systems
- Spacecraft/Support Systems
- Survivability/Vulnerability
- Photographic R&D
- Miscellaneous Development

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[REDACTED]

3. 1969-1974 Program

The total NRO program has usually been under [REDACTED] annually with the non-operational R&D program included at about [REDACTED] or approximately [REDACTED]

As discussed above, the non-operational R&D efforts approved normally apply to several operational programs requiring support. When a particular technology effort results in an operational program improvement or change, the costs of the prior R&D is included in the specific operational program costs as a part of development.

For internal and external financial management purposes, the subject R&D efforts described in the aforementioned NRO control categories are specified as follows:

- R&D Support:
- Applied Research
  - Advanced Development
  - Vulnerability
  - Photographic R&D
  - Miscellaneous Development

4. 1975-1979 Program

A. Objectives

The goal of the NRO R&D program is to provide the DNRO and ExCom with alternatives for meeting USIB requirements in a continuously changing technical, political, and funding environment. In support of existing systems, research is planned for improved data processing and storage systems, and the investigation of new techniques for conventional and non-conventional [REDACTED] imaging systems. There is increasing emphasis on the adaption of NRP systems to DoD missions such as rapid crisis response and tactical reconnaissance. In addition to improving system capabilities, the R&D program is also directed toward increasing the cost-effectiveness of

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present NRO operations. Long-range projects have been established and are directed toward intelligence assessment of future weapon systems such as high energy lasers, cruise missiles, and potentially, the [redacted] facility. These programs require continued support.

B. Total Program Vis-A-Vis R&D

In the present funding situation, the buying power of the NRO is declining while both traditional and non-conventional mission requirements continue to evolve and demand response. During this period it is essential that we maintain or increase non-systems oriented research and development programs so that an adequate technology base is maintained for meeting future requirements.

C. R&D by Categories

The functional R&D categories will continue as currently configured since the USIB has continuing requirements in each specific area.

D. Contract Vis-A-Vis Laboratory Effort

The basic philosophy of the NRO R&D program is to undertake only those programs which cannot be properly performed by other sources, agencies, and laboratories. By definition, the NRO does not sponsor directly any in-house laboratory efforts (except studies). However, R&D efforts of interest within external organizations are monitored and reviewed on a periodic basis.

E. Inter-Agency Programs

The NRO relies heavily on "white" inter-agency cooperation and data exchange as well as formally conducted programs within the "black" organizations. The NRO, Air Force, CIA and ARPA have formal on-going joint programs. In addition, the NRO closely coordinates with other intelligence sources, the "white" military services, and agencies such as NASA and the National Science Foundation. This coordination has three objectives: (1) to provide knowledge of NRP requirements for the conduct of non-NRO R&D projects, (2) to prevent duplication

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of efforts, and (3) to promote two-way exchange of technical data. The "white" agencies provide the mechanism (or channel) for NRO sponsored technical data to be released to the "white" world.

5. Emerging Technology and Technology Gaps

A particularly successful effort under NRO sponsorship is development of [REDACTED] with the promise of significant improvement over silver halide in resolution, dynamic range, and minimum modulation levels. Other emerging technologies include solid state sensors for intelligence data acquisition and [REDACTED]

Current needs include a more effective integrated crisis response capability, rapid and balanced application of the various NRO systems to meet rapidly changing international conditions. Continued detection and countermeasure efforts are also required in response to on-going Soviet technology such as [REDACTED] development.

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