NATIONAL SECURITY AGENCY
FORT GEORGE G. MEADE, MARYLAND 20755-6000

FOIA Case: 103629A
12 September 2018

JOHN GREENEWALD
27305 W LIVE OAK ROAD
SUITE 1203
CASTAIC CA 91384

Dear Mr. Greenewald:

This responds to your Freedom of Information Act (FOIA) request of 19 February 2018 for Intellipedia records on Project Pluto. As stated in our initial response to you dated 7 March 2018, your request has been assigned Case Number 103629. For purposes of this request and based on the information you provided, you are considered an "all other" requester. As such, you are allowed 2 hours of search and the duplication of 100 pages at no cost. There are no assessable fees for this request. Your request has been processed under the provisions of the FOIA.

For your information, NSA provides a service of common concern for the Intelligence Community (IC) by serving as the executive agent for Intelink. As such, NSA provides technical services that enable users to access and share information with peers and stakeholders across the IC and DoD. Intellipedia pages are living documents that may be originated by any user organization, and any user organization may contribute to or edit pages after their origination. Intellipedia pages should not be considered the final, coordinated position of the IC on any particular subject. The views and opinions of authors do not necessarily state or reflect those of the U.S. Government.

We conducted a search across all three levels of Intellipedia and located documents that are responsive to your request. The documents are enclosed. Certain information, however, has been deleted from the documents.

Some of the withheld information has been found to be currently and properly classified in accordance with Executive Order 13526. The information meets the criteria for classification as set forth in Subparagraph (c) of Section 1.4 and remains classified TOP SECRET as provided in Section 1.2 of Executive Order 13526. The information is classified because its disclosure could reasonably be expected to cause exceptionally grave damage to the national

security. Because the information is currently and properly classified, it is exempt from disclosure pursuant to the first exemption of the FOIA (5 U.S.C. Section 552(b)(1)).

In addition, this Agency is authorized by various statutes to protect certain information concerning its activities. We have determined that such information exists in these documents. Accordingly, those portions are exempt from disclosure pursuant to the third exemption of the FOIA, which provides for the withholding of information specifically protected from disclosure by statute. The specific statutes applicable in this case are Title 50 U.S. Code 3024(i) and Section 6, Public Law 86-36 (50 U.S. Code 3605).

Finally, personal information regarding individuals has been deleted from the enclosure in accordance with 5 U.S.C. 552 (b)(6). This exemption protects from disclosure information that would constitute a clearly unwarranted invasion of personal privacy. In balancing the public interest for the information you request against the privacy interests involved, we have determined that the privacy interests sufficiently satisfy the requirements for the application of the (b)(6) exemption.

Since these deletions may be construed as a partial denial of your request, you are hereby advised of this Agency's appeal procedures. If you decide to appeal, you should do so in the manner outlined below.

- The appeal must be in sent via U.S. postal mail, fax, or electronic delivery (e-mail) and addressed to:

  NSA FOIA/PA Appeal Authority (P132)
  National Security Agency
  9800 Savage Road STE 6932
  Fort George G. Meade, MD 20755-6932

  The facsimile number is (443)479-3612.
  The appropriate email address to submit an appeal is FOIARSC@nsa.gov.
- It must be postmarked or delivered electronically no later than 90 calendar days from the date of this letter. Decisions appealed after 90 days will not be addressed.
- Please include the case number provided above.
- Please describe with sufficient detail why you believe the denial was unwarranted.
- NSA will endeavor to respond within 20 working days of receiving your appeal, absent any unusual circumstances.

For further assistance and to discuss any aspect of your request, you may contact our FOIA Public Liaison at foialo@nsa.gov. You may also contact

the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. OGIS contact information is: Office of Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, MD 20740-6001; e-mail: ogis@nara.gov; main: 202-741-5770; toll free: 1-877-684-6448; or fax: 202-741-5769.

Sincerely,

Paul K
for

JOHN R. CHAPMAN
Chief, FOIA/PA Office
NSA Initial Denial Authority

Encls:
a/s

(U) Nuclear Propulsion

UNCLASSIFIED

From Intellipedia

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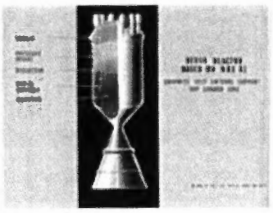
Nuclear propulsion includes a wide variety of propulsion methods that use some form of nuclear reaction as their primary power source.



A schematic for the Nuclear Energy for Rocket Vehicle Applications, a U.S. nuclear thermal rocket program, which was cancelled in 1972.

Overview

Many military submarines and a growing figure - with crude prices and emission in mind - of large surface ships, especially icebreakers, use nuclear reactors as their power plants (see nuclear marine propulsion for civil use and nuclear navy for naval use). In addition, various types of nuclear propulsion have been proposed, and some of them tested, for spacecraft applications:

- Antimatter Catalyzed Nuclear Pulse Propulsion
- Bussard Ramjet
- Fission-Fragment Rocket
- Fission Sail
- Fusion Rocket
- Gas Core Reactor Rocket
- Nuclear Electric Rocket
- Nuclear Photonic Rocket
- Nuclear Pulse Propulsion
- Nuclear Salt-water Rocket
- Nuclear Thermal Rocket
- Radioisotope Rocket

Nuclear Propulsion Projects

Name	Date	Agency	Description
Project Pluto	1957-1964	Lawrence Livermore National Lab	Development of an unmanned cruise missile that used a nuclear powered ramjet for propulsion
NERVA	1960s	NASA	Nuclear Energy for Rocket Vehicle Applications, a U.S. nuclear thermal rocket programme; cancelled in 1972
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Nuclear Aircraft	1946-1961	U.S. Air Force	Cold War projects to build nuclear powered aircraft; several entities were involved, including General Electric and the Idaho National Laboratory

[redacted]

(b)(3) - P.L. 86-36

Nuclear Power

Power Plant	Waste	Fusion Power	**Propulsion**
Thermoelectric Generator	Tokamak	Nuclear Fuel Facility List	

Types of Reactors

Light Water (https://en.wikipedia.org/wiki/Light_Water_Reactor#)	Pressurized Water (https://en.wikipedia.org/wiki/Pressurized_Water_Reactor#)	Boiling Water (https://en.wikipedia.org/wiki/Boilling_Water_Reactor#)	Heavy Water (https://en.wikipedia.org/wiki/Heavy_Water_Reactor#)
Pressurized Heavy Water (https://en.wikipedia.org/wiki/Pressurized_Heavy_Water_Reactor#)	CANDU (https://en.wikipedia.org/wiki/CANDU_reactor#)	Generation IV (https://en.wikipedia.org/wiki/Generation_IV_reactor#)	Fast Breeder (https://en.wikipedia.org/wiki/Fast_Breeder_Reactor#)
Magnox (https://en.wikipedia.org/wiki/Magnox_Reactor#)	Fast Neutron (https://en.wikipedia.org/wiki/Fast_Neutron_Reactor#)	Gas Cooled Fast (https://en.wikipedia.org/wiki/Gas_Cooled_Fast_Reactor#)	Molten Salt (https://en.wikipedia.org/wiki/Molten_Salt_Reactor#)
Liquid Metal Cooled (https://en.wikipedia.org/wiki/Liquid_Metal_Cooled_Reactor#)	Lead Cooled Fast (https://en.wikipedia.org/wiki/Lead_Cooled_Fast_Reactor#)	Supercritical Water (https://en.wikipedia.org/wiki/Supercritical_Water_Reactor#)	Integral Fast (https://en.wikipedia.org/wiki/Integral_Fast_Reactor#)
Very High Temperature (https://en.wikipedia.org/wiki/Very_High_Temperature_Reactor#)		High-Temperature Gas-Cooled (https://en.wikipedia.org/wiki/High-Temperature_Gas-Cooled_Reactor#)	
Pebble Bed (https://en.wikipedia.org/wiki/Pebble_Bed_Reactor#)		SSTAR	

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Categories: Abandoned since 2007 Nuclear Technology

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(U//~~FOUO~~) Nuclear propulsion

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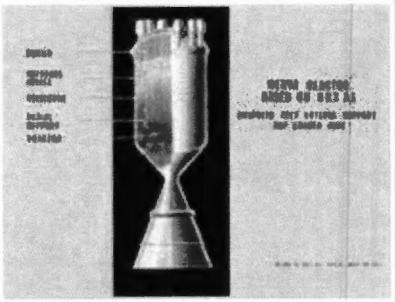

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(U) Nuclear Propulsion

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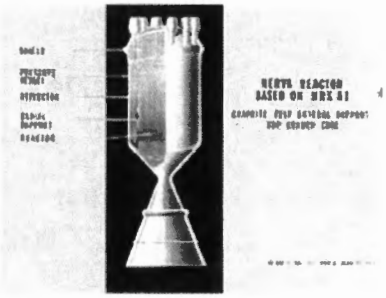

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Power Plant	Waste	Fusion Power	**Propulsion**
Thermoelectric Generator	Tokamak	Nuclear Fuel Facility List	

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Pressurized Heavy Water	CANDU	Generation IV	Fast Breeder
Magnox	Fast Neutron	Gas Cooled Fast	Molten Salt
Liquid Metal Cooled	Lead Cooled Fast	Supercritical Water	Integral Fast
Very High Temperature		High-Temperature Gas-Cooled	
Pebble Bed		SSTAR	

Categories: Nuclear Energy | Nuclear Technology

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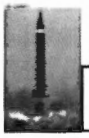

This Missile-related article is a stub. You can help Intellipedia by expanding it

(U) See also

(U) Comparisons may be made with similar U.S. missile programs that were cancelled in 1964:

- Supersonic Low Altitude Missile
- Project Pluto

(U) References

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