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**NPD 8740.1**Effective Date: January 27, 2017  
Expiration Date: January 27, 2022**COMPLIANCE IS MANDATORY**[Printable Format \(PDF\)](#)

Request Notification of Change (NASA Only)
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## **Subject: Notification and Communications Regarding Potential Near-Earth Object Threats**

**Responsible Office: Science Mission Directorate**

### **1. POLICY**

It is NASA policy to provide timely and accurate reporting of a very close approach or predicted impact of a naturally occurring near-Earth object (NEO), such as an asteroid or comet that might cause damage to the surface of the Earth, in accordance with direction from the Office of Science and Technology Policy (OSTP), Executive Office of the President (EOP) letter dated October 15, 2010.

### **2. APPLICABILITY**

a. This directive is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This directive applies to the Jet Propulsion Laboratory (JPL) (a Federally Funded Research and Development Center (FFRDC) and other contractors and grantees only to the extent specified in their contracts or grants, and other organizations (i.e., commercial partners, other Federal agencies, international parties, and tenants on Centers) as specified and described in written operating agreements. This NPD does not apply to the Office of the Inspector General.

b. In this directive, all mandatory actions are denoted by statements containing the word "shall." The terms "may" or "can" denote discretionary privilege or permission; "should" denotes a good practice and is recommended but not required. "Will" denotes expected outcome,

### **3. AUTHORITY**

National Aeronautics and Space Administration Authorization Act of 2008, Section 804, and 51 U.S.C. § 20101, et. seq.

### **4. APPLICABLE DOCUMENTS AND FORMS**

Executive Office of the President, Office of Science and Technology Policy Letter to Congress, dated October 15, 2010.

### **5. RESPONSIBILITY**

a. The Associate Administrator of Science Mission Directorate (SMD) or designee is responsible for ensuring implementation of this policy.

The Planetary Defense Coordination Office (PDCO), in SMD's Planetary Science Division, is the organization responsible for issuing notification that a Potentially Hazardous Object (PHO) has been detected that has a credible potential for impacting the Earth.

b. The PDCO Planetary Defense Officer (similar in function to a watch officer) shall:

(1) Determine that a notification is warranted based on collected observations, using these parameters: likelihood of an Earth impact or predicted distance of closest approach and the estimated size of the object.

- (2) Ensure that communications regarding potentially hazardous objects are concisely reported as soon as data are validated, thereby ensuring proper and timely Government response.
  - (3) Liaise with the EOP and the Department of Homeland Security's Federal Emergency Management Agency, other Federal organizations, and multi-Agency coordinating groups to support the National Response Plan and other emergency management plans.
  - (4) Notify and coordinate with other Federal agencies in the event of any close approach of a PHO. See Appendix C for the list of other Federal agencies.
  - (5) Manage notification processes from NASA Headquarters for both close- approach and potential impact announcements.
  - (6) Notify and communicate with the public about the nature of the detected PHO and the threat, including uncertainties.
- c. The NASA Administrator is responsible for communication of notifications generated by the PDCO to the EOP.
- d. The Associate Administrator for the Office of International and Interagency Relations shall:
- (1) Facilitate release of notifications generated by the PDCO to the Department of State and other Federal agencies.
  - (2) Communicate with points of contact for other nations and with other Federal agencies.
  - (3) Work with the PDCO to answer questions from other organizations regarding any PHO hazard or impact threat.
- e. The Associate Administrator for the Office of Legislative and Intergovernmental Affairs shall facilitate release of notifications to the U.S. Congress after acknowledgement by the EOP.
- f. The Associate Administrator, Office of Communications (OCOMMS) shall:
- (1) Provide OCOMMS staff support to the PDCO in release of information about PHOs to the public.
  - (2) Facilitate interactions with the media.
  - (3) Obtain approval, by the PDCO, of any contingency-related information or reports prior to public release.
  - (4) Issue press releases and other public announcements about any PHO hazard or impact threat that are approved by the PDCO and OCOMMS.
- g. The Director of the Center for Near-Earth Object Studies (CNEOS) at JPL (a FFRDC) supports notification development upon request of the PDCO. The CNEOS has the responsibility for computing orbital parameters for NEOs and for assessing impact probabilities. CNEOS, for example, maintains the asteroid close-approach database. JPL's Media Relations Office will assist CNEOS in communicating about the nature of PHOs.

## 6. DELEGATION OF AUTHORITY

None.

## 7. MEASUREMENT/VERIFICATION

Compliance with the requirements contained within this NPD is monitored by the PDCO. Compliance may also be verified through selected life-cycle reviews.

## 8. CANCELLATION

None.

**/s/Robert Lightfoot**  
**Acting Administrator**

## ATTACHMENT A: DEFINITION

Near-Earth Object (NEO): an asteroid or comet that has an orbit that brings it within 1.3 astronomical units (AU), approximately 120 million miles, of the Sun. They may also be referred to as either a Near-Earth Asteroid (NEA) or an Earth Approaching Comet (EAC) as appropriate. Potentially Hazardous Object (PHO): includes NEAs and EACs coming within 0.05 AU, about 5 million miles, of Earth. All comets are considered PHOs when coming this close to

Earth because the size cannot be readily determined. Potentially Hazardous Asteroids (PHAs) are further discriminated as those of a size that could survive entry through Earth's atmosphere and could be expected to cause damage at Earth's surface (e.g., >50 meters in size).

## **ATTACHMENT B: Acronyms**

AU Astronomical Unit  
CNEOS Center for Near-Earth Object Studies (at JPL)  
EAC Earth-Approaching Comet  
EOP Executive Office of the President  
JPL Jet Propulsion Laboratory (a FFRDC)  
NASA National Aeronautics and Space Administration  
NEA Near-Earth Asteroid  
NEO Near-Earth Object  
NPD NASA Policy Directive  
OCOMMS NASA Office of Communications  
OSTP Office of Science and Technology Policy  
PDCO Planetary Defense Coordination Office  
PHA Potentially Hazardous Asteroid  
PHO Potentially Hazardous Object  
PSD Planetary Science Division  
SMD Science Mission Directorate

## **Attachment C: Other Federal agencies to be notified of a close approach or potential impact by a PHO (in priority order)**

- C1. The National Security Council (NSC)/Director for Space Policy
- C2. The White House Office of Science and Technology Policy (OSTP)/Assistant Director for Space and Aeronautics
- C3. The National Military Command Center (NMCC)/Duty Watch Officer
- C4. U.S. Strategic Command/Joint Force Component Command Space/Vandenberg Air Force Base/Joint Space Operations Center Duty Watch Officer
- C5. The U.S. Department of State/Deputy Assistant Secretary of State for Science, Bureau of Oceans and International Environment and Scientific Affairs
- C6. The U.S. Department of Homeland Security/Operations Center Duty Watch Officer (if the event will impact, or cause effects within, the territory of the United States)
- C7. The U.S. Northern Command/Operations Center Duty Watch Officer

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