



**NASA Presentation
to
G12 Space Sub-Committee
Las Vegas, Nevada**

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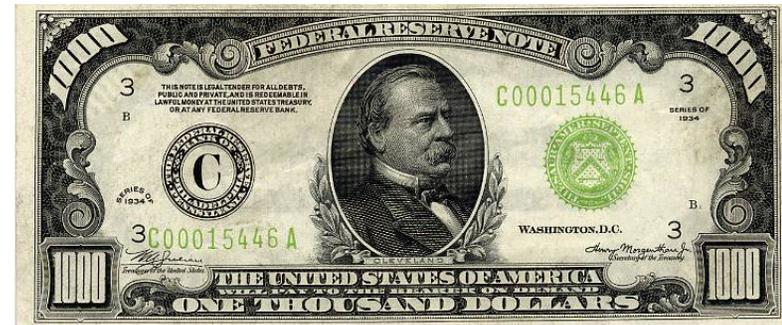
<http://nepp.nasa.gov>

Acronyms

SLS	Space Launch System (SLS)
TDRS	Tracking and Data Relay Satellite (TDRS)
GPM	Global Precipitation Measurement (GPM) satellite
MAVEN	Mars Atmosphere and Volatile Evolution (MAVEN)
BME	Base Metal Electrode (BME)

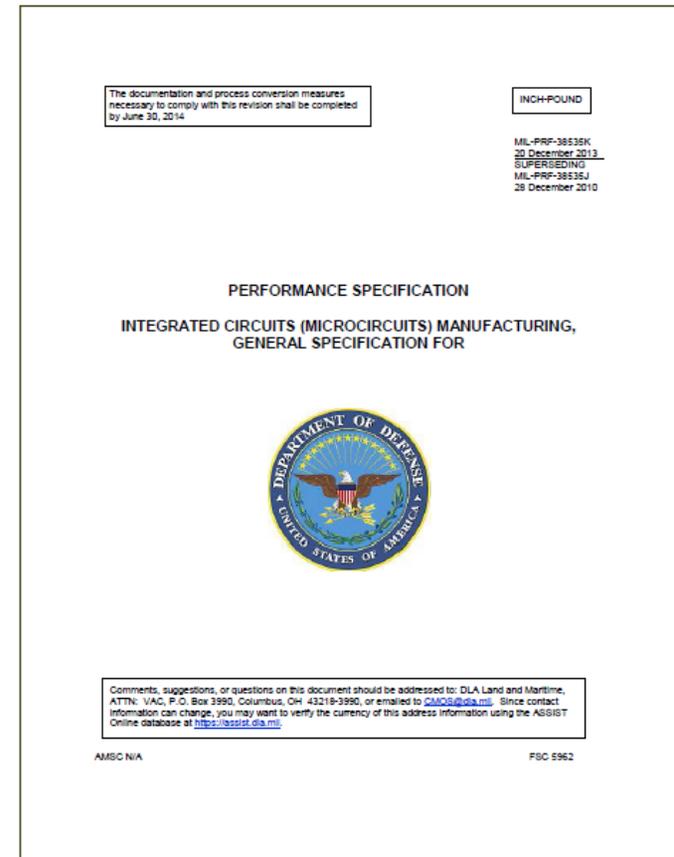
Appropriators Release FY2014 Omnibus Bill, NASA Does Well

- Assuming approval by the House, Senate and President, NASA will get \$17.6 billion for FY2014, versus \$17.7 billion request.
- Under some scenarios, NASA could have gotten as little as \$16.1 billion
- \$696 million is for commercial crew
- \$1.2 billion for Orion
- \$1.9 billion for Space Launch System (SLS)
 - \$1.6 billion for launch vehicle development
 - \$318 million for exploration ground systems
 - \$302 million for exploration research and development
- \$5.1 billion for science, of which \$80 million is for pre-formulation or formulation activities for a Europa mission, and the James Webb Space Telescope's development costs remain capped at \$8 billion
- \$576 million for space technology
- \$566 million for aeronautics
- ETC. ...



Thank You Akbar

- Happy Birthday Class Y!!!!
- Birth Date: December 20, 2013
- Now the hard work of implementation begins
- And Thank You Shri, DLA
and the dozens of others
who made this happen



COTS - Commercial Orbital Transportation Services

- **On January 9, Orbital Sciences made debut flight to the Space Station**
- **The Antares launch vehicle with the Cygnus cargo capsule launched from Wallops Flight Facility in Virginia**
- **This makes the first time Orbital Sciences, has sent a cargo ship to the station. Orbital is under contract for at least eight such flights.**
- **SpaceX has already made several successful re-supply missions to Station**

http://www.nasa.gov/multimedia/imagegallery/image_feature_2227.html#.UuK8jRAo6Xw



Commercial Crew

- SpaceX continues its development efforts of the Dragon capsule
- Boeing continues development of its CST-100 capsule
- Sierra Nevada Corporation conducted the first approach-and-landing free-flight test of its Dream Chaser spacecraft
- Blue Origin test fired a new hydrogen and oxygen-fueled rocket engine

Dragon



http://www.nasa.gov/mission_pages/station/structure/launch/index.html#.UuUWixAo6Xw

CST-100



<http://www.nasa.gov/content/boeing-unveils-cst-100-mock-up-astronauts-climb-aboard-0/#.UuUYIBAo6Xw>



Dream Chaser

http://www.sncspace.com/ss_space_exploration.php

http://www.nasa.gov/about/highlights/holden_blue_origin.html#.UuUbSRAo6Xw



[NASA Administrator Charles Bolden inspects BE-3 engine at NASA Stennis](#)

Space Launch System (SLS)

- In September, NASA astronauts conducted the first simulated launch aboard the Orion spacecraft – to evaluate its cockpit design and emergency procedures.
- Orion's avionics system was powered on for the first time in October, a major milestone ahead of its 2014 flight test.
- And, the SLS heavy-lift rocket that will send Orion to space, passed its preliminary design review in August
- The first scheduled human mission for Orion and SLS is Exploration Mission-2 in 2021.



http://www.nasa.gov/mission_pages/constellation/multimedia/veh_stack/index.html

Tracking and Data Relay Satellite (TDRS)

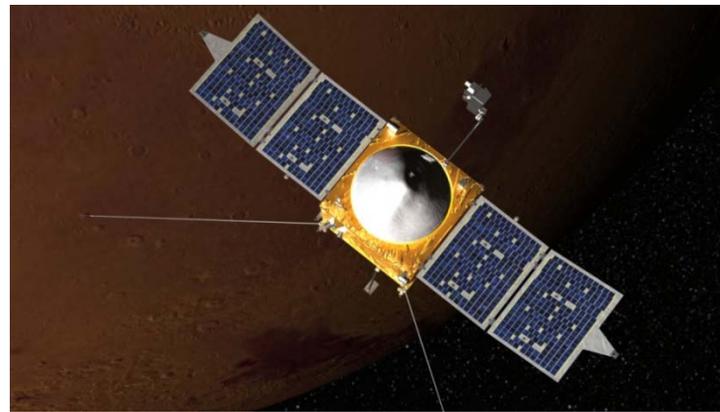
- TDRS K was launched in January 2013
- TDRS L is being readied for January 23, 2014 launch



<http://tdrs.gsfc.nasa.gov/assets/images/TDRSL/2014-1027.jpg>

Other Notable Events

- MAVEN launched in November to study the Martian atmosphere
- Those Mars rovers keep going and going
- In October, the Lunar Laser Communication Demonstration aboard the LADEE spacecraft, transmitted data between the moon and Earth at a record-breaking 622 megabits per second
- Global Precipitation Measurement satellite (GPM) – for measuring snow and rainfall – was shipped to Japan in November -- for its launch in early 2014



Mars Atmosphere and Volatile Evolution (MAVEN)

<http://www.nasa.gov/content/goddard/artists-concept1/#.UuVwPRAo6Xw>

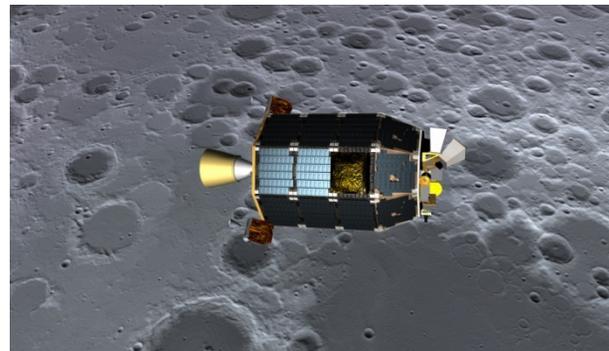
Rover Curiosity ("Selfie")

http://www.nasa.gov/mission_pages/msl/multimedia/pia16937.html#.UuVxMhAo6Xw



Lunar Atmosphere and Dust Environment Explorer

<http://www.nasa.gov/content/ladee-above-the-lunar-surface-artists-concept/#.UuVzEBAo6Xw>

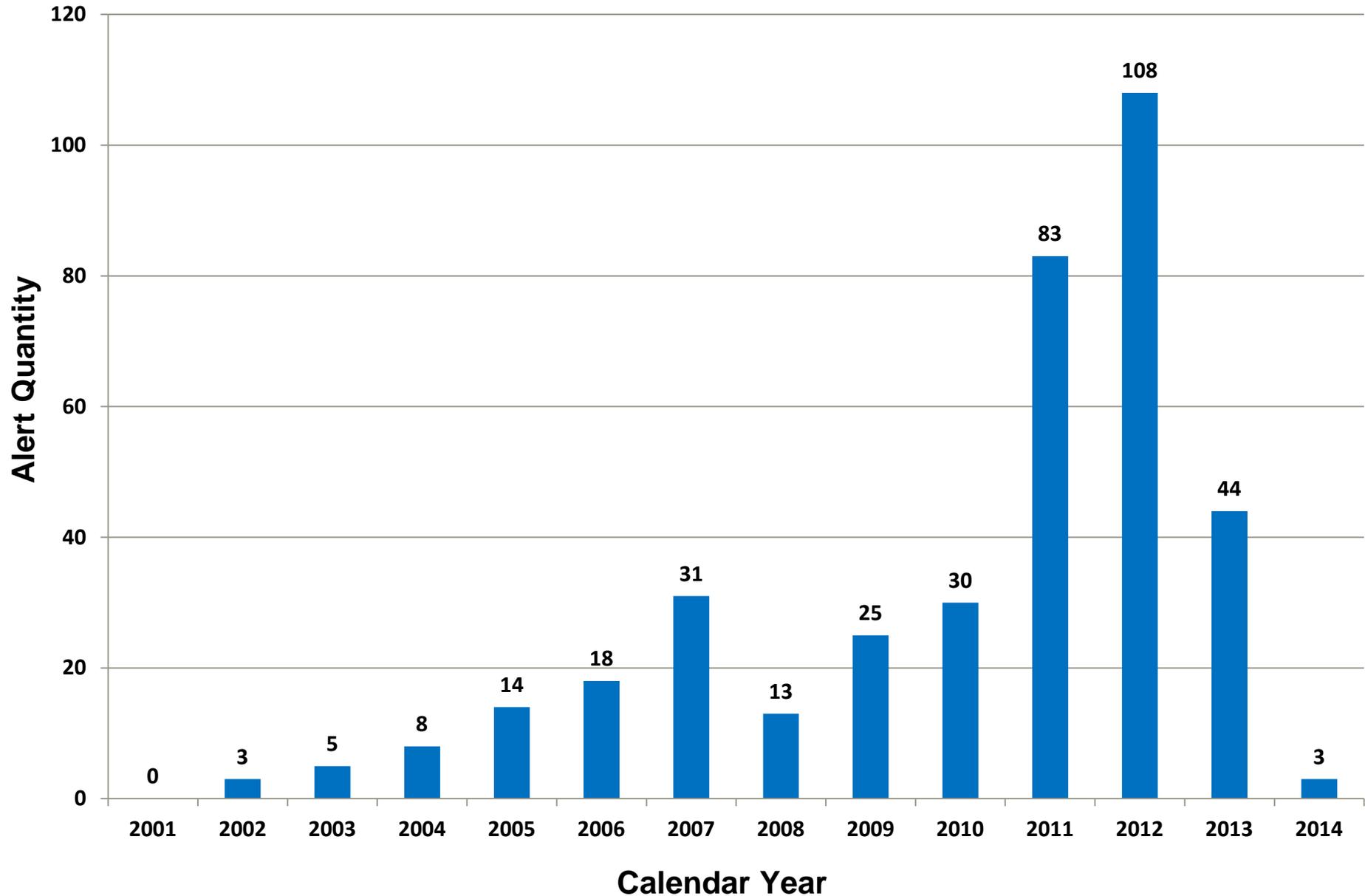


GPM

<http://science.nasa.gov/missions/gpm/>



Counterfeit EEE Parts Alerts Excluding GIDEP Interim Policy Alerts



MY To Do List

- **Hermeticity ??????**
 - Plan to fill any remaining gaps in the NASA “round robin” study and second round robin for 883
 - Develop gross leak standards
- **Base Metal Electrode (BME) capacitors**
 - NEPP sponsored testing and analysis continues as well as support for the G11 BME task group
- **Copper bond wires/bond pads**
 - Is this moot now?
- **Laser marking/etching**
 - Specific requirements development in process