



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 3720

May 26, 2010

Mr. David W. Thompson
Chairman of the Board and CEO
Orbital Sciences Corporation
21839 Atlantic Boulevard
Dulles, VA 20166

Re: Orbital Sciences Corporation
Form 10-K for the fiscal year ended December 31, 2009
Filed: February 26, 2010
File No. 1-14279

Dear Mr. Thompson:

We have completed our review of your filing and have no further comments at this time.

Sincerely,

/s/ Robert Bartelmes

Larry Spigel
Assistant Director