



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

July 3, 2017

Via E-mail

Mr. Stefano Buono
Chief Executive Officer
Advanced Accelerator Applications S.A.
20 rue Diesel
01630 Saint Genis
Pouilly, France

**Re: Advanced Accelerator Applications S.A.
Form 20-F for Fiscal Year Ended December 31, 2016
Filed March 29, 2017
File No. 001-36826**

Dear Mr. Buono:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information or by advising us as soon as possible when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response.

After reviewing your response to the comments, we may have additional comments.

Licensing, page 75

1. Please file your license agreement with Mallinckrodt as an exhibit. Alternatively, please provide us with an analysis supporting your determination that you are not required to file this agreement as an exhibit. Refer to Instruction 4 to Item 19 of the Form 20-F.

Intellectual Property, page 77

2. Please revise your disclosure regarding your patent portfolio to disclose the foreign jurisdictions where you have issued patents or pending patent applications for your Somakit products.

Exhibits 12.1 and 12.2

Certifications pursuant to section 302 of the Sarbanes-Oxley Act of 2002

3. The introductory statement in paragraph 4 of the certifications should also state that the company's other certifying officers and the certifier are responsible for establishing and maintaining your internal controls over financial reporting. Refer to the instructions to Item 19 of Form 20-F. Please revise your Section 302 certifications, accordingly. Refer to Regulation S-K C&DI 246.13.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Frank Wyman, at (202) 551-3660 or Mary Mast at 202-551-3613, if you have any questions on the financial statements and related matters. Please contact Dorman Yale at (202) 551-8776 or Johnny Gharib at (202) 551-3170 with any other questions. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

/s/ Jim B. Rosenberg

Jim B. Rosenberg
Senior Assistant Chief Accountant
Office of Healthcare and Insurance