

**From:** Anthony Serafini  
**To:** ["Andrew Santangelo"](#)  
**Cc:** [Carlos Flores](#); [Karl Kensinger](#)  
**Subject:** RE: Additional information for application 1606-EX-ST-2016  
**Date:** Friday, March 03, 2017 2:54:00 PM  
**Attachments:** [186161.PDF](#)

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Hello Andrew

I have not received the spacecap so your application is still incomplete. We will need the spacecap filing to complete the application.

The odar indicated earth imaging (page 14) so you should either provide an updated odar or a correction. You should also provide a mission description document that includes the description below. Please submit a copy of any NOAA documentation that they have signed off.

You are applying to use Globalstar frequencies. Is Globalstar transmitting any TT&C or other data back to you. If so, have they applied for their space to space link back to you? Is there any TT&C to your satellite?

Given the current state of your application, it would be a very aggressive schedule and unlikely that a license can be completed in two weeks.

Tony

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**From:** Andrew Santangelo [mailto:[andrew\\_santangelo@sci-zone.com](mailto:andrew_santangelo@sci-zone.com)]  
**Sent:** Wednesday, March 01, 2017 1:36 PM  
**To:** Anthony Serafini <[Anthony.Serafini@fcc.gov](mailto:Anthony.Serafini@fcc.gov)>  
**Subject:** Re: Additional information for application 1606-EX-ST-2016

Hello Tony,

I would to look at the steps left to certify the radio for flight for the license 1606-EX-ST.2016. I will be sending the updated Space Cap info in the next 24 hours.

Regarding the ODAR report and imaging. It turns out there is a camera on board the satellite! BUT - it is NOT pointing in space or Earth - it is an internal camera. Hence no NOAA report is required regarding the camera (NDSU verified this with NOAA as did NASA). NDSU is building a part (a small one) with a 3D printer on the satellite. The camera is used to take a before (no part) and after picture (completed part). It may show intermittent steps. The image will be a low resolution image.

NDSU's plan is to transmit vehicle health and the image via the LinkStar-STX3 radio. Yes - they image data is being broken up into packets and re-assembled on the ground.

Would it be possible to wrap up the certification in the next two weeks? Nanoracks, who works with NASA, would like to know a time estimate. It looks like NDSU will be delivering

the satellite in early April for a May/June launch.

It you have any comments or questions please feel free to call me or email me.

Best Regards,  
Andrew Santangelo  
CTO  
Chairman, AIAA Small Satellite Technical Committee

email: [andrew\\_santangelo@sci-zone.com](mailto:andrew_santangelo@sci-zone.com)  
phone: (505) 205-8315

sci\_Zone, Inc  
5108 Alberta Ave  
Rio Rancho, New Mexico 87144

Astronomy web site: <http://lx850.tumblr.com>