



# Jefferson Science Associates

Thomas Jefferson National Accelerator Facility

August 24, 2020

Department of Energy  
Thomas Jefferson Site Office  
12000 Jefferson Avenue, Suite 14  
Newport News, VA 23606

ATTENTION: Joseph Arango, Site Office Manager

**ATTACHMENT:**

Letter from Matt Poelker, UITF Facility Manager to Andrei Seryi, *Request Permission to Operate the UITF Accelerator*, dated August 24, 2020

**SUBJECT: CONTRACT DE-AC05-060R23177**, Request for Approval to Operate the Upgraded Injector Test Facility (UITF) Accelerator

Attached please find the letter *Request Permission to Operate the UITF Accelerator (August 24, 2020)* from Matt Poelker, UITF Facility Manager to Andrei Seryi, Accelerator Division AD. In that letter Mr. Poelker verifies that the UITF was successfully commissioning according to the Commissioning Plan reviewed during the June 26, 2019 UITF Accelerator Readiness Review and that the Post-start issue necessary for operations has been completed. This has been verified by Steve Smith of the Performance Assurance Office.

Pursuant to Mr. Poelker's letter, I am requesting permission to operate the UITF as a fully functional accelerator. Operational activities will be conducted under the requirements of the approved UITF Accelerator Safety Envelope and according to the UITF Operations Directives. Jefferson Lab staff have worked closely with your staff during UITF development, during the development of safety basis documentation, the conduct of related reviews, and during commissioning. We will continue to work closely with your staff as UITF becomes Jefferson Lab's third operational accelerator.

I look forward to your approval for full operation of UITF. Please direct questions regarding this submittal to Bob May at 269-7632 or Harry Fanning at 269-7519.

A handwritten signature in blue ink, appearing to read 'Stuart Henderson', written in a cursive style.

8/25/2020

Stuart Henderson  
Laboratory Director  
Jefferson Science Associates, LLC



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**Thomas Jefferson National Accelerator Facility**

cc:

H. Fanning, JSA

S. Hoey, JSA

P. Hunt, TJSO DOE

M. Maier, JSA

B. May, JSA

M. Poelker, JSA

A. Seryi, JSA



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August 24, 2020

Dr. Andrei Seryi  
Associate Director for Accelerator Division  
Jefferson Lab  
12000 Jefferson Ave., STE 13  
Newport News, VA 23606-4468

Re: Request Permission to Operate the UITF Accelerator

Dear Andrei,

All of the systems necessary for safe and reliable operation of the UITF accelerator were verified as “functional” during recent commissioning of the UITF accelerator, July/August 2020.

A central goal of the commissioning plan was the evaluation of the “booster” cryomodule which demonstrated successful beam delivery at 8 MeV/c.

One of the key systems studied during commissioning “break points” was radiation shielding. These measurements were performed with CW beam up to 10 uA delivered to waist-height MeV insertable cup and dumps that were not shielded, per plan, to approximate the radiation levels outside the enclosure during an unintended beam strike of the vacuum chamber wall. The Radiation Control Group is presently reviewing the results of these measurements, but conversations with Keith Welch suggest to me, radiation levels were ~ consistent with expectation. However, more measurements are required - we will perform additional radiation measurements during Run1, revisiting some of the momenta studied previously and as we attempt to reach higher beam momenta desired by HDIce testing (9.5 MeV/c is the goal).

The beam loss monitors (BLMs) that are part of UITF machine protection system were evaluated during UITF commissioning. The BLMs are fully functional and protect the machine when beam is lost or mis-steered. (note, we will get the most out of the BLM machine protection system when we cover the dumps with lead brick)

By design, most UITF systems look and function like CEBAF systems, including all epics control interfaces.

Recall we must close an open CATS item in order to obtain permission to operate the UITF accelerator. The CATS item stems from the UITF Accelerator Readiness Review, with a post-start finding that requires a UITF Start-Up Procedure following the commissioning period. I used the experience of UITF commissioning to write this procedure, which was reviewed by Mike Spata, Bob May and Harry Fanning and approved by you. The Start-Up Procedure is saved to Docushare for posterity and as a means of change control. I have asked Steve Smith to “sign off” this CATS item as “complete”.



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## Thomas Jefferson National Accelerator Facility

With your concurrence, the next step is for you to ask Stuart to ask the Site Office for permission to operate the UITF accelerator, which is necessary for us to begin our planned evaluation of the HDIce target.

A handwritten signature in black ink, appearing to read 'Matthew Poelker', is written over a light blue rectangular stamp.

Matthew Poelker  
UITF Facility Manager  
Jefferson Lab  
Newport News, VA 23606  
USA

cc: Camille Ginsberg, Stuart Henderson, Steven Hoey, Bob May, Harry Fanning, Keith Welch, Jerry Kowal

### Corrective Action Number: **IA-2019-03-04-01**

**Action Description:** Use the process/steps from the Commissioning Test Plan to develop a Start-Up Procedure to be used in subsequent start-ups.

Please provide the following closure evidence: "Approved Start-up Procedure."

### Poelker response:

The UITF commissioning run (aka, run0) ended successfully last week 19 August, 2020. I kept a daily log of run0 events. I used the run0 experience to create a UITF Start-Up Procedure which was reviewed by Mike Spata, Bob May and Harry Fanning, and approved by Accelerator Division AD Andrei Seryi. The document was saved to Docushare for posterity and change control, and the link to the Docushare document is saved at the Gun Group/UITF wiki page and it will (or will soon be) posted to the Accelerator Operations Procedures web page.

<https://jlabdoc.jlab.org/docushare/dsweb/View/Collection-48330>

[https://wiki.jlab.org/ciswiki/index.php/Document-Controlled\\_Procedures\\_and\\_Assessments\\_for\\_UITF](https://wiki.jlab.org/ciswiki/index.php/Document-Controlled_Procedures_and_Assessments_for_UITF)

The quick reference document, helpful for steering beam at UITF, is also posted to the Gun Group/UITF wiki and the Accelerator Operations beamline drawings wiki.

<https://wiki.jlab.org/ciswiki/index.php/Songsheets>