DISCLAIMER

CRADA Final Report

Date of Report: December 8, 2025
Author of Report: Adolfo Velez, Jiquan Guo

Participant: Helmholtz-Zentrum Berlin (HZB)

Tech Point of Contact:
Name: Adolfo Velez
Phone:
E-Mail:

JLab Tech Point of Contact:
Name: Jiquan Guo
Phone: 757-269-6161
E-Mail: jquo@jlab.org

Releasing Official information (if different from above):
Name:

CRADA Title: VSR SRF HOM load and waveguide

CRADA Objective: Under the expired ICRADA JSA2012S015 mod 5, JLab collaborated with HZB to design and prototype the high power HOM load for HZB VSR upgrade 1.5GHz cavities and bERLinpro cavities, as well as the optimization of the HOM waveguide thermal design.
The scope of work to be contracted with this ICRADA includes: finalize the HZB VSR HOM load design for production; fabricate, test and deliver 30 HOM loads to HZB; design and prototype the HZB VSR HOM waveguide assembly.

CRADA Statement of Work:

STI Product Type (patents, journal articles, books, technical reports, thesis):

Journal paper
"Development of a high-power waveguide HOM load for BESSY VSR SRF cavities", submitted to PRAB on 07/21/2025

As per DOE O 241.1B, the below information is required:

CRADA Products

Data that Non-Federal Collaborator Indicated as Proprietary:
(Identify Data and Date Submitted; if None, State 'None')
None
Data Marked Restricted Access Information:
(Identify Data and Date or Request; if None, State 'None')
None
Invention Disclosures Made:
(Who Invented, Title, When; if None, State 'None')
None
Patent Applications:
(*Who, Inventors, Title, When, Registration Number; if None, State 'None')*
None
Copyrights Filed:
None

From: Velez Saiz, Adolfo
To: Mariana Goldin; Jiquan Guo
Subject: Re: [EXTERNAL] Re: 2019S002 CRADA Close out
Date: Tuesday, December 9, 2025 2:56:10 AM
Attachments: image002.png

Thanks Jiquan, the doc is OK.

Mariana, to your questions:

1. Was there any personal property produced or acquired under the CRADA-see Article III of the CRADA?
No
2. Were or are there any open proprietary or protected information issues under Articles VI and/or VII?
No
3. Were there any inventions conceived or reduced to practice as described under Articles VI, VII, X, and XIV?
No
4. Was a final report produced in accordance with Article X? ***This is required by the terms of the CRADA. Now yes ;-)***
5. Are there any open issues?
No

El 08/12/2025 a las 22:41, Mariana Goldin escribió:

> Thank you Jiquan
> I will defer to Fito for his expert's opinion.
> Fito, after adding your comments to the report (if needed) please reply to these questions.
>
> 1. Was there any personal property produced or acquired under the CRADA-see Article III of the CRADA?
> 2. Were or are there any open proprietary or protected information issues under Articles VI and/or VII?
> 3. Were there any inventions conceived or reduced to practice as described under Articles VI, VII, X, and XIV?
> 4. Was a final report produced in accordance with Article X? ***This is required by the terms of the CRADA.***
> 5. Are there any open issues?
>
> I appreciate you both.
> Once we get the final document and close out this CRADA I will start the process to deobligate the remaining funds (something like $1,500 USD)
> Again, thank you!
>
> Mariana
>
> ---
>
> **From:** Jiquan Guo <jguo@jlab.org>
> **Sent:** Monday, December 8, 2025 3:57 PM
> **To:** Mariana Goldin <mgoldin@jlab.org>; Adolfo Velez <adolfo.velez@helmholtz-berlin.de>
> **Subject:** Re: [EXTERNAL] Re: 2019S002 CRADA Close out

Mariana, Fito:

Attached is the final report I drafted. Do you have anything to add/edit?

Thanks and best regards.

Jiquan

From: Mariana Goldin <mgoldin@jlab.org>
Sent: Monday, November 3, 2025 9:13 AM
To: Adolfo Velez <adolfo.velez@helmholtz-berlin.de>
Cc: Jiquan Guo <jguo@jlab.org>
Subject: RE: [EXTERNAL] Re: 2019S002 CRADA Close out

Good morning Fito,
Last Friday the Budget team notified me that they cannot start the deobligation of funds if we do not close out this CRADA. As of the end of the FY, HZB has a remaining balance of $1,556 USD.
The deobligation process might take several weeks. However, rest assure the money will get back to HZB.
Please let me know if you have an estimated date for the final report so I can make Budget aware.
Thank you very much.
Regards,
Mariana

From: Mariana Goldin
Sent: Monday, October 13, 2025 9:18 AM
To: 'Adolfo Velez' <adolfo.velez@helmholtz-berlin.de>
Cc: Jiquan Guo <jguo@JLAB.ORG>
Subject: RE: [EXTERNAL] Re: 2019S002 CRADA Close out

Dear Fito,
This is great news! Thank you.
Cheers,
Mariana

From: Adolfo Velez <adolfo.velez@helmholtz-berlin.de>
Sent: Monday, October 13, 2025 2:52 AM
To: Mariana Goldin <mgoldin@jlab.org>
Cc: Jiquan Guo <jguo@jlab.org>
Subject: [EXTERNAL] Re: 2019S002 CRADA Close out

Dear Mariana,

I agreed with Jiquan last week that he would prepare a draft of this one and we should submit ASAP. Please excuse the delays.

Best

Fito

On 06.06.25 15:22, Mariana Goldin wrote:

> Good morning,
> I would like to resume our conversation regarding the close out for this CRADA.
>
> Would you be able to provide me with the ETA for the close out report?
>
> Please see the attached closeout letter and final report template. I will need the closeout letter completed (5 questions at the bottom need to be answered) and returned to me, as well as the final report.
>
> I appreciate your support!
>
> Regards,
> Mariana

From: Mariana Goldin
Sent: Monday, March 17, 2025 9:25 AM
To: Adolfo Velez <adolfo.velez@helmholtz-berlin.de>
Cc: Jiquan Guo <jguo@JLAB.ORG>; Robert Rimmer <rarimmer@jlab.org>; Rongli Geng <geng@jlab.org>; Knobloch, Jens <jens.knobloch@helmholtz-berlin.de>
Subject: RE: [EXTERNAL] Re: FW: 2019S002 CRADA Close out

Hello Adolfo,
Thank you for getting back to me. Jiquan explained that he was going provide some info to you to be able to close out the CRADA, I did not understand the team was about to write a scientific paper!!! (My apologies)
If you do not mind, I would like to follow up with you at the beginning of June.
Best regards,
Mariana

From: Adolfo Velez <adolfo.velez@helmholtz-berlin.de>
Sent: Monday, March 17, 2025 6:29 AM
To: Mariana Goldin <mgoldin@jlab.org>
Cc: Jiquan Guo <jguo@jlab.org>; Robert Rimmer <rarimmer@jlab.org>; Rongli Geng <geng@jlab.org>; Knobloch, Jens <jens.knobloch@helmholtz-berlin.de>
Subject: [EXTERNAL] Re: FW: 2019S002 CRADA Close out

Dear Mariana,

Thank you for the heads up on the CRADA closeout. We are aware there is some accumulated delay in the closing and would like to apologize for that.

Currently we are in the process of writing a scientific paper as result of the CRADA collaboration which to our view is key to partly justify the CRADA and show the achievements of the collaboration. This is in the hands of J. Guo as main author. We hope for this paper to be published in about 2 months.

This we can include it in the project deliverables part of the closing report.

With best regards

Adolfo Velez

On 13.03.25 18:57, Mariana Goldin wrote:

> Good afternoon Adolfo and Jiquan,
>
> The DOE has enquired about this CRADA: Close out date and deobligation of funds.
> Please let me know if you have any questions about this closeout documents or process. As a reminder, if we do not close out this agreement, we can affect future collaboration between both parties as the DOE might take longer to approve any agreement where HZB and JLab are partners.
>
> Thank you!
>
> Regards,
>
> Mariana
>
> ---
>
> **From:** Mariana Goldin
> **Sent:** Thursday, February 6, 2025 9:42 AM
> **To:** adolfo.velez@helmholtz-berlin.de
> **Cc:** Jiquan Guo <jguo@JLAB.ORG>
> **Subject:** 2019S002 CRADA Close out
>
> Good morning Adolfo,
>
> The CRADA **#2029S002** has expired on **12/18/2024**.
>
> Please complete the activities described in my previous email. This is a DOE requirement to officially close the CRADA and ensure the possibility of future collaborations.
>
> Should you have any questions, do not hesitate to contact me.

I appreciate your support,
Mariana

Mariana Goldin *(she/her/ella)*
Account Manager Commercialization and Partnerships
Research and Technology Partnerships Office
Thomas Jefferson National Accelerator Facility
Jefferson Science Associates, LLC
757-269-7790 I mgoldin@jlab.org

Jefferson Lab

From: Mariana Goldin
Sent: Monday, December 2, 2024 12:39 PM
To: adolfo.velez@helmholtz-berlin.de
Cc: Jiquan Guo <jguo@JLAB.ORG>
Subject: 2019S002 CRADA Close out

Good afternoon,
Just a reminder that the current CRADA **#2029S002** will expire on **12/18/2024**.
Please complete the activities described in my previous email.
Should you have any questions, do not hesitate to contact me.
Thank you,
Mariana

Mariana Goldin *(she/her/ella)*
Account Manager Research and Partnerships
Research and Technology Partnerships Office
Thomas Jefferson National Accelerator Facility
Jefferson Science Associates, LLC
757-269-7790 I mgoldin@jlab.org

Jefferson Lab

From: Mariana Goldin
Sent: Friday, November 1, 2024 1:13 PM
To: adolfo.velez@helmholtz-berlin.de
Cc: jquo@jlab.org
Subject: 2019S002 CRADA Close out

Good afternoon,

The current CRADA **#2019S002** will expire on **12/18/2024**. Please see the attached closeout letter and final report template. I will

need the closeout letter completed (5 questions at the bottom need to be answered) and returned to me, as well as the final report. For the final report, you may use the template that I have attached or, if you have a different report with the same information in it, you may use that as well.
Please let me know if you have any questions.
Thanks,

Mariana Goldin *(she/her/ella)*
Account Manager Research and Partnerships
Research and Technology Partnerships Office
Thomas Jefferson National Accelerator Facility
Jefferson Science Associates, LLC
757-269-7790 I mgoldin@jlab.org

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Prof. Dr. Adolfo Vélez Saiz

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None

Medium *(e.g., format and related technical requirements, textual, multimedia, audiovisual, and digital)*:
Technote "Prototyping waveguide HOM loads for BESSY VSR"

CRADA Outcomes

Describe the Results of the Collaboration.

Were Objectives Met? How?
The objective was partially met. The design modification and the pre-series HOM load fabrication/testing were successfully completed. The final production drawings and procedures were developed and provided to HZB. The remaining part of HOM load production was cancelled due to cost overrun caused by the COVID pandemic etc., as well as HZB project priority changes.

What was Demonstrated, or Developed?
Three BESSY VSR pre-series HOM loads fabricated, tested and delivered. The drawing package and fabrication/testing procedure for the loads developed and shared with HZB.

Will this Result in a Commercial Product by the Participant? If So, Describe.
No

What was the Value of the Collaboration to Your Lab and the Jefferson Lab?
For HZB: Obtain the design and the fabrication procedure of the VSR HOM load, with the delivery of the pre-series loads. Although the VSR project was shelved, the knowhow gained in this collaboration will help to complete the project once it resumes.
For JLab: Keep and gain the capability and experience in the waveguide HOM load development. In synergy to the development of HOM dampers for JLab's other projects, especially for EIC.

If this CRADA is related to Software & Technology or datasets the following is also required:

Description:
(Identify Software & Technology or Datasets; if None, state "None")
None
Legal Notices and Disclaimers:
(Identify any legal notices or disclaimers; if None, state "None")
None
Hardware Requirements (e.g., operating system, compiler/version):
(Identify hardware, operating system, compiler/version; if None, state "None")

None

Related Resources (e.g., relation to specific journal article or technical report, when applicable):

(Who, Title of Work, Date Filed; if None, state "None")

Contributing Organizations:

(Who, Inventors, Title; if None, state "None")

Software or Data Contact:

(Identify Software or Data Contact; if None, state "None")