

**Certification and Accreditation Documentation
for the
SC Lattice QCD Computing Project Extension
(LQCD-ext)**

Operated at
Brookhaven National Laboratory
Fermi National Accelerator Laboratory
Thomas Jefferson National Accelerator Facility

for the
U.S. Department of Energy
Office of Science
Offices of High Energy and Nuclear Physics

Version 3.0

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CONCURRENCE:



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LQCD Contractor Project Manager

April 25, 2012
Date

**LQCD-ext Certification and Accreditation Documentation
Change Log**

| Revision No. | Description / Pages Affected | Effective Date |
|---------------------|---|-----------------------|
| Revision 0.0 | Entire document. | April 13, 2009 |
| Revision 1.0 | Added BNL ATO Extension | March 10, 2010 |
| Revision 2.0 | Added renewed BNL, FNAL, and Jlab ATOs | April 24, 2011 |
| Revision 3.0 | Updates for FNAL and BNL Computer Security Controls | April 25, 2012 |

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1. SCOPE AND PURPOSE

This document contains Certification and Accreditation (C&A) documentation for the SC Lattice Quantum Chromodynamics Computing Project Extension (LQCD-ext). LQCD-ext project installs and operates clusters and special purpose machines at Brookhaven National Laboratory (BNL), Fermi National Accelerator Laboratory (FNAL), and Thomas Jefferson National Accelerator Facility (Jlab). These systems are managed as parts of the enclaves maintained at each of the Laboratories and are governed by the corresponding rules of the Laboratories.

Currently, the entire DOE C&A process is undergoing changes. LQCD-ext project office will monitor the process changes and make necessary changes to this document as new information becomes available. As of date, C&A status at sites are given below:

- BNL: BNL is not operating any production system. However, the Laboratory expects to release a production quality system in near future. Appropriate Computer Security documentation covering the system will be in place before the release to production.
- Fermilab. The Computer Security accreditation process is undergoing significant changes at Fermilab. Although adequate safeguards are in place, related documentation is not available yet. LQCD-ext project office will monitor the progress.
- JLab: JLab is still operating under the existing Computer Security Authority to Operate (ATO) document issued by the U.S. Department of Energy ATO. This remains active until 2014. The copy of the ATO cover page is included in the following section.

Complete sets of Computer Security documentation are maintained at the three operating sites and are available upon request.

2. DOE AUTHORITY TO OPERATE DOCUMENT FOR JLAB

2.1 Thomas Jefferson National Accelerator Facility



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

January 7, 2011

Mr. Michael D. Dallas
Chief Operating Officer
Thomas Jefferson National Accelerator Facility
12000 Jefferson Avenue
Newport News, VA 23606

Dear Mr. Dallas:

ACCREDITATION DECISION LETTER (GRANTING AN AUTHORITY TO OPERATE)

Jefferson Lab has completed the certification of the cyber security programs for its ten computing enclaves in accordance with DOE and Office of Science direction and guidance. The cyber security threats and risks have been analyzed, plans developed, and controls implemented to mitigate risks to an acceptable level.

After reviewing the results of the independent Security Test and Evaluation (ST&E), the Plans of Action and Milestones, and the certification documents, I have determined that the residual risk to the agency's information and information systems is acceptable and have accredited the cyber security program for the ten enclaves. Accordingly, the information systems are authorized to operate in the existing operating environment.

The Department of Energy (DOE) hereby grants Thomas Jefferson National Accelerator Facility the authority to operate its ten computing enclaves. This full approval to operate is valid for a three (3) year period; I am extending your authority without any significant restrictions or limitations to operate to January 8, 2014.

The accreditation will remain in effect subject to the following conditions:

1. Within the first year of this accreditation period, JLab will define their Continuous Monitoring methodology, and be poised to incorporate Continuous Monitoring parameters specified in subsequent Office of Science PCSP revisions. As the movement toward Contractor Assurance becomes clearly defined, this initiative could adjust the accreditation period accordingly.
2. JLab will continue to mitigate vulnerabilities and risks identified in its Plans of Action and Milestones in accordance with the schedule presented.
3. JLab will continuously monitor its cyber security posture. Threats and vulnerabilities identified and reported during the continuous monitoring process must be mitigated promptly or be addressed by new items posted in the Plans of Actions and Milestones.

4. JLab will assess its security posture to ensure that there are no significant changes in the environment, technology or operations that would constitute increased risk. The C&A is a living process that must be maintained, with risks acknowledged and mitigated to acceptable levels.
5. JLab will inform the AO of any significant changes in the Lab's risk posture or in the structure of the program to allow a determination of the continuing authority to operate. If a significant change to an enclave(s) occurs, a new risk assessment for applicable enclave (s) would be submitted to the AO for determination of continued operation.

If you have any questions, please contact either André Bethea at extension 5095 or me.

Sincerely,



Scott Mallette, Acting Manager
Thomas Jefferson Site Office

Enclosures:

1. Copies of the following (10) signed documents:
2. Acceptance of Residual Risk - Accelerator Controls Enclave
3. Acceptance of Residual Risk - Business Administration Enclave
4. Acceptance of Residual Risk - Collaborative Computing Enclave
5. Acceptance of Residual Risk - Core Services Enclave
6. Acceptance of Residual Risk - Desktop Support Enclave
7. Acceptance of Residual Risk - Experimental Physics Enclave
8. Acceptance of Residual Risk - Free Electron Laser Enclave
9. Acceptance of Residual Risk - Guest Services Enclave
10. Acceptance of Residual Risk - Public Services Enclave
11. Acceptance of Residual Risk - Scientific Computing Enclave

cc w/enclosures:

Roy Whitney
Robert Lukens

cc w/o enclosures:

Walt Dykas, SC-31.3

APPENDIX A: Acronyms

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|------|---------------------------------|
| ATO | Authority to Operate |
| C&A | Certification and Accreditation |
| LQCD | Lattice Quantum Chromodynamics |
| POAM | Plan of Action and Milestones |