

OFFICE OF THE DEPUTY DIRECTOR FOR OPERATION

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3 March 2019

Dear Mr. Moury,

**Re: Title 10, Code of Federal Regulations 851 (10 CFR 851) Variance Proposal for Review**

SLAC National Accelerator Laboratory (SLAC) is submitting the attached revised request for a variance to Title 10, Code of Federal Regulations 851 (10 CFR 851) Subpart B, Subpart C and Appendix A. The variance has been prepared according to the requirements in 10 CFR 851, Subpart D, §31 Variance Process. The revisions to our initial variance package, dated November 9, 2018, are the result of collaboration and recommendations from the DOE Office of Environment, Health, Safety and Security, Office of Health and Safety (AU-10).

It is SLAC's assertion that this variance request package provides a compelling justification for use of Cal/OSHA regulations (in lieu of OSHA regulations) as implemented through a new Injury and Illness Prevention Program (IIPP). The IIPP will incorporate Cal/OSHA regulations and portions of 10 CFR 851, Subpart B, Subpart C and Appendix A not adequately addressed by Cal/OSHA requirements to maintain a workplace as safe and healthful as previously established under full 851 compliance.

If this request is approved, SLAC will work closely with your office to implement the provisions of the variance proposal and develop success metrics to monitor progress and demonstrate value.

Please let us know if you have any comments or need additional information. We can be reached at [carolef@slac.stanford.edu](mailto:carolef@slac.stanford.edu) (650) 926-2339 or [sherinb@slac.stanford.edu](mailto:sherinb@slac.stanford.edu) or (650) 926-5082.

Sincerely,



Brian Sherin  
Deputy Director of Operations



Carole Fried  
Chief Safety Officer

cc: Pat Worthington, DOE Director, Office of Health and Safety  
Joanna Livengood, DOE Office of Science, Acting Deputy Director, Field Operations  
Juston Fontaine, DOE Office of Science, Associate Director, Field Operations  
Ingrid Kolb, DOE Director, Office of Management  
Paul Golan, Manager, DOE Bay Area Site Office  
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Jeremy Sawyer, Deputy ESH Director, SLAC  
William Madia, Vice President for SLAC, Stanford University  
Larry Gibbs, Associate VP, EH&S, Stanford University  
Tom Rizzi, DOE Bay Area Site Office, Acting Operations Director  
Kevin Dressman, DOE Acting Director, Office of Enforcement  
Michael Brandt, Deputy Director of Operation, LBNL  
Jack Salazar, Chief Safety Officer, LBNL



**Attachment 1**  
**SLAC National Accelerator Laboratory Variance Application**

**1. Name and address of Contractor:**

Stanford University  
450 Serra Mall  
Stanford, CA 94305

**2. Name and address of DOE site or sites Involved:**

SLAC National Accelerator Laboratory  
2575 Sand Hill Road  
Menlo Park, CA

**3. A specification of the standard, or portion thereof, from which the contractor seeks a variance:**

10 CFR Part 851, *Worker Safety and Health Program*

*Subpart B—Program Requirements*

- § 851.10 General requirements
- § 851.11 Development and approval of the worker safety and health program
- § 851.12 Implementation
- § 851.13 Compliance

*Subpart C—Specific Program Requirements*

- § 851.20 Management responsibilities and worker rights and responsibilities
- § 851.21 Hazard identification and assessment
- § 851.22 Hazard prevention and abatement
- § 851.23 Safety and health standards
  - § 851.23(a)(2) 29 CFR Parts 1904.4 -11, 1904.29 - 33, and 1904.46, *Recording and Reporting Occupational Injuries and Illnesses*;
  - § 851.23(a)(3) 29 CFR Part 1910, *Occupational Safety and Health Standards*, excluding 29 CFR 1910.1096, *Ionizing Radiation*, and 29 CFR 1910.1000, *Beryllium*;
  - § 851.23(a)(4), 29 CFR Part 1915, *Shipyard Employment*;
  - § 851.23(a)(5), 29 CFR, Part 1917, *Marine Terminals*
  - § 851.23(a)(6), 29 CFR, Part 1918, *Safety and Health Regulations for Longshoring*
  - § 851.23(a)(7) 29 CFR 1926, *Safety and Health Regulations for Construction*
  - § 851.23(a)(8), 29 CFR, Part 1928, *Occupational Safety and Health Standards for Agriculture*
  - § 851.23(a)(9) ACGIH® *Threshold Limit Values and Biological Exposure Indices* (2016), when the ACGIH® Threshold Limit Values (TLVs) are lower (more protective) than permissible exposure limits in 29 CFR part 1910 for general industry and/or part 1926 for construction. When the ACGIH TLVs are used as exposure limits, contractors must nonetheless comply with the other provisions of any applicable expanded health standard found in 29 CFR part 1910 and/or part 1926.
  - § 851.23(a)(10) American National Standards Institute (ANSI/ASSE) Z88.2, *American National Standard Practices for Respiratory Protection*, (2015);



- § 851.23(a)(11) ANSI Z136.1, *Safe Use of Lasers*, (2014);
- § 851.23(a)(12) ANSI Z49.1, *Safety in Welding, Cutting and Allied Processes*, sections 4.3 and E4.3 (2012);
- § 851.23(a)(13) National Fire Protection Association (NFPA) 70, *National Electrical Code*, (2017);
- § 851.23(a)(14) NFPA 70E, *Standard for Electrical Safety in the Workplace*, (2015) (incorporated by reference, see §851.27).

§ 851.24 Functional areas

§ 851.25 Training and information

§ 851.26 Recordkeeping and reporting

#### Appendix A—Worker Safety and Health Functional Areas

1. Construction Safety
2. Fire Protection
3. Explosive Safety
4. Pressure Safety
5. Firearms Safety
6. Industrial Hygiene
7. Biological Safety
8. Occupational Medicine
9. Motor Vehicle Safety
10. Electrical Safety
11. Nanotechnology Safety—Reserved
12. Workplace Violence—Reserved

**4. A description of the steps that the contractor has taken to inform the affected workers of the application, which must include giving a copy thereof to their authorized representative, posting a statement, giving a summary of the application and specifying where a copy may be examined at the place or places where notices to workers are normally posted:**

SLAC National Accelerator Laboratory (SLAC) held meetings on January 12, October 8, October 30th and December 10, 2018 with the affected workers and key stakeholder groups including unions, Procurement, Facilities & Operations, Stanford Board of Overseers and scientific directorate senior management and their respective environmental, safety and health coordinators and other groups to ensure all were informed of the variance application and its content (See Attachment 5 - Meeting Documentation). SLAC shared the variance objective and goals with these groups and allowed for questions and answers. The affected workers and stakeholder groups were informed of their right to request a conference with the Associate Under Secretary for Environment, Health, Safety and Security on the variance application. In addition, SLAC distributed site-wide notification regarding the variance application through SLAC’s primary internal news source, *SLAC Today* (Attachment 6 – November 12, 2018 SLAC Today Posting) posted on November 12, 2018 and is still available today at <https://intranet.slac.stanford.edu/news/2018/11/proposal-change-calosha-safety-standards>. SLAC made copies of this variance application available to all staff by posting them at Building 41, outside Room



1028 at the open conference table where notices are normally posted to ensure that all affected workers were given the opportunity to review the request.

**5. A description of how affected workers have been informed of their right to petition the Associate Under Secretary for Environment, Health, Safety and Security or designee for a conference:**

The affected workers and stakeholder groups were informed of their rights to request a conference with the Associate Under Secretary for Environment, Health, Safety and Security on the variance application through the SLAC today posting, hard copy posted in Building 41 and at the meetings held on January 12, October 8, October 30th and December 10, 2018.

**6. Any requests for a conference:** No

**7. Type of variance:** Permanent

**a. A description of the conditions, practices, means, methods, operations, or processes used or proposed to be used by the contractor:**

In performing its mission, SLAC is currently required to comply with the provisions in 10 CFR Part 851, *Worker Safety and Health Program*, which establishes the framework for a worker protection program that will reduce or prevent occupational injuries and illnesses, and accidental losses by requiring DOE contractors to provide their employees with safe and healthful workplaces.

SLAC is seeking a permanent variance to Subpart B, Subpart C and appendix A of 10 CFR 851. SLAC will establish, implement, and maintain an effective Injury and Illness Prevention Program (IIPP) per Title 8, California Code of Regulations, § 3203 (8 CCR § 3203) instead of the provisions in subpart B, and will comply with applicable California Occupational Safety and Health Administration (Cal/OSHA) regulations in lieu of the requirements in 10 CFR 851 subpart C and appendix A. SLAC is also proposing to develop implementation documents for the requirements for subpart C and appendix A.

Cal/OSHA regulations and the IIPP are at least as effective and have the same intentions as 10 CFR 851 and the Workers Safety and Health Program (WSHP) – namely, providing an environment that is safe for workers to work. Because of this shared goal, there is substantial overlap between the two sets of regulations.

SLAC acknowledges that there are portions of Subparts B and C and appendix A that are not entirely covered by Cal/OSHA regulations. To address those areas, SLAC will establish an IIPP per 8 CCR § 3203 and incorporate those sections or an as protective equivalent of 10 CFR 851 into the IIPP, as needed, to provide a substantially equivalent level of protection. As such, SLAC will use the combination of Cal/OSHA regulations and requirements within the IIPP as alternative means to comply with Subparts B, C and appendix A. Oversight and enforcement of the IIPP will remain with DOE.



Tables 1-3 (Attachments 2-4) identify Cal/OSHA regulations that meet the approval criteria in 10 CFR 851.32 (b). In addition, these tables identify areas that do not adequately meet the approval criteria and therefore SLAC will supplement the IIPP with these requirements creating an as safe and healthful level of protection.

**b. A statement showing how the conditions, practices, means, methods, operations, or processes used or proposed to be used would provide workers a place of employment which is as safe and healthful as would result from compliance with the standard from which a variance is sought:**

SLAC proposes to use Cal/OSHA regulations as the foundation for its safety programs. Per the Occupational Safety and Health Act of 1970, state OSHA plans approved by the Secretary of Labor must be “*at least as effective in providing safe and healthful employment and places of employment*” as the Federal OSHA plan. The state of California has implemented and maintained a Secretary-approved state plan since 1973. As such, pivoting to Cal/OSHA regulations continues to provide workers a place of employment, which is as safe and healthful as the OSHA regulations adopted in 10 CFR part 851.

Specific to 10 CFR 851 Subpart B: DOE recognized the importance of a comprehensive worker safety and health program (WSHP) to provide structure and guidance for contractor’s safety programs and added this requirement to 10 CFR 851. Cal/OSHA however also recognized the importance of comprehensive worker safety and health programs, and subsequently established a requirement in 1991 for employers to develop such programs. Title 8, CCR, §3203 requires employers to “*establish, implement and maintain an effective Injury and Illness Prevention Program...*” In this regard, the Cal/OSHA requirement to establish, implement, and maintain an effective IIPP is equivalent to the requirements in 10 CFR 851, Subpart B, to establish a Worker Safety and Health Program (WSHP). As such, the IIPP will continue to provide workers a place of employment, which is as safe and healthful as under 10 CFR 851, Subpart B.

Regarding 10 CFR 851 Subpart C: Cal/OSHA regulations cover many of the requirements within the subpart. For example, Title 8, CCR, §3203 for example includes requirements for hazard identification and evaluation, hazard correction, injury and illness investigation, training, and recordkeeping.

Regarding appendix A: Cal/OSHA regulations provide workers a place of employment that is equivalent to complying with many of the requirements within the functional areas listed in appendix A. **Appendix A, section 1, Construction Safety.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 2, Fire Protection.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 3, Explosive Safety.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).



**Appendix A, section 4, Pressure Safety.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 5, Firearms Safety.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 6, Industrial Hygiene.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 7, Biological Safety.** See Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A (Attachment 4).

**Appendix A, section 8, Occupational Medicine.** SLAC will continue to implement these requirements and include them in the IIPP for SLAC employees but will exclude subcontractors and other workers employed by third party organizations who are covered by their employer’s medical surveillance program under Cal /OSHA and other applicable California regulations. SLAC will continue to include independent contractors who are not required by California regulations to develop an IIPP and occupational medicine program. Based on specific work performed, SLAC may contractually require or extend specific medical surveillance to third party organizations.

SLAC will continue to implement those requirements via the IIPP for SLAC employees. Subcontractors covered by their own employer under the State of California law will however, be excluded from the requirements in appendix A, section 8, Occupational Medicine requirements. They will instead follow their employer’s IIPP per the California regulations governing occupational medicine services.

The State of California has robust worker health and safety requirements including requirements for medical surveillance and medical services for workers. For instance, multiple California regulations require various medical exams, screenings or surveillance (e.g., Title 8, CCR 5199.1, 5208, 1529, 5218, 5231, 5193, 5194, 5209, 5203, 5217, 5192, 5191, 5216, 5198, 1532.1, 5097, 5144, 5147, 5153; Title 17, CCR 30277; and Title 3, CCR 6728 and 6760). Additional California regulations require medical services in the event of a workplace injury (e.g., California Labor Code 6400, 4600, 3400 and 3700), and still other regulations address unique medical situations such as alcohol and drug rehabilitation (i.e., California Labor Code 1025 and 1026). SLAC will include, as appropriate, in its medical surveillance program, independent contractors (self-employed) who are not covered by Cal/OHSA regulations.

It is a responsibility of SLAC subcontractors working in California to provide appropriate medical services to its workers, and SLAC will continue working with subcontractors, as appropriate, to ensure subcontractors and their workers have the necessary information about SLAC hazards to maintain an effective occupational medical services program. However, SLAC and its Site Occupational Medicine Director (SOMD) have no practical ability to monitor all of the potential health factors among the cross-section of subcontractors for their work being performed at other sites or their non-work-related illnesses



unless such information is voluntarily disclosed. If a subcontractor or their company's occupational health representative identifies a medical restriction of any kind to the SOMD, consultation services would be provided to determine what, if any, impact that may have on their work activities at SLAC, with the intent of maintaining that worker's safety and well-being.

SLAC will continue to partner with subcontractors and continue to make access to worksites and hazard-related information available to subcontractors and their medical service providers. First aid services will continue to be available to all individuals on-site regardless of their affiliation. Through implementation of applicable California regulations and partnership with SLAC, subcontractor workers will continue to be provided with a place of employment, which is as safe and healthful as under 10 CFR 851.

SLAC acknowledges that in some areas Cal/OSHA or other California regulations do not meet the approval criteria of 851. 32 (b). In those instances, SLAC will incorporate the 10 CFR 851 requirement into the SLAC IIPP to provide for a workplace that is as safe and healthful by implementing the requirement through the SLAC IIPP (see Attachments 2-4/Tables 1-3 for detailed information).

The requirement that the SLAC IIPP be approved by the Head of DOE Head Field Element annually or in the event of any significant change will remain. Collectively through the application of Cal/OSHA regulations and the SLAC IIPP, through robust partnership between SLAC, and its subcontractors, and through concurrence by the DOE Bay Area Site Office, all workers will continue to be provided with a place of employment, which is as safe and healthful as under 10 CFR 851.

**Attachment 2**

**Table 1 – Cal/OSHA Injury and Illness Prevention Program (IIPP) in lieu of 10 CFR 851, Subpart B**

| Subpart B – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*                            |
|--|--|-----------------|------------------------------------|
| <b>851.10 General Requirements</b>   |  |                 |                                    |
| <p>(a) With respect to a covered workplace for which a contractor is responsible, the contractor must:</p> <p>(1) Provide a place of employment that is free from recognized hazards that are causing or have the potential to cause death or serious physical harm to workers; and</p> <p>(2) Ensure that work is performed in accordance with:</p> <p>(i) All applicable requirements of this part; and</p> <p>(ii) With the worker safety and health program for that workplace.</p> <p>(b) The written worker safety and health program must describe how the contractor complies with the:</p> <p>(1) Requirements set forth in Subpart C of this part that are applicable to the hazards associated with the contractor’s scope of work; and</p> | <p>8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).</p> <p>(Note: 8CCR3202 is similar to the Fed OSHA General Duty Clause under OSHA Act 1970, Section 5(a)(1) in that Cal OSHA may cite an employer for violating the Injury and Illness Prevention Program standard when a hazard is not covered by a specific Cal OSHA safety order.)</p> <p>8CCR3203(a)(2) Include a system for ensuring that employees comply with safe and healthy work practices.</p> | No gap          | Comply with Cal/OSHA regulation.   |
| <p>(2) Any compliance order issued by the Secretary pursuant to §851.4.</p>  | No comparable requirement.   | Gap             | Incorporate requirement into IIPP. |

| Subpart B – Program Requirements  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*  |
|---|--|-----------------|--|
| <b>851.11 Development and approval of the worker safety and health program</b>  |  |                 |  |
| <p>(a) Preparation and submission of worker safety and health program. By February 26, 2007, contractors must submit to the appropriate Head of DOE Field Element for approval a written worker safety and health program that provides the methods for implementing the requirements of Subpart C of this part.</p> <p>(1) If a contractor is responsible for more than one covered workplace at a DOE site, the contractor must establish and maintain a single worker safety and health program for the covered workplaces for which the contractor is responsible.</p> <p>(2) If more than one contractor is responsible for covered workplaces, each contractor must:</p> <p>(i) Establish and maintain a worker safety and health program for the workplaces for which the contractor is responsible; and</p> <p>(ii) Coordinate with the other contractors responsible for work at the covered workplaces to ensure that there are clear roles, responsibilities and procedures to ensure the safety and health of workers at multi-contractor workplaces.</p> <p>(3) The worker safety and health program must describe how the contractor will:</p> <p>(i) Comply with the requirements set forth in Subpart C of this part that are applicable to the covered workplace, including the methods for implementing those requirements; and</p> <p>(ii) Integrate the requirements set forth in Subpart C of this part that are applicable to a covered workplace with other related site-specific worker protection activities and with the integrated safety management system.</p> | <p>8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).</p> <p>8CCR, Article 4.5 Multi-Employer Worksites.</p> | <p>No gap</p>   | <p>Comply with Cal/OSHA regulation.</p> <p>Note: The SLAC WSHP will remain in effect until the IIPP is approved by the DOE Head Field Element.</p> |

| <b>Subpart B – Program Requirements</b>  | <b>Cal/OSHA (or California) regulation that is “As Safe and Healthful”</b>   | <b>851 vs Cal/OSHA</b> | <b>Action*</b>   |
|--|--|------------------------|--|
| <p>(b) DOE evaluation and approval. The Head of DOE Field Element must complete a review and provide written approval of the contractor’s worker safety and health program, within 90 days of receiving the document. The worker safety and health program and any updates are deemed approved 90 days after submission if they are not specifically approved or rejected by DOE earlier.</p> <p>(1) Beginning May 25, 2007, no work may be performed at a covered workplace unless an approved worker safety and health program is in place for the workplace.</p> <p>(2) Contractors must send a copy of the approved program to the Assistant Secretary for Environment, Safety and Health.</p> | <p>No comparable requirement.</p> <p>This requirement is subsumed by initial and annual IIPP approval requirement.</p> | <p>No gap</p>          | <p>The IIPP will include review and approval by the DOE Head Field Element when initially developed and annually thereafter per section (c) Updates.</p> |

|   |   |               |   |
|---|---|---------------|---|
| <p>(3) Contractors must furnish a copy of the approved worker safety and health program, upon written request, to the affected workers or their designated representatives.</p> | <p>8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>8CCR340.1(b) The affected employee, employees or their representatives shall be allowed access to the records and reports of the results of the testing monitoring or measuring when carried out under the requirements of a standard promulgated under Labor Code Section 142.3.</p> <p>8CCR3204(e)(1)(A) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner, but in no event later than fifteen (15) days after the request for access is made.</p> <p>Note: Additional Cal/OSHA safety orders specifically require access to health and safety programs, such as:</p> <p>8CCR5194(e)(3) The employer shall make the written hazard communication program</p> | <p>No gap</p> | <p>Comply with Cal/OSHA regulation.</p> <p>The IIPP like the WSHP will remain accessible to all employees via the internet.</p> |
|---|---|---------------|---|

| Subpart B – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*                            |
|--|--|-----------------|------------------------------------|
|  | available, upon request, to employees, their designated representatives, the Chief, and NIOSH, in accordance with the requirements of section 3204(e). |                 |                                    |
| <p>(c) Updates.</p> <p>(1) Contractors must submit an update of the worker safety and health program to the appropriate Head of DOE Field Element, for review and approval whenever a significant change or addition to the program is made, or a change in contractors occurs.</p> <p>(2) Contractors must submit annually to DOE either an updated worker safety and health program for approval or a letter stating that no changes are necessary in the currently approved worker safety and health program.</p> <p>(3) Contractors must incorporate in the worker safety and health program any changes, conditions, or workplace safety and health standards directed by DOE consistent with the requirements of this part and DEAR 970.5204–2, Laws, Regulations and DOE Directives (December, 2000) and associated contract clauses.</p> | No comparable requirement.   | Gap             | Incorporate requirement into IIPP. |
| <p>(d) Labor Organizations. If a contractor employs or supervises workers who are represented for collective bargaining by a labor organization, the contractor must:</p> <p>(1) Give the labor organization timely notice of the development and implementation of the worker safety and health program and any updates thereto; and</p> <p>(2) Upon timely request, bargain concerning implementation of this part, consistent with the Federal labor laws.</p>  | No comparable requirement.   | Gap             | Incorporate requirement into IIPP. |
| <b>851.12 Implementation</b>   |  |                 |                                    |

| Subpart B – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*  |
|--|--|-----------------|--|
| <p>(a) Contractors must implement the requirements of this part.</p> <p>(b) Nothing in this part precludes a contractor from taking any additional protective action that is determined to be necessary to protect the safety and health of workers.</p>   | 8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). | No gap          | Comply with Cal/OSHA regulation.                         |
| <b>851.13 Compliance</b>   |  |                 |  |
| <p>(a) Contractors must achieve compliance with all the requirements of Subpart C of this part, and their approved worker safety and health program no later than May 25, 2007. Contractors may be required to comply contractually with the requirements of this rule before February 9, 2007.</p> <p>(b) In the event a contractor has established a written safety and health program, an Integrated Safety Management System (ISMS) description pursuant to the DEAR Clause, or an approved Work Smart Standards (WSS) process before the date of issuance of the final rule, the Contractor may use that program, description, or process as the worker safety and health program required by this part if the appropriate Head of the DOE Field Element approves such use on the basis of written documentation provided by the contractor that identifies the specific portions of the program, description, or process, including any additional requirements or implementation methods to be added to the existing program, description, or process, that satisfy the requirements of this part and that provide a workplace as safe and healthful as would be provided by the requirements of this part.</p> | 8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). | No gap          | Comply with Cal/OSHA regulation.                         |
| <p>(c) Nothing in this part shall be construed to limit or otherwise affect contractual obligations of a contractor to comply with contractual requirements that are not inconsistent with the requirements of this part.</p>  | This is unnecessary as additional requirements can be met and are enforceable in the M&O contract.   | No Gap          | Comply with Stanford/DOE Contract No. DE-AC02-76SF00515. |

\*Maintain in IIPP = No gap exists but for clarification (or emphasis) SLAC will to include the requirement in new IIPP.



Incorporate in IIPP = A gap or partial gap exists. SLAC will to include the 851 requirement in the new IIPP.  
Comply with Cal/OSHA Regulation = No gap exists. The SLAC IIPP will include a statement to comply with Cal/OSHA regulations.

**Attachment 3**

**Table 2 – Cal/OSHA Regulations in lieu of 10 CFR 851, Subpart C**

| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*                                 |
|--|---|-----------------|---|
| <b>851.20 Management responsibilities and worker rights and responsibilities</b>   |   |                 |   |
| <p>(a) Management responsibilities. Contractors are responsible for the safety and health of their workforce and must ensure that contractor management at a covered workplace:</p> <p>(1) Establish written policy, goals, and objectives for the worker safety and health program;</p> | <p>8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>8CCR340.1 (a) Whenever an employer is required to conduct tests or to engage in monitoring or measuring, to determine employee exposure to hazards by specific standards promulgated under Labor Code Section 142.3, the employer shall notify the affected employee or employees or their representative, prior to commencement of the date, time and place of the testing, monitoring or measuring of employee exposure.</p> <p>8CCR340.2 Whenever any employee has been or is being exposed to toxic materials or harmful physical agents in concentrations or at levels exceeding those prescribed by applicable standard, order, or special order, the employer of</p> | <p>No gap</p>   | <p>Comply with Cal/OSHA regulation.</p> |

| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*                            |
|--|--|-----------------|------------------------------------|
|  | <p>the affected employee must promptly notify any employee so affected in writing of the fact that the employee has been exposed, and of the corrective action being taken by the employer.</p> <p>8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). The Program shall be in writing and, shall, at a minimum...</p> <p>Note: In addition, management responsibilities are included in Section C.3.1 of Stanford/DoE Contract No. DE-AC02-76SF00515. Goals are established every year through the DOE Performance Evaluation and Measurement Plan (PEMP) process.</p> |                 |                                    |
| (2) Use qualified worker safety and health staff (e.g., a certified industrial hygienist, or safety professional) to direct and manage the program;  | No comparable requirement.   | Gap             | Incorporate requirement into IIPP. |
| <p>(3) Assign worker safety and health program responsibilities, and hold personnel accountable for worker safety and health performance;</p> <p>(4) Provide mechanisms to involve workers and their elected representatives in the development of the worker safety and health program goals, objectives, and performance measures and in the identification and control of hazards in the workplace;</p> <p>(5) Provide workers with access to information relevant to the worker safety and health program;</p> | 8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.  | No gap          | Comply with Cal/OSHA regulation.   |

| Subpart C – Program Requirements | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action* |
|----------------------------------|---|-----------------|---------|
|                                  | <p>...The Notice shall inform the employees that the employer shall provide an opportunity for employees or their representatives to observe monitoring or measuring of employee exposure to hazards conducted pursuant to standards promulgated under California Labor Code Section 142.3, and shall allow the employee or his representative access to accurate records of employee exposures to potentially toxic materials or harmful physical agents.</p> <p>8CCR3203(a)(1) Identify the person or persons with authority and responsibility for implementing the Program.</p> <p>8CCR3203(a)(2) Include a system for ensuring that employees comply with safe and healthy work practices. Substantial compliance with this provision includes recognition of employees who follow safe and healthful work practices, training and retraining programs, disciplinary actions or any other such means that ensures employee compliance with safe and healthful work practices.</p> <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of</p> |                 |         |

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|   | <p>hazards at the worksite without fear of reprisal. Substantial compliance with this provision includes meetings, training programs, posting, written communications, a system of anonymous notification by employees about hazards, labor/management safety and health committees or any other means that ensures communication with employees.</p> <p>8CCR3204(a) Purpose. The purpose of this section is to provide employees and their designated representatives and authorized representatives of the Chief of the Division of Occupational Safety and Health (DOSH) a right of access to relevant exposure and medical records.</p>   |                    |   |
| <p>(6) Establish procedures for workers to report without reprisal job-related fatalities, injuries, illnesses, incidents, and hazards and make recommendations about appropriate ways to control those hazards;</p> <p>(7) Provide for prompt response to such reports and recommendations;</p> <p>(8) Provide for regular communication with workers about workplace safety and health matters;</p> <p>(9) Establish procedures to permit workers to stop work or decline to perform an assigned task because of a reasonable belief that the task poses an imminent risk of death, serious physical harm, or other serious hazard to workers, in circumstances where the workers believe there is insufficient time to utilize normal hazard reporting and abatement procedures; and</p> | <p>8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to</p> | <p>Partial Gap</p> | <p>Comply with Cal/OSHA regulation.</p> <p>Stop work authority at SLAC is documented in the Stanford/DOE Contract No. DE-AC02-76SF00515 however, SLAC will also maintain the stop work authority in the IIPP.</p> |

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|   | <p>encourage employees to inform the employer of hazards at the worksite without fear of reprisal.</p> <p>8CCR3203(a)(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:...</p> <p>(B) When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, remove all exposed personnel from the area except those necessary to correct the existing condition. Employees necessary to correct the hazardous condition shall be provided the necessary safeguards.</p> <p>California Labor Code 6311 No employee shall be laid off or discharged for refusing to perform work in the performance of which this code, including Section 6400, any occupational safety or health standard or any safety order of the division or standards board will be violated, where the violation would create a real and apparent hazard to the employee or his or her fellow employees.</p> |                 |  |
| <p>(10) Inform workers of their rights and responsibility by appropriate means, including posting the DOE-designated Worker Protection Poster in the workplace where it is accessible to all workers.</p> | <p>8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished</p>  | <p>No Gap</p>   | <p>Maintain in IIPP.</p> <p>SLAC will continue to post the DOE-designated Worker</p> |

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|   | <p>pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>FAR Clause: 52.222-40: Notification of employee rights under the employee relations act</p>        |                 | Protection Poster in addition to mandated California and Federal postings. Posters will be customized to ensure workers are provided accurate information regarding DOE notification. |
| (b) Worker rights and responsibilities. Workers must comply with the requirements of this part, including the worker safety and health program, which are applicable to their own actions and conduct. Workers at a covered workplace have the right, without reprisal, to: | CCR3203(a)(2) Include a system for ensuring that employees comply with safe and healthy work practices. Substantial compliance with this provision includes recognition of employees who follow safe and healthful work practices, training and retraining programs, disciplinary actions or any other such means that ensures employee compliance with safe and healthful work practices. | No gap          | Comply with Cal/OSHA regulation.  |
| (1) Participate in activities described in this section on official time;   | No comparable requirement.   | Gap             | Incorporate requirement into IIPP.  |
| (2) Have access to:   |  |                 |   |
| (i) DOE safety and health publications;   | No comparable requirement  | Gap             | Incorporate requirement into IIPP.  |
| (ii) The worker safety and health program for the covered workplace;<br>(iii) The standards, controls, and procedures applicable to the covered workplace;  | 8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the   | Partial gap     | California regulations address this requirement in part, but not in full.   |

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|  | <p>Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>8CCR340.1(b) The affected employee, employees or their representatives shall be allowed access to the records and reports of the results of the testing monitoring or measuring when carried out under the requirements of a standard promulgated under Labor Code Section 142.3.</p> <p>8CCR3204(e)(1)(A) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner, but in no event later than fifteen (15) days after the request for access is made.</p> <p>Note: Additional Cal/OSHA safety orders specifically require access to health and safety programs, such as:</p> <p>8CCR5194(e)(3) The employer shall make the written hazard communication program available, upon request, to employees, their designated representatives, the Chief, and NIOSH, in accordance with the requirements of section 3204(e).</p> |                 | <p>Incorporate requirement into IIPP.</p> <p>SLAC will continue to post the IIPP and ESH Manual on the internet for accessibility.</p> |
| (iv) The safety and health poster that informs the worker of relevant rights and responsibilities; | 8CCR340 Every employer shall be required to post immediately upon receipt and to keep   | No gap          | Comply with Cal/OSHA regulations.  |

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|   | <p>posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p>  |                 |  |
| <p>(v) Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions; and</p> | <p>8CCR14300.32(a) Basic requirement. At the end of each calendar year, you must:...</p> <p>(4) Post the annual summary</p> <p>8CCR3204(a) Purpose. The purpose of this section is to provide employees and their designated representatives and authorized representatives of the Chief of the Division of Occupational Safety and Health (DOSH) a right of access to relevant exposure and medical records.</p>   | <p>No gap</p>   | <p>Comply with Cal/OSHA regulations.</p>   |
| <p>(vi) The DOE Form 5484.3 (the DOE equivalent to OSHA Form 301) that contains the employee’s name as the injured or ill worker;</p>                       | <p>8CCR14300.35(a) Basic requirement. Your employees and their representatives must be involved in the recordkeeping system in several ways...</p> <p>(2) You must provide limited access to your injury and illness records for your employees and their representatives.</p> <p>8CCR14300.35(b)(2) Do I have to give my employees and their representatives access to the injury and illness records required by this article? Yes. Your employees, former employees,</p> | <p>No gap</p>   | <p>Cal/OSHA does not require use of DOE Form 5484.3. However, the information required in DOE Form 5484.3 is collected and documented in Computerized Accident/Incident Reporting System</p> |

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|   | <p>their personal representatives, and their authorized employee representatives have the right to access the injury and illness records required by this article, with some limitations, as discussed below.</p> <p>8CCR14300.29(a) Basic requirement. You must use Cal/OSHA 300, 300A, and 301 forms, or equivalent forms, for recordable injuries and illnesses.</p> <p>Note: In addition, covered by DOE Order 231.1B-Environment, Safety and Health Reporting Order (CAIRS requirement) incorporated in Stanford/DoE Contract No. DE-AC02-76SF00515 – Clause H.5.1- Environmental Safety and Health Reporting</p>      |                 | <p>(CAIRS) and Cal/OSHA reporting forms.</p> <p>SLAC will maintain required in the IIPP.</p> |
| <p>(3) Be notified when monitoring results indicate the worker was overexposed to hazardous materials;</p> <p>(4) Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring;</p> <p>(5) Have a representative authorized by employees accompany the Director or his authorized personnel during the physical inspection of the workplace for the purpose of aiding the inspection. When no authorized employee representative is available, the Director or his authorized representative must consult, as appropriate, with employees on matters of worker safety and health;</p> <p>(6) Request and receive results of inspections and accident investigations;</p> | <p>8CCR340 Every employer shall be required to post immediately upon receipt and to keep posted the CAL/OSHA Notice of Employee Protections and Obligations entitled "Safety and Health Protection on the Job," which is furnished pursuant to Labor Code Section 6328 by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, containing information on pertinent safety laws, regulations and certain rights of employees under the California Labor Code.</p> <p>... The Notice shall also inform the employees that no employee shall be laid off or discharged</p> | No gap          | Comply with Cal/OSHA regulation.   |

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| <p>(7) Express concerns related to worker safety and health;</p> <p>(8) Decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker coupled with a reasonable belief that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures; and</p> | <p>for refusing to perform work in the performance of which the provisions of the California Labor Code, any occupational safety or health standard or any safety order of the Division will be violated, where such violation would create a real and apparent hazard to the employee or his fellow employees.</p> <p>...The Notice shall inform the employees that the employer shall provide an opportunity for employees or their representatives to observe monitoring or measuring of employee exposure to hazards conducted pursuant to standards promulgated under California Labor Code Section 142.3, and shall allow the employee or his representative access to accurate records of employee exposures to potentially toxic materials or harmful physical agents.</p> <p>8CCR340.1 (a) Whenever an employer is required to conduct tests or to engage in monitoring or measuring, to determine employee exposure to hazards by specific standards promulgated under Labor Code Section 142.3, the employer shall notify the affected employee or employees or their representative, prior to commencement of the date, time and place of the testing, monitoring or measuring of employee exposure. The employer shall provide the affected employee or employees, or their representatives with the opportunity to observe the testing,</p> |                 |         |

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|   | <p>sampling, monitoring or measuring undertaken pursuant to such standards.</p> <p>8CCR340.2 Whenever any employee has been or is being exposed to toxic materials or harmful physical agents in concentrations or at levels exceeding those prescribed by applicable standard, order, or special order, the employer of the affected employee must promptly notify any employee so affected in writing of the fact that the employee has been exposed, and of the corrective action being taken by the employer.</p> <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal.</p> <p>8CCR3204(a) Purpose. The purpose of this section is to provide employees and their designated representatives and authorized representatives of the Chief of the Division of Occupational Safety and Health (DOSH) a right of access to relevant exposure and medical records.</p> |                 |  |
| <p>(9) Stop work when the worker discovers employee exposures to imminently dangerous conditions or other serious hazards; provided that any stop work authority must be exercised in a justifiable and responsible manner in</p> | <p>No comparable requirement</p> <p>Stanford/DoE Contract No. DE-AC02-76SF00515 includes: FAR 52.242-15 - Stop Work Order (Aug</p>   | <p>Gap</p>      | <p>Stop work authority at SLAC is documented in the Stanford-DOE M&amp;O contract however, SLAC will</p> |

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| accordance with procedures established in the approved worker safety and health program.  | 1989)(Alternative I)(Apr 1984) and; Clause: H.5.0.2- Stop Work  |                 | also maintain requirement in the IIPP.  |
| <b>851.21 Hazard identification and assessment</b>  |   |                 |   |
| <p>(a) Contractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness. Procedures must include methods to:</p> <p>(1) Assess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring;</p> <p>(2) Document assessment for chemical, physical, biological, and safety workplace hazards using recognized exposure assessment and testing methodologies and using of accredited and certified laboratories;</p> <p>(3) Record observations, testing and monitoring results;</p> | <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.</p> <p>8CCR3204(d)(1)(B) Employee Exposure Records. Each employee exposure record shall be preserved and maintained for at least thirty (30) years.</p> <p>8CCR5155(e)(1) Whenever it is reasonable to suspect that employees may be exposed to concentrations of airborne contaminants in excess of levels permitted in section 5155(c), the employer shall monitor (or cause to have monitored) the work environment so that exposures to employees can be measured or calculated.</p> <p>8CCR5155(e)(3) For the adequate protection of employees, the person supervising, directing or evaluating the monitoring and control methods shall be versed in this standard and shall be competent in industrial hygiene practice.</p> <p>8CCR5155(e)(4) All monitoring results shall be</p> | Partial gap     | <p>DOE requires records to be maintained for longer than 30 years.</p> <p>Comply with Cal/OSHA regulation, but SLAC will specify and maintain DOE record retention durations in the IIPP.</p> |

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|  | <p>recorded and such records shall be retained in accordance with section 3204.</p> <p>8CCR5191(d)(1) Initial monitoring. The employer shall measure the employee's exposure to any substance regulated by a standard which requires monitoring if there is reason to believe that exposure levels for that substance exceed the action level (or in the absence of an action level, the exposure limit). The person supervising, directing or evaluating the monitoring shall be competent in industrial hygiene practice</p>  |                 |                                  |
| <p>(4) Analyze designs of new facilities and modifications to existing facilities and equipment for potential workplace hazards;</p> | <p>8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).</p> <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.</p> <p>Note: in addition addressed through Stanford/DoE Contract No. DE-AC02-76SF00515: Clause: H.5.0.4- DOE Policy 450.4A- INTEGRATED SAFETY MANAGEMENT POLICY included in the Guiding Principles and five core functions.</p> | No gap          | Maintain requirement in IIPP.    |
| <p>(5) Evaluate operations, procedures, and facilities to identify workplace hazards;</p>  | <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards</p>  | No gap          | Comply with Cal/OSHA regulation. |

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|   | including scheduled periodic inspections to identify unsafe conditions and work practices.   |                 |   |
| (6) Perform routine job activity-level hazard analyses;   | 8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.   | Partial gap     | Comply with Cal/OSHA regulation, but include details on job activity-level hazard analyses in the IIPP. |
| (7) Review site safety and health experience information; and   | No comparable requirement however, DOE Policy 450.4A- INTEGRATED SAFETY MANAGEMENT POLICY requires feedback and continuous improvement on all safety related activities (Clause H.5.0.4 Stanford/DOE Contract No. DE-AC02-76SF00515) | Partial gap     | Maintain requirement in IIPP.   |
| (8) Consider interaction between workplace hazards and other hazards such as radiological hazards.  | 3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).   | No gap          | Comply with Cal/OSHA regulation.  |
| (b) Contractors must submit to the Head of DOE Field Element a list of closure facility hazards and the established controls within 90 days after identifying such hazards. The Head of DOE Field Element, with concurrence by the Cognizant Secretarial Officer, has 90 days to accept the closure facility hazard controls or direct additional actions to either:<br>(1) Achieve technical compliance; or<br>(2) Provide additional controls to protect the workers. | No comparable requirement.   | Gap             | Incorporate requirement into IIPP.  |
| (c) Contractors must perform the activities identified in paragraph (a) of this section, initially to obtain baseline information and as often thereafter as necessary to ensure compliance with the requirements in this Subpart.  | 8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.   | No gap          | Comply with Cal/OSHA regulation.  |

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|  | Inspections shall be made to identify and evaluate hazards:<br>(A) When the Program is first established;<br>(B) Whenever new substances, processes, procedures, or equipment are introduced to the workplace that represent a new occupational safety and health hazard; and<br>(C) Whenever the employer is made aware of a new or previously unrecognized hazard.  |                 |                                   |
| <b>851.22 Hazard prevention and abatement</b>  |   |                 |                                   |
| (a) Contractors must establish and implement a hazard prevention and abatement process to ensure that all identified and potential hazards are prevented or abated in a timely manner. | 3203(a)(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:  | No gap          | Comply with Cal/OSHA regulation.  |
| (1) For hazards identified either in the facility design or during the development of procedures, controls must be incorporated in the appropriate facility design or procedure.       | 8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).<br><br>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.<br><br>Note: in addition, addressed through Stanford/DoE Contract No. DE-AC02-76SF00515: Clause: H.5.0.4- DOE Policy 450.4A- INTEGRATED SAFETY MANAGEMENT POLICY included in the Guiding Principles and five core functions. | No gap          | Maintain requirement in the IIPP. |

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| <p>(2) For existing hazards identified in the workplace, contractors must:</p> <ul style="list-style-type: none"> <li>(i) Prioritize and implement abatement actions according to the risk to workers;</li> <li>(ii) Implement interim protective measures pending final abatement; and</li> <li>(iii) Protect workers from dangerous safety and health conditions;</li> </ul>  | <p>3203(a)(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:</p> <ul style="list-style-type: none"> <li>(A) When observed or discovered</li> <li>(B) When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, remove all exposed personnel from the area except those necessary to correct the existing condition. Employees necessary to correct the hazardous condition shall be provided the necessary safeguards.</li> </ul> | No gap          | Comply with Cal/OSHA regulation.   |
| <p>(b) Contractors must select hazard controls based on the following hierarchy:</p>  | No requirement.   | No gap          | N/A  |
| <ul style="list-style-type: none"> <li>(1) Elimination or substitution of the hazards where feasible and appropriate;</li> <li>(2) Engineering controls where feasible and appropriate;</li> <li>(3) Work practices and administrative controls that limit worker exposures; and</li> <li>(4) Personal protective equipment.</li> <li>(c) Contractors must address hazards when selecting or purchasing equipment, products, and services.</li> </ul> | 8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program).  | Partial gap     | Incorporate requirement into IIPP.   |
| <b>851.23 Safety and health standards</b>   |   |                 |  |
| <p>(a) Contractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace:</p>  | No requirement.   | No gap          | N/A  |
| <p>(1) Title 10 Code of Federal Regulations (CFR) 850, “Chronic Beryllium Disease Prevention Program.”</p>  | 10 CFR 850 “Chronic Beryllium Prevention Program”.  | No gap          | 10 CFR 850 is not subject to this variance request. It applies independent |

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|  |   |                 | of 10 CFR 851. SLAC will continue to comply with 10 CFR 850. |
| (2) Title 29 CFR, Parts 1904.4 through 1904.11, 1904.29 through 1904.33; 1904.44, and 1904.46, “Recording and Reporting Occupational Injuries and Illnesses.”  | Title 8 CCR, Division 1, “Department of Industrial Relations,” 14300.4 through 14300.11, 14300.29 through 14300.33, “California’s Employer Records of Occupational Injury and Illness”. | No gap          | Comply with Cal/OSHA regulation.                             |
| (3) Title 29 CFR, Part 1910, “Occupational Safety and Health Standards,” excluding 29 CFR 1910.1096, “Ionizing Radiation.”   | Title 8 CCR, Chapter 4. Division of Industrial Safety, Subchapter 7, General Industrial Safety Orders, excluding 8 CCR Group 14 Radiation and Radioactivity.                            | No gap          | Comply with Cal/OSHA regulation.                             |
| (4) Title 29 CFR, Part 1915, “Shipyard Employment.”  | Activity not currently applicable to SLAC operations.   | No gap          | Comply with Cal/OSHA regulation if/when applicable.          |
| (5) Title 29 CFR, Part 1917, “Marine Terminals.”   | Activity not currently applicable to SLAC operations.   | No gap          | Comply with Cal/OSHA regulation if/when applicable.          |
| (6) Title 29 CFR, Part 1918, “Safety and Health Regulations for Longshoring.”  | Activity not currently applicable to SLAC operations.   | No gap          | Comply with Cal/OSHA regulation if/when applicable.          |
| (7) Title 29 CFR, Part 1926, “Safety and Health Regulations for Construction.”   | Title 8 CCR, Chapter 4. Division of Industrial Safety, Subchapter 4, Construction Safety Orders.  | No gap          | Comply with Cal/OSHA regulation.                             |
| (8) Title 29 CFR, Part 1928, “Occupational Safety and Health Standards for Agriculture.”   | Activity not currently applicable to SLAC operations.   | No gap          | Comply with Cal/OSHA regulation if/when applicable.          |
| (9) American Conference of Governmental Industrial Hygienists (ACGIH®), “Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices,” (2016) (incorporated by reference, see § 851.27) when the ACGIH® Threshold Limit Values (TLVs) are lower | No Comparable Cal/OSHA requirement.<br><br>Stanford/DoE Contract No. DE-AC02-76SF00515 Clause H.5.2.1(a)(3) Worker Safety and Health - discusses the use and incorporation of ACGIH     | No gap          | Maintain in IIPP per M&O Contract Clause H.5.2.1.            |

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| (more protective) than permissible exposure limits in 29 CFR part 1910 for general industry and/or part 1926 for construction. When the ACGIH TLVs are used as exposure limits, contractors must nonetheless comply with the other provisions of any applicable expanded health standard found in 29 CFR part 1910 and/or part 1926. | TLVs in the SLAC WSHP: <i>“The Contractor shall incorporate ACGIH TLVs &amp; BEIs into its Worker Safety and Health Program, as appropriate, based on the evaluation and recommendation by subject matter experts trained in the discipline of industrial hygiene with an understanding of the philosophical and practical basis for the uses and limitations as intended by ACGIH. These TLVs &amp; BEIs will be documented in the Contractor’s WSHP and approved by DOE Bay Area Site Office on an annual basis.”</i> |                 | SLAC will review subsequent versions of the listed standards and with concurrence of the DOE Head of Field Element will adopt updated standards as appropriate.  |
| (10) American National Standards Institute (ANSI/ASSE) Z88.2, “American National Standard Practices for Respiratory Protection,” (2015) (incorporated by reference, see § 851.27).   | Title 8 CCR, Chapter 4. Division of Industrial Safety, Subchapter 7, General Industrial Safety Orders, Section 5144 Respiratory Protection.   | Partial gap     | Incorporate the technical amendment requirement into IIPP. SLAC will review subsequent versions of the listed standards and with concurrence of the DOE Head of Field Element will adopt updated standards as appropriate. |
| (11) ANSI Z136.1, “Safe Use of Lasers,” (2014) (incorporated by reference, see §851.27)  | No comparable requirement.  | Gap             | Incorporate the technical amendment requirement into IIPP. SLAC will review subsequent versions of the listed standards and with concurrence   |

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|  |   |                 | of the DOE Head of Field Element will adopt updated standards as appropriate.  |
| (12) ANSI Z49.1, “Safety in Welding, Cutting and Allied Processes,” sections 4.3 and E4.3 (2012) (incorporated by reference, see §851.27). | No comparable requirement.  | Gap             | Incorporate the technical amendment requirement into IIPP. SLAC will review subsequent versions of the listed standards and with concurrence of the DOE Head of Field Element will adopt updated standards as appropriate. |
| (13) National Fire Protection Association (NFPA) 70, “National Electrical Code,” (2017) (incorporated by reference, see §851.27).          | No comparable requirement.  | Gap             | Incorporate the technical amendment requirement into IIPP. SLAC will review subsequent versions of the listed standards and with concurrence of the DOE Head of Field Element will adopt updated standards as appropriate. |

| Subpart C – Program Requirements  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA    | Action*  |
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| (14) NFPA 70E, “Standard for Electrical Safety in the Workplace” (2015) (incorporated by reference, see §851.27).   | No comparable requirement.   | Gap                | Incorporate the technical amendment requirement into IIPP. SLAC will review subsequent versions of the listed standards and with concurrence of the DOE Head of Field Element will adopt updated standards as appropriate. |
| (b) Nothing in this part must be construed as relieving a contractor from complying with any additional specific safety and health requirement that it determines to be necessary to protect the safety and health of workers.  | No comparable requirement.   | Gap                | Incorporate the technical amendment requirement into IIPP.   |
| <b>851.24 Functional Areas</b>  |  |                    |  |
| <p>(a) Contractors must have a structured approach to their worker safety and health program which at a minimum, include provisions for the following applicable functional areas in their worker safety and health program: construction safety; fire protection; firearms safety; explosives safety; pressure safety; electrical safety; industrial hygiene; occupational medicine; biological safety; and motor vehicle safety.</p> <p>(b) In implementing the structured approach required by paragraph (a) of this section, contractors must comply with the applicable standards and provisions in appendix A of this part, entitled “Worker Safety and Health Functional Areas.’</p> | 8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). | See Table 3 below. | See Table 3 below.   |
| <b>851.25 Training and information</b>  |  |                    |  |

| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*                                 |
|--|---|-----------------|---|
| <p>(a) Contractors must develop and implement a worker safety and health training and information program to ensure that all workers exposed or potentially exposed to hazards are provided with the training and information on that hazard in order to perform their duties in a safe and healthful manner.</p> <p>(b) The contractor must provide:</p> <p>(1) Training and information for new workers, before or at the time of initial assignment to a job involving exposure to a hazard;</p> <p>(2) Periodic training as often as necessary to ensure that workers are adequately trained and informed; and</p> <p>(3) Additional training when safety and health information or a change in workplace conditions indicates that a new or increased hazard exists.</p> <p>(c) Contractors must provide training and information to workers who have worker safety and health program responsibilities that is necessary for them to carry out those responsibilities.</p> | <p>8CCR3203(a)(2) Include a system for ensuring that employees comply with safe and healthy work practices. Substantial compliance with this provision includes recognition of employees who follow safe and healthful work practices, training and retraining programs.</p> <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal. Substantial compliance with this provision includes meetings, training programs.</p> <p>8CCR3203(a)(7) Provide training and instruction ...</p> <p>(B) To all new employees;</p> <p>(C) To all employees given new job assignments for which training has not previously been received;</p> <p>(D) Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;</p> <p>(F) For supervisors to familiarize themselves with the safety and health hazards to which employees under their immediate direction and control may be exposed.</p> | <p>No gap</p>   | <p>Comply with Cal/OSHA regulation.</p> |

| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*  |
|--|--|-----------------|--|
| <b>851.26 Recordkeeping and reporting</b>  |  |                 |  |
| (a) Recordkeeping. Contractors must:   | No requirement   | No gap          | N/A  |
| (1) Establish and maintain complete and accurate records of all hazard inventory information, hazard assessments, exposure measurements, and exposure controls.                              | 8CCR3203(b) Records of the steps taken to implement and maintain the Program shall include:<br>(1) Records of scheduled and periodic inspections required by subsection (a)(4) to identify unsafe conditions and work practices, including person(s) conducting the inspection, the unsafe conditions and work practices that have been identified and action taken to correct the identified unsafe conditions and work practices. These records shall be maintained for at least one (1) year; and<br>(2) Documentation of safety and health training required by subsection (a)(7) for each employee, including employee name or other identifier, training dates, type(s) of training, and training providers. This documentation shall be maintained for at least one (1) year. | Partial gap     | Incorporate requirement into IIPP including specifying DOE record retention durations in the IIPP. |
| (2) Ensure that the work-related injuries and illnesses of its workers and subcontractor workers are recorded and reported accurately and consistent with DOE reporting directives.          | Note: This is addressed in Stanford/ DoE Contract No. DE-AC02-76SF00515 Clause H.5.1.1 includes -Environment, Safety and Health Reporting (DOE Order 231.1B, Admin Chg. 1 (CRD Only) (11/28/2012)).  | No gap          | Maintain requirement in IIPP.  |
| (3) Comply with the applicable occupational injury and illness recordkeeping and reporting workplace safety and health standards in §851.23 at their site, unless otherwise directed by DOE. | 8CCR14300 The purpose of this rule (Article 2) is to require employers to record work-related fatalities, injuries and illnesses.  | No gap          | Comply with Cal/OSHA regulation.   |

| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*   |
|--|---|-----------------|---|
| (4) Not conceal nor destroy any information concerning non-compliance or potential noncompliance with the requirements of this part.   | No comparable requirement.  | Gap             | Incorporate requirement into IIPP.                        |
| (b) Reporting and investigation. Contractors must:<br>(1) Report and investigate accidents, injuries and illness;  | 8CCR3203(a)(5) Include a procedure to investigate occupational injury or occupational illness.  | No gap          | Comply with Cal/OSHA regulation.                          |
| (2) Analyze related data for trends and lessons learned  | No comparable requirement however requirement is captured by DOE P 450.4A- INTEGRATED SAFETY MANAGEMENT POLICY- Clause H.5.0.4 Integrated Safety Management Policy (DOE Policy 450.4A (4/25/2011)) Stanford/DoE Contract No. DE-AC02-76SF00515. | No gap          | Maintain requirement in IIPP.                             |
| <b>851.27 Referenced Sources</b>   |   |                 |   |
| (a) General. We incorporate by reference the following standards into part 851. The material has been approved for incorporation by the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to a standard by the standard-setting organization will not affect the DOE regulations unless and until amended by DOE. Material is incorporated as it exists on the date of the approval. To use a subsequent amendment to a standard, DOE must publish a document in the Federal Register and the material must be available to the public. All approved material is available for inspection at the U.S. Department of Energy, Office of Environment, Health, Safety and Security, Office of Worker Safety and Health Policy, 1000 Independence Ave. SW, Washington, DC 20585. 301–903–6061. The material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to: <a href="http://www.archives.gov/federalregister/cfr/ibr-">www.archives.gov/federalregister/cfr/ibr-</a> | No comparable requirement.  | Gap             | N/A<br><br>Section only required for the federal register |



| Subpart C – Program Requirements   | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action* |
|--|---|-----------------|---------|
| <p>locations.html. Standards can be obtained from the sources listed below...</p> <p>... For brevity, the list of referenced sources is not listed here.</p> |   |                 |         |

\*Maintain in IIPP = No gap exists but for clarification (or emphasis) SLAC will include the requirement in new IIPP.

Incorporate in IIPP = A gap or partial gap exists. SLAC will include the 851 requirement in the new IIPP.

Comply with Cal/OSHA Regulation = No gap exists. The SLAC IIPP will include a statement to comply with Cal/OSHA regulations.

**Attachment 4**

**Table 3 – Cal/OSHA Regulations in lieu of 10 CFR 851, Appendix A**

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*   |
|---|--|-----------------|---|
| This appendix establishes the mandatory requirements for implementing the applicable functional areas required by §851.24.                            | No requirement.  | No gap          | N/A   |
| <b>1. Construction Safety</b>   |  |                 |   |
| (a) For each separately definable construction activity (e.g., excavations, foundations, structural steel, roofing) the construction contractor must: | No requirement.  | No gap          | N/A   |
| (1) Prepare and have approved by the construction manager an activity hazard analysis prior to commencement of affected work. Such analyses must:     | 8CCR 1509(a) Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with section 3203 of the General Industry Safety Orders.<br><br>3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.  | Partial gap     | California regulations do not require the Construction Manager to approve hazard analysis. Incorporate requirement into IIPP. |
| (i) Identify foreseeable hazards and planned protective measures;   | 8CCR1509(a) Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with section 3203 of the General Industry Safety Orders.<br><br>8CCR1509(b) Every employer shall adopt a written Code of Safe Practices which relates to the employer's operations. The Code shall contain language equivalent to the relevant parts of Plate A-3 of the appendix. | No gap          | Comply with Cal/OSHA regulations.   |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*   |
|--|--|-----------------|---|
|  | <p>8CCRSUBCHAPTER 4, APPENDIX A, PLATE A-3 CODE OF SAFE PRACTICES.</p> <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.</p>   |                 |   |
| (ii) Address further hazards revealed by supplemental site information (e.g., site characterization data, as-built drawings) provided by the construction manager;   | <p>8CCR1509(a) Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with section 3203 of the General Industry Safety Orders.</p> <p>8CCR1509(b) Every employer shall adopt a written Code of Safe Practices which relates to the employer's operations. The Code shall contain language equivalent to the relevant parts of Plate A-3 of the appendix.</p> <p>8CCRSUBCHAPTER 4, APPENDIX A, PLATE A-3 CODE OF SAFE PRACTICES.</p> <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.</p> | Partial gap     | California regulations do not require the Construction Manager to do this. Incorporate requirement into IIPP. |
| (iii) Provide drawings and/or other documentation of protective measures for which applicable Occupational Safety and Health Administration (OSHA) standards require | This clause is referencing OSHA requirements.  | No gap          | Comply with Cal/OSHA regulations.   |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*                           |
|--|--|-----------------|-----------------------------------|
| preparation by a Professional Engineer or other qualified professional, and  |  |                 |                                   |
| (iv) Identify competent persons required for workplace inspections of the construction activity, where required by OSHA standards.                                       | This clause is referencing OSHA requirements.  | No gap          | Comply with Cal/OSHA regulations. |
| (2) Ensure workers are aware of foreseeable hazards and the protective measures described within the activity analysis prior to beginning work on the affected activity. | <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal. Substantial compliance with this provision includes meetings, training programs, posting, written communications, a system of anonymous notification by employees about hazards, labor/management safety and health committees, or any other means that ensures communication with employees.</p> <p>8CCR3203(a)(7) Provide training and instruction:<br/>...<br/>(C) To all employees given new job assignments for which training has not previously been received;</p> <p>8CCR1509(e) Supervisory employees shall conduct "toolbox" or "tailgate" safety meetings, or equivalent, with their crews at least every 10 working days to emphasize safety.</p> | No gap          | Comply with Cal/OSHA regulations. |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA    | Action*  |
|---|--|--------------------|--|
| <p>(3) Require that workers acknowledge being informed of the hazards and protective measures associated with assigned work activities. Those workers failing to utilize appropriate protective measures must be subject to the construction contractor’s disciplinary process.</p>   | <p>8CCR3203(a)(2) Include a system for ensuring that employees comply with safe and healthy work practices. Substantial compliance with this provision includes recognition of employees who follow safe and healthful work practices, training and retraining programs, disciplinary actions, or any other such means that ensures employee compliance with safe and healthful work practices.</p> <p>8CCR3203(b)(2) Documentation of safety and health training required by subsection (a)(7) for each employee, including employee name or other identifier, training dates, type(s) of training, and training providers.</p> | <p>No gap</p>      | <p>Comply with Cal/OSHA regulations.</p>   |
| <p>(b) During periods of active construction (i.e., excluding weekends, weather delays, or other periods of work inactivity), the construction contractor must have a designated representative on the construction worksite who is knowledgeable of the project’s hazards and has full authority to act on behalf of the construction contractor. The contractor’s designated representative must make frequent and regular inspections of the construction worksite to identify and correct any instances of noncompliance with project safety and health requirements.</p> | <p>8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices.</p>  | <p>Partial gap</p> | <p>California regulations do not specifically require this. Incorporate requirement in IIPP. .</p> |
| <p>(c) Workers must be instructed to report to the construction contractor’s designated representative, hazards not previously identified or evaluated. If immediate corrective action is not possible or the hazard falls outside of project scope, the construction contractor must immediately notify affected workers, post appropriate</p>   | <p>8CCR3203(a)(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of</p>   | <p>No gap</p>      | <p>Comply with Cal/OSHA regulations.</p>   |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*  |
|---|---|-----------------|--|
| <p>warning signs, implement needed interim control measures, and notify the construction manager of the action taken. The contractor or the designated representative must stop work in the affected area until appropriate protective measures are established.</p>  | <p>hazards at the worksite without fear of reprisal.</p> <p>8CCR3203(a)(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:... (A) When observed or discovered; and,... (B) When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, remove all exposed personnel from the area except those necessary to correct the existing condition. Employees necessary to correct the hazardous condition shall be provided the necessary safeguards.</p> |                 |  |
| <p>(d) The construction contractor must prepare a written construction project safety and health plan to implement the requirements of this section and obtain approval of the plan by the construction manager prior to commencement of any work covered by the plan. In the plan, the contractor must designate the individual(s) responsible for on-site implementation of the plan, specify qualifications for those individuals, and provide a list of those project activities for which subsequent hazard analyses are to be performed. The level of detail within the construction project safety and health plan should be commensurate with the size, complexity and risk level of the construction project. The content of this plan need not duplicate those provisions that were previously submitted and approved as required by §851.11.</p> | <p>8CCR1509(a) Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with section 3203 of the General Industry Safety Orders.</p> <p>8CCR3203(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). The Program shall be in writing and, shall, at a minimum:... (1) Identify the person or persons with authority and responsibility for implementing the Program.</p>   | Gap             | <p>California regulations do not address this section in its entirety.</p> <p>Incorporate in IIPP.</p> |
| <p><b>2. Fire Protection</b></p>  |   |                 |  |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*   |
|--|---|-----------------|---|
| (a) Contractors must implement a comprehensive fire safety and emergency response program to protect workers commensurate with the nature of the work that is performed. This includes appropriate facility and site-wide fire protection, fire alarm notification and egress features, and access to a fully staffed, trained, and equipped emergency response organization that is capable of responding in a timely and effective manner to site emergencies.   | 8CCR3221 Fire Prevention Plan<br><br>8CCR3220 Emergency Action Plan<br><br>8CCR3400 Medical Services and First Aid  | No gap          | Comply with Cal/OSHA regulations.                             |
| (b) An acceptable fire protection program must include those fire protection criteria and procedures, analyses, hardware and systems, apparatus and equipment, and personnel that would comprehensively ensure that the objective in paragraph 2(a) of this section is met. This includes meeting applicable building codes and National Fire Protection Association codes and standards.  | 8CCR3221 Fire Prevention Plan<br><br>8CCR3219 Maintenance of Fire Protection Equipment, Materials and Assemblies<br><br>8CCCRGroup 27 Fire Protection<br><br>DOE Order 420.1C is incorporated into Stanford/DoE Contract No. DE-AC02-76SF00515 H.5.3.1 Facility Safety (DOE Order 420.1C, Chg. 1 (CRD Only)(2/27/2015)) | No gap          | Maintain requirement in IIPP in accordance with M&O contract. |
| <b>3. Explosives Safety</b>  |   |                 |   |
| (a) Contractors responsible for the use of explosive materials must establish and implement a comprehensive explosives safety program.<br>(b) Contractors must comply with the policy and requirements specified in the appropriate explosives safety technical standard. (c) Contractors must determine the applicability of the explosives safety directive requirements to research and development laboratory type operations consistent with the DOE level of protection criteria described in the explosives safety directive. | No comparable requirement.  | Gap             | Incorporate requirement into IIPP.                            |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action*  |
|---|---|-----------------|--|
| <b>4. Pressure Safety</b>   |   |                 |  |
| <p>(a) Contractors must establish safety policies and procedures to ensure that pressure systems are designed, fabricated, tested, inspected, maintained, repaired, and operated by trained and qualified personnel in accordance with applicable and sound engineering principles.</p> <p>(b) Contractors must ensure that all pressure vessels, boilers, air receivers, and supporting piping systems conform to:</p> <p>(1) - (2) ... list of ASME codes</p> <p>(3) The strictest applicable state and local codes.</p>  | No Comparable Requirement   | Gap             | Incorporate requirement into IIPP  |
| <p>(c) When national consensus codes are not applicable (because of pressure range, vessel geometry, use of special materials, etc.), contractors must implement measures to provide equivalent protection and ensure a level of safety greater than or equal to the level of protection afforded by the ASME or applicable state or local code. Measures must include the following:</p> <p>(1) Design drawings, sketches, and calculations must be reviewed and approved by a qualified independent design professional (i.e., professional engineer). Documented organizational peer review is acceptable.</p> <p>(2) Qualified personnel must be used to perform examinations and inspections of materials, in-process fabrications, non- destructive tests, and acceptance test.</p> <p>(3) Documentation, traceability, and accountability must be maintained for each pressure vessel or system, including descriptions of design, pressure conditions, testing, inspection, operation, repair, and maintenance.</p> | No comparable requirement   | Gap             | <p>When conformance to the requirements of these national consensus codes is neither possible nor feasible, SLAC will implement measures to provide equivalent protection at a level of safety comparable to that achieved by complying with the requirements of these national consensus codes.</p> <p>An Alternate Pressure Systems Qualification Program, documented in the</p> |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA | Action*   |
|---|--|-----------------|---|
|   |  |                 | SLAC Environment, Safety and Health Manual, will provide a method of qualifying pressure systems that includes engineering evaluation, peer review, and management concurrence tailored to the complexity of the system, risks, and consequence of a failure. |
| <b>5. Firearms Safety</b>   |  |                 |   |
| A contractor engaged in DOE activities involving the use of firearms must establish firearms safety policies and procedures for security operations, and training to ensure proper accident prevention controls are in place..... | Firearms are not permitted on site.<br>This section does not apply to SLAC operations.   | NA              | This section does not apply to SLAC operations. Firearms are not permitted on site.   |
| <b>6. Industrial Hygiene</b>  |  |                 |   |
| Contractors must implement a comprehensive industrial hygiene program that includes at least the following elements:  | 8CCR5144(c) Respiratory protection program. This subsection requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. | No gap          | Comply with Cal/OSHA regulations.   |
| (a) Initial or baseline surveys and periodic resurveys and/or exposure monitoring as appropriate of all work areas  | 8CCR3203(a)(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to  | No gap          | Comply with Cal/OSHA regulations.   |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*                                   |
|--|---|-----------------|---|
| <p>or operations to identify and evaluate potential worker health risks;</p>   | <p>identify unsafe conditions and work practices. Inspections shall be made to identify and evaluate hazards:</p> <p>8CCR5144(d) Selection of respirators. This subsection requires the employer to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors.</p> <p>8CCR5155(e)(1) Whenever it is reasonable to suspect that employees may be exposed to concentrations of airborne contaminants in excess of levels permitted in section 5155(c), the employer shall monitor (or cause to have monitored) the work environment so that exposures to employees can be measured or calculated.</p> <p>8CCR5191(d)(1) Initial monitoring. The employer shall measure the employee's exposure to any substance regulated by a standard which requires monitoring if there is reason to believe that exposure levels for that substance exceed the action level (or in the absence of an action level, the exposure limit).</p> |                 |   |
| <p>(b) Coordination with planning and design personnel to anticipate and control health hazards that proposed facilities and operations would introduce;</p> | <p>No comparable requirement.</p>   | <p>Gap</p>      | <p>Incorporate requirement into IIPP.</p> |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”   | 851 vs Cal/OSHA | Action*                            |
|--|---|-----------------|------------------------------------|
| (c) Coordination with cognizant occupational medical, environmental, health physics, and work planning professionals;          | No comparable requirement.  | Gap             | Incorporate requirement into IIPP. |
| (d) Policies and procedures to mitigate the risk from identified and potential occupational carcinogens;                       | <p>8CCR5209 Carcinogens</p> <p>8CCR5194(e)(1) Employers shall develop, implement, and maintain at the workplace a written hazard communication program for their employees which at least describes how the criteria specified in sections 5194(f), (g), and (h) for labels and other forms of warning, safety data sheets, and employee information and training will be met,</p> <p>8CCR5194(e)(2)(B) The methods the employer will use to inform the other employer(s) of any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies;</p> | No gap          | Comply with Cal/OSHA regulations.  |
| (e) Professionally and technically qualified industrial hygienists to manage and implement the industrial hygiene program; and | <p>8CCR5144(c) The program must be administered by a suitably trained program administrator.</p> <p>8CCR5144(c)(3) The employer shall designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.</p>   | No gap          | Comply with Cal/OSHA regulations.  |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA  | Action*  |
|---|--|--|--|
|   | <p>8CCR5155(e)(3) For the adequate protection of employees, the person supervising, directing or evaluating the monitoring and control methods shall be versed in this standard and shall be competent in industrial hygiene practice.</p> <p>8CCR5191(d)(1) Initial monitoring. ... The person supervising, directing or evaluating the monitoring shall be competent in industrial hygiene practice.</p> |  |  |
| <p>(f) Use of respiratory protection equipment tested under the DOE Respirator Acceptance Program for Supplied-Air Suits when the National Institute for Occupational Safety and Health-approved respiratory protection does not exist for DOE tasks that require such equipment. For security operations military type masks for respiratory protection by security personnel is acceptable.</p> | <p>All tasks performed at SLAC are covered by the National Institute for Occupational Safety and Health-approved respiratory protection parameters.</p>  | <p>Gap with Cal/OSHA but not applicable to SLAC’s mission and operation.</p> | <p>N/A</p> <p>Not applicable based on SLAC’s mission and operations.</p> |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action*                            |
|--|---|-----------------|------------------------------------|
| <b>7. Biological Safety</b>  |   |                 |                                    |
| <p>(a) Contractors must establish and implement a biological safety program that:</p> <p>(1) Establishes an Institutional Biosafety Committee (IBC) or equivalent. The IBC must:</p> <p>(i) Review any work with biological etiologic agents for compliance with applicable Centers for Disease Control and Prevention (CDC), National Institutes of Health (NIH), World Health Organization (WHO), and other international, Federal, State, and local guidelines and assess the containment level, facilities, procedures, practices, and training and expertise of personnel; and</p> <p>(ii) Review the site’s security, safeguards, and emergency management plans and procedures to ensure they adequately consider work involving biological etiologic agents.</p> <p>(2) Maintains an inventory and status of biological etiologic agents, and provide to the responsible field and area office, through the laboratory IBC (or its equivalent), an annual status report describing the status and inventory of biological etiologic agents and the biological safety program.</p> <p>(3) Provides for submission to the appropriate Head of DOE Field Element, for review and concurrence before transmittal to the Centers for Disease Control and Prevention (CDC), each Laboratory Registration/Select Agent Program registration application package requesting registration of a laboratory facility for the purpose of transferring, receiving, or handling biological select agents.</p> <p>(4) Provides for submission to the appropriate Head of DOE Field Element, a copy of each CDC Form EA-101, Transfer of Select Agents, upon initial submission of the Form EA-101 to a vendor or other supplier requesting or</p> | No comparable requirement.  | Gap             | Incorporate requirement into IIPP. |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA         | Action*  |
|--|--|-------------------------|--|
| <p>ordering a biological select agent for transfer, receipt, and handling in the registered facility. Submit to the appropriate Head of DOE Field Element the completed copy of the Form EA-101, documenting final disposition and/or destruction of the select agent, within 10 days of completion of the Form EA-101.</p> <p>(5) Confirms that the site safeguards and security plans and emergency management programs address biological etiologic agents, with particular emphasis on biological select agents.</p> <p>(6) Establishes an immunization policy for personnel working with biological etiologic agents based on the evaluation of risk and benefit of immunization.</p> |  |                         |  |
| (b) [Reserved]   | No requirement.  | Not applicable. Remove. | N/A  |
| <b>8. Occupational Medicine</b>  |  |                         |  |
| <p>(a) Contractors must establish and provide comprehensive occupational medicine services to workers employed at a covered work place who:</p> <p>(1) Work on a DOE site for more than 30 days in a 12-month period; or</p> <p>(2) Are enrolled for any length of time in a medical or exposure monitoring program required by this rule and/or any other applicable Federal, State or local regulation, or other obligation.</p> <p>(b) The occupational medicine services must be under the direction of a graduate of a school of medicine or</p>  | <p>Partially covered by California regulations. California employers are subject to medical surveillance regulations including Title 8, CCR 5199.1, 5208, 1529, 5218, 5231, 5193, 5194, 5209, 5203, 5217, 5192, 5191, 5216, 5198, 1532.1, 5097, 5144, 5147, 5153; Title 17, CCR 30277; and Title 3, CCR 6728 and 6760. Additional California regulations require medical services in the event of a workplace injury (e.g., California Labor Code 6400, 4600, 3400 and 3700); alcohol and drug rehabilitation (i.e.,</p> | Partial gap             | SLAC will implement these requirements for SLAC employees working for any duration of time for SLAC, or enrolled in a medical or exposure monitoring program required by an applicable regulation. |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”                      | 851 vs Cal/OSHA | Action*  |
|--|--|-----------------|--|
| <p>osteopathy who is licensed for the practice of medicine in the state in which the site is located.</p> <p>(c) Occupational medical physicians, occupational health nurses, physician’s assistants, nurse practitioners, psychologists, employee assistance counselors, and other occupational health personnel providing occupational medicine services must be licensed, registered, or certified as required by Federal or State law where employed.</p> <p>(d) Contractors must provide the occupational medicine providers access to hazard information by promoting its communication, coordination, and sharing among operating and environment, safety, and health protection organizations.</p> <p>(1) Contractors must provide the occupational medicine providers with access to information on the following:</p> <p>(i) Current information about actual or potential work-related site hazards (chemical, radiological, physical, biological, or ergonomic);</p> <p>(ii) Employee job-task and hazard analysis information, including essential job functions;</p> <p>(iii) Actual or potential work-site exposures of each employee; and</p> <p>(iv) Personnel actions resulting in a change of job functions, hazards or exposures.</p> <p>(2) Contractors must notify the occupational medicine providers when an employee has been absent because of an injury or illness for more than 5 consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule);</p> <p>(3) Contractors must provide the occupational medicine provider information on, and the opportunity to</p> | <p>California Labor Code 1025 and 1026); the use of licensed medical providers, etc.</p> |                 | <p>Subcontractors to SLAC will make comprehensive occupational medicine services available to their workers as required by CA regulations or by any contractual obligations with SLAC.</p> <p>This section will be documented in the IIPP with clarification that it applies to SLAC employees – not subcontractors.</p> |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action* |
|--|---|-----------------|---------|
| <p>participate in, worker safety and health team meetings and committees;</p> <p>(4) Contractors must provide occupational medicine providers access to the workplace for evaluation of job conditions and issues relating to workers’ health.</p> <p>(e) A designated occupational medicine provider must:</p> <p>(1) Plan and implement the occupational medicine services; and</p> <p>(2) Participate in worker protection teams to build and maintain necessary partnerships among workers, their representatives, managers, and safety and health protection specialists in establishing and maintaining a safe and healthful workplace.</p> <p>(f) A record, containing any medical, health history, exposure history, and demographic data collected for the occupational medicine purposes, must be developed and maintained for each employee for whom medical services are provided. All occupational medical records must be maintained in accordance with Executive Order 13335, Incentives for the Use of Health Information Technology.</p> <p>(1) Employee medical, psychological, and employee assistance program (EAP) records must be kept confidential, protected from unauthorized access, and stored under conditions that ensure their long-term preservation. Psychological records must be maintained separately from medical records and in the custody the designated psychologist in accordance with 10 CFR 712.38(b)(2).</p> <p>(2) Access to these records must be provided in accordance with DOE regulations implementing the Privacy Act and the Energy Employees Occupational Illness Compensation Program Act.</p> |   |                 |         |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action* |
|--|---|-----------------|---------|
| <p>(g) The occupational medicine services provider must determine the content of the worker health evaluations, which must be conducted under the direction of a licensed physician, in accordance with current sound and acceptable medical practices and all pertinent statutory and regulatory requirements, such as the Americans with Disabilities Act.</p> <p>(1) Workers must be informed of the purpose and nature of the medical evaluations and tests offered by the occupational medicine provider.</p> <p>(i) The purpose, nature and results of evaluations and tests must be clearly communicated verbally and in writing to each worker provided testing;</p> <p>(ii) The communication must be documented in the worker’s medical record; and</p> <p>(2) The following health evaluations must be conducted when determined necessary by the occupational medicine provider for the purpose of providing initial and continuing assessment of employee fitness for duty.</p> <p>(i) At the time of employment entrance or transfer to a job with new functions and hazards, a medical placement evaluation of the individual’s general health and physical and psychological capacity to perform work will establish a baseline record of physical condition and assure fitness for duty.</p> <p>(ii) Periodic, hazard-based medical monitoring or qualification-based fitness for duty evaluations required by regulations and standards, or as recommended by the occupational medicine services provider, will be provided on the frequency required.</p> <p>(iii) Diagnostic examinations will evaluate employee’s injuries and illnesses to determine work-relatedness, the</p> |   |                 |         |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action* |
|--|---|-----------------|---------|
| <p>applicability of medical restrictions, and referral for definitive care, as appropriate.</p> <p>(iv) After a work-related injury or illness or an absence due to any injury or illness lasting 5 or more consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule), a return to work evaluation will determine the individual’s physical and psychological capacity to perform work and return to duty.</p> <p>(v) At the time of separation from employment, individuals shall be offered a general health evaluation to establish a record of physical condition.</p> <p>(h) The occupational medicine provider must monitor ill and injured workers to facilitate their rehabilitation and safe return to work and to minimize lost time and its associated costs.</p> <p>(1) The occupational medicine provider must place an individual under medical restrictions when health evaluations indicate that the worker should not perform certain job tasks. The occupational medicine provider must notify the worker and contractor management when employee work restrictions are imposed or removed.</p> <p>(i) Occupational medicine provider physician and medical staff must, on a timely basis, communicate results of health evaluations to management and safety and health protection specialists to facilitate the mitigation of worksite hazards.</p> <p>(j) The occupational medicine provider must include measures to identify and manage the principal preventable causes of premature morbidity and mortality affecting worker health and productivity.</p> |   |                 |         |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful” | 851 vs Cal/OSHA | Action* |
|--|---|-----------------|---------|
| <p>(1) The contractor must include programs to prevent and manage these causes of morbidity when evaluations demonstrate their cost effectiveness.</p> <p>(2) Contractors must make available to the occupational medicine provider appropriate access to information from health, disability, and other insurance plans (de-identified as necessary) in order to facilitate this process.</p> <p>(k) The occupational medicine services provider must review and approve the medical and behavioral aspects of employee counseling and health promotional programs, including the following types:</p> <p>(1) Contractor-sponsored or contractor supported EAPs;</p> <p>(2) Contractor-sponsored or contractor supported alcohol and other substance abuse rehabilitation programs; and</p> <p>(3) Contractor-sponsored or contractor supported wellness programs.</p> <p>(4) The occupational medicine services provider must review the medical aspects of immunization programs, blood-borne pathogens programs, and bio-hazardous waste programs to evaluate their conformance to applicable guidelines.</p> <p>(5) The occupational medicine services provider must develop and periodically review medical emergency response procedures included in site emergency and disaster preparedness plans. The medical emergency responses must be integrated with nearby community emergency and disaster plans.</p> |   |                 |         |

| Appendix A to Part 851 – Worker Safety and Health<br>Functional Areas   | Cal/OSHA (or California) regulation that is “As Safe and Healthful”  | 851 vs Cal/OSHA    | Action*                                   |
|---|--|--------------------|---|
| <b>9. Motor Vehicle Safety</b>  |  |                    |   |
| <p>(a) Contractors must implement a motor vehicle safety program to protect the safety and health of all drivers and passengers in Government-owned or -leased motor vehicles and powered industrial equipment (i.e., fork trucks, tractors, platform lift trucks, and other similar specialized equipment powered by an electric motor or an internal combustion engine).</p> <p>(b) The contractor must tailor the motor vehicle safety program to the individual DOE site or facility, based on an analysis of the needs of that particular site or facility.</p> <p>(c) The motor vehicle safety program must address, as applicable to the contractor’s operations:</p> <ul style="list-style-type: none"> <li>(1) Minimum licensing requirements (including appropriate testing and medical qualification) for personnel operating motor vehicles and powered industrial equipment;</li> <li>(2) Requirements for the use of seat belts and provision of other safety devices;</li> <li>(3) Training for specialty vehicle operators;</li> <li>(4) Requirements for motor vehicle maintenance and inspection;</li> <li>(5) Uniform traffic and pedestrian control devices and road signs;</li> <li>(6) On-site speed limits and other traffic rules;</li> <li>(7) Awareness campaigns and incentive programs to encourage safe driving; and</li> <li>(8) Enforcement provisions.</li> </ul> | <p>Various Cal/OSHA requirements address elements of motor vehicle and powered industrial equipment safety such as 8CCR 3649 - 3669. Industrial Trucks, Tractors, Haulage Vehicles, and Earthmoving Equipment as do California Department of Motor Vehicle rules. However, there is not a comparable requirement to have a motor vehicle safety program however.</p> | <p>Partial gap</p> | <p>Incorporate requirement into IIPP.</p> |
| <b>10. Electrical Safety</b>  |  |                    |   |
| <p>Contractors must implement a comprehensive electrical safety program appropriate for the activities at their site.</p>   | <p>No comparable requirement.</p>  | <p>Gap</p>         | <p>Incorporate requirement into IIPP.</p> |

| Appendix A to Part 851 – Worker Safety and Health Functional Areas  | Cal/OSHA (or California) regulation that is “As Safe and Healthful”     | 851 vs Cal/OSHA | Action*  |
|---|---|-----------------|--|
| This program must meet the applicable electrical safety codes and standards referenced in § 851.23.   |   |                 |  |
| <b>11. Nanotechnology Safety – Reserved</b>   |   |                 |  |
| The Department has chosen to reserve this section since policy and procedures for nanotechnology safety are currently being developed. Once these policies and procedures have been approved, the rule will be amended to include them through a rulemaking consistent with the Administrative Procedure Act.             | Not applicable as there is not a specific DOE requirement at this time. | No requirement  | No action required.<br><br>Note: SLAC implements The Safe Handling of Unbound Engineered Nanoparticles (DOE Order 456.1, Admin Chg. 1 (CRD Only) (2/14/2013)) in Stanford/DoE Contract No. DE-AC02-76SF00515 Clause H.5.5 - Nanomaterials Safety |
| <b>12. Workplace Violence Prevention – Reserved</b>   |   |                 |  |
| The Department has chosen to reserve this section since the policy and procedures for workplace violence prevention are currently being developed. Once these policies and procedures have been approved, the rule will be amended to include them through a rulemaking consistent with the Administrative Procedure Act. | Not applicable as there is not a specific DOE requirement at this time. | No requirement  | No action required.<br><br>Note: SLAC maintains a workplace violation prevention program.  |

\*Maintain in IIPP = No gap exists but for clarification (or emphasis) SLAC will include the requirement in new IIPP.

Incorporate in IIPP = A gap or partial gap exists. SLAC will include the 851 requirement in the new IIPP.

Comply with Cal/OSHA Regulation = No gap exists. The SLAC IIPP will include a statement to comply with Cal/OSHA regulations.



**Attachment 5**  
**Meeting Documentation**

**Board of Overseers**  
**Operations Committee Meeting**  
**October 29-30, 2018**  
**AGENDA**

| Start Time  | Topic   | Speaker/Attendees                | Talk | Discussion |
|---|---|----------------------------------|------|------------|
| <b>Monday, October 29, 2018</b>   |   |                                  |      |            |
| <b>6:00 PM</b>  | <b>Welcome Dinner</b><br>Location: SLAC / SUSB (053) / Lobby  | Committee & SLAC Senior Managers |      |            |
| <b>7:00 PM</b>  | DC/Stanford Update  | Bill Madia                       | 30   | 15         |
| <b>Tuesday, October 30, 2018 ( Panofsky Auditorium, SUSB-Bldg. 53 - First Floor )</b> |   |                                  |      |            |
| <b>Executive Plenary Session - CLOSED</b>   |   |                                  |      |            |
| <b>7:30 AM</b>  | Breakfast Buffet  |                                  |      |            |
| <b>8:00 AM</b>  | DOE SLAC Site Office  | Paul Golan                       | 10   | 5          |
| <b>8:15 AM</b>  | Director's Update   | Chi-Chang Kao                    | 10   | 5          |
| <b>Plenary Session – OPEN</b>   |   |                                  |      |            |
| <b>8:30 AM</b>  | <b>Break / Doors Open</b>   |                                  |      |            |
| <b>8:45 AM</b>  | State of the Laboratory   | Chi-Chang Kao                    | 20   | 10         |
| <b>9:15 AM</b>  | Large Projects: Progress and Risks  | Norbert Holtkamp                 | 20   | 10         |
| <b>9:45 AM</b>  | Operational Risks and PEMP Progress   | Brian Sherin                     | 20   | 10         |
| <b>10:15 AM</b>   | FY19 Laboratory Budget  | Suzanne Hansen                   | 20   | 10         |
| <b>10:45 AM</b>   | <b>BREAK / Committee Breakout Sessions</b><br>Berryessa 2002: Finance & Audit Committee<br>Almanor 3002: Human Resources Committee<br>Havasu 3004: Operations Committee |                                  |      |            |
| <b>11:00 AM</b>   | Operations Status   | Brian Sherin                     | 20   | 10         |
| <b>11:30 AM</b>   | Risk Update: Significant Changes  | Marc Clay                        | 20   | 10         |
| <b>12:00 PM</b>   | <b>Lunch</b>  |                                  |      |            |
| <b>12:45 PM</b>   | Deep Dive: Emergency Management and Response Program  | Carole Fried<br>Lance Lougée     | 60   | 30         |
| <b>2:15 PM</b>  | ESH Update: <ul style="list-style-type: none"> <li>• LCLS-II Tritium Update</li> <li>• DOE Variance for Cal/OSHA v. 10 CFR851</li> </ul>                                | Carole Fried                     | 15   | 10         |
| <b>2:40 PM</b>  | 230 kV Power Line Hazards   | Machelle Vieux<br>Carole Fried   | 20   | 15         |

|   |  |                |    |    |
|---|--|----------------|----|----|
| <b>3:15 PM</b>  | <b>Break</b>   |                |    |    |
| <b>3:30 PM</b>  | F&O Update: Construction Corrective Action Plan Status | Machelle Vieux | 30 | 15 |
| <b>4:00 PM</b>  | <b>Executive Prep Session – CLOSED</b>                 |                |    |    |
| <b>5:00 PM</b>  | <b>Executive Session – CLOSEOUT</b>                    | Senior Mgmt.*  |    |    |
| <b>5:30 PM</b>  | <b>Adjourn</b>   |                |    |    |
| <i>*Senior Management includes the Stanford VP for SLAC, SLAC Director, SLAC Deputy Director for Operations, Director of Contractor Assurance and Board Secretary</i> |  |                |    |    |

**Appendix: Names/Titles of Presenters at Board of Overseers (BoO) Operations Meeting**

Bill Madia – Vice President for SLAC, Stanford University  
Paul Golan – Manager, U.S. Department of Energy SLAC Site Office  
Chi-Chang Kao – Director, SLAC National Accelerator Laboratory (SLAC)  
Norbert Holtkamp – Deputy Director, SLAC  
Brian Sherin – Deputy Director of Operations, SLAC  
Suzanne Hansen – Director, Business and Technology Services, Chief Financial Officer, SLAC  
Marc Clay – Director, Contractor Assurance, SLAC  
Carole Fried – Director, Environmental Safety & Health, SLAC  
Lance Lougée – Asst. Fire Marshall / Emergency Manager, SLAC  
Machelle Vieux – Director, Facilities and Operations, SLAC

Operations Committee Members Attending:

Larry Gibbs – Associate VP, EH&S, Stanford University (Chair)  
Ryan Adesnik – AVP & Director, Federal Gov’t Relations, Stanford University  
Don Boyd – Lawrence Livermore National Laboratory (retired)  
Robert Reidy – Vice President, Lands, Buildings & Real Estate, Stanford University  
Kim Sawyer – Chief Operations Officer, Argonne National Laboratory (Acting)  
Mike Schlender – Chief Operations Officer, Pacific Northwest National Laboratory

Operations Committee Members NOT Attending:

Jack Anderson – Deputy Director for Operations, Brookhaven National Laboratory



## Fried, Carole

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**Subject:** SLAC HRD&S and Union Steward Leadership Introductions

**Location:** 052-203 Merced River Conference Room

**Start:** Mon 10/8/2018 9:00 AM

**End:** Mon 10/8/2018 10:00 AM

**Recurrence:** (none)

**Meeting Status:** Accepted

**Organizer:** Verleger, Jodi R. Z.

**Required Attendees:** Miller, Dale A.; Diaz, Gabriel L.; Brotoiu, Constantin M.; Perinet, Christian R.; Zacarias, Lisa M; Shtalenkova, Jane; Leahy, Michelle; Welch, Bryant P.; Fried, Carole; Sawyer, Jeremy S; Woodward, Angelica C.; Shupert, Eric; Stewart Hyland (shyland@seiu2007.org)

**Attendees:**

- Dale Miller
- Gabriel Diaz
- Constantin Brotoiu
- Christian Perinet
- Lisa Zacarias
- Jane Shtalenkova
- Stewart Hyland
- Carole Fried
- Jeremy Sawyer
- Michelle Leahy
- Eric Shupet
- Bryant Welch
- Angelica Woodward
- Thomas Rizzi (*Not attending - Columbus Day a federal holiday*)



## ES&H COORDINATORS MEETING

Monday, December 10, 2018

2:00-3:00 pm

Building 40 – Sycamore Conference Room

### Invitees:

|                      |                             |
|----------------------|-----------------------------|
| Yolanda L. Pilastro  | Sayed H. Rokni              |
| Terrence McMahon     | Matthew DeAngelis           |
| John J. Seabury      | Richard Wittman             |
| Helen Marie Nuckolls | Ian Walter Evans            |
| John Van Pelt        | Paul Miller                 |
| Robin Christenson    | Matthew T. Padilla          |
| Greg W. Johnson      | Randy J. Ralston            |
| Michael Ratelle      | Britt von Thaden            |
| Mike McDaniel        | Joseph C. Kenny             |
| Marc Weibel          | Simon Ovrahim               |
| Marcia Torres        | Zoe Van Hoover              |
| Norm Picker          | Keith Jobe                  |
| Carole Fried         | Risa Benwell                |
| Doug Stickney        | Mark Tiemeier               |
| Cindy Patty          | Connor Wilms                |
| Cathie Montanez      | Marcus Balanky              |
| Lance Lougee         | Rich Poliak                 |
| Brooke Brandon-Uola  | Jeremy Sawyer               |
| Kayla Zimmerman      | <b>Support:</b> Mary Nelson |

## AGENDA

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- A. **Overview of Recent Incidents & Lessons Learned** – Marc Weibel (10 minutes)
- B. **Process of Sealed Source Acquisition** – Marcia Torres (10 minutes)
- C. **Update on the 851 CalOsha Variance** – Carole Fried (10 minutes)
- D. **Chemical Deliveries and Hazardous Waste Management** – Yoli Pilastro (10 minutes)
- E. **Training Update and STA Information** – Terry McMahon (10 minutes)
- F. **Roundtable** (5 minutes)

## OPEN ACTIONS

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None

<https://slacspace.slac.stanford.edu/sites/CQA/incidentreporting/thatswhats happening/>



**Attachment 6**

**November 12, 2018 SLAC Today Posting**

# Proposal to change to Cal/OSHA safety standards

From Environment, Safety & Health

November 12, 2018



In 2015, SLAC began efforts to streamline the DOE/Stanford University contract for the management and operation of the lab.

The former U.S. Secretary of Energy, Ernest Moniz, was very interested in a “revolutionary approach” to contract management, so SLAC partnered with our DOE site office to develop a [Revolutionary Working Group](#) (RWG). A new RWG contract was signed in 2016 that was tailored to SLAC, allowing us to pursue the lab’s mission with greater responsibility and agility.

## Application to move to Cal/OSHA safety standards

Historically, work done at SLAC required adherence to federal safety standards. This has sometimes caused confusion for contractors and their associated companies, who are familiar with and accustomed to complying with California safety standards.

As part of the next phase in the RWG process, SLAC will be submitting a variance application to the DOE to begin following the California Occupational Safety and Health Administration (Cal/OSHA) safety standards rather than Federal Occupational Safety and Health Administration (Fed/OSHA) standards.

SLAC’s current safety program also follows Title 10 in the Code of Federal Regulations (CFR) 851, which is unique to DOE labs. Parts of CFR 851 would continue to remain in effect since it offers a higher level of protection in areas such as laser and electrical safety. These parts would be moved into a new SLAC Injury and Illness Prevention Plan (IIPP), which would replace our Worker Safety and Health Program (WSHP).

“These changes will make it less confusing for our construction contractors and others who work at

SLAC, since they use Cal/OSHA rules at other sites and have to modify their safety terminology and training to work here,” says the Environment, Safety & Health (ES&H) Division Director, Carole Fried. “It also potentially helps to better align SLAC’s safety rules with Stanford’s, which also uses Cal/OSHA safety standards.”

Best practices such as Work Planning and Control (WPC) and Integrated Safety and Environmental Management System (ISEMS) will be incorporated into the new SLAC IIPP.

The Cal/OSHA program is approved by Fed/OSHA and is equally protective of workers. In addition, Cal/OSHA has ergonomic standards, a program for heat illness prevention, and stricter levels of permissible exposure levels to air contaminants.

The internal safety reporting structure will remain the same, with DOE being the enforcement agency.

### **Provide your comments to the DOE**

The 10 CFR 851 “variance process” allows for employees to send comments on this change to the DOE. A copy of the variance application can be viewed in Building 41, outside Room 1028 at the open conference table.

If there are any questions regarding this process or if you would like to review an electronic copy, please contact [Carole Fried](#).

SLAC employees and subcontractors who are concerned about the variance have the right to petition the DOE Assistant Secretary for Environment, Safety, and Health for a conference on the application for a variance. Information on filing can be found at the [Electronic Code of Federal Regulations website](#).

## **Tags**

[Department of Energy](#)

[Environment, Safety & Health \(ES&H\)](#)

[Staff Resources](#)

## **FEATURED NEWS**

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[2018 SLAC Director's Award winners announced](#)

[Symmetry: 10 words that mean something different to physicists](#)

[Employees celebrate 10 years of service](#)

**Department of Energy**

Washington, DC 20585

August 16, 2019

MEMORANDUM FOR THE UNDER SECRETARY FOR SCIENCE

THROUGH:

MARK W. MENEZES  
UNDER SECRETARY OF ENERGY

FROM:

MATTHEW B. MOURY  
ASSOCIATE UNDER SECRETARY FOR  
ENVIRONMENT, HEALTH, SAFETY AND SECURITY

SUBJECT:

**ACTION:** Recommendation for Approval of a Permanent Variance to Use the California Occupational Safety and Health Administration's Safety and Health Regulations in Lieu of Specified Provisions of Title 10, Code of Federal Regulations, Part 851, *Worker Safety and Health Program*, for the Worker Safety and Health Pilot at the SLAC National Accelerator Laboratory (SLAC)

**ISSUE:** Whether to approve a permanent variance request made by Stanford University, as operator of the SLAC National Accelerator Laboratory from specified provisions in title 10, Code of Federal Regulations, Part 851, *Worker Safety and Health Program* (10 CFR Part 851), Subparts B and C, and Appendix A. This variance request was submitted as a part of a pilot, as outlined in the *Approval of a Worker Safety Pilot at SLAC and Lawrence Berkeley National Laboratory* memorandum, which was approved by the Deputy Secretary on September 10, 2018 (Attachment 1).

The Deputy Director for Field Operations within the Office of Science (SC), indicates that SC at Headquarters and the Bay Area Site Office endorse this permanent variance request for the pilot (Attachment 2).

**BACKGROUND:** Title 10 CFR § 851.3 defines a contractor as: any entity, including affiliated entities, such as a parent corporation, under contract with Department of Energy (DOE), or a subcontractor at any tier, that has responsibilities for performing work at a DOE site in furtherance of a DOE mission. In performing its DOE mission, SLAC and its subcontractors are required to comply with the provisions in 10 CFR part 851, which establishes the framework for a worker protection program that will reduce or prevent occupational injuries and illnesses, and accidental losses by requiring DOE contractors to provide their employees with safe and healthful workplaces.



For the worker safety and health pilot, SLAC is seeking a permanent variance from specified provisions of 10 CFR Part 851, Subparts B and C, and Appendix A. SLAC proposes to use title 8, California Code of Regulations (CCR), section 3203 (8 CCR § 3203), instead of the specified provisions in Subpart B, and comply with applicable California Occupational Safety and Health Administration (Cal-OSHA) regulations in lieu of the specified requirements in 10 CFR Part 851, Subpart C, and Appendix A. Where there are gaps between the requirements of 10 CFR Part 851 and Cal-OSHA, SLAC's application commits to continue to comply with 10 CFR Part 851.

The Cal-OSHA regulations and 10 CFR Part 851 are both intended to provide workers with a workplace that is safe and healthful. In those cases where provisions of 10 CFR Part 851, Subparts B and C, and Appendix A are not adequately covered by Cal-OSHA regulations, SLAC proposes to incorporate those specific sections of 10 CFR Part 851 and existing contract provisions into the DOE-approved Injury and Illness Protection Program (IIPP), as needed, in order to "provide workers a place of employment which is as safe and healthful as would result from compliance with the standard[s] from which a variance is sought," as required by 10 CFR § 851.31(d)(2)(ii).

The Under Secretary who has primary line management responsibility for a contractor is authorized to approve variances requested by those contractors, consistent with the procedures provided in 10 CFR Part 851, Subpart D, *Variances*. The regulation also requires the Associate Under Secretary for Environment, Health, Safety and Security (AU) to provide a recommendation to approve, approve with conditions, or deny the variance. AU recommends that the Under Secretary for Science approve the variance requested by SLAC, with the conditions outlined below.

SLAC's variance request proposes to establish, implement, and maintain an effective IIPP, as required by 8 CCR, section 3203, using a combination of applicable Cal-OSHA regulations and by incorporating existing contract provisions and certain provisions of 10 CFR Part 851 into the IIPP, as needed to provide its "workers a place of employment which is as safe and healthful as would result from compliance with" the 10 CFR Part 851 requirements from which a variance is sought. As proposed, IIPP would be approved by the appropriate Head of DOE Field Element. Table I of the SLAC variance request (Attachment 3) identifies specific Cal-OSHA or relevant California Department of Labor Regulations that would provide workers a place of employment which is as safe and healthful as would result from compliance with the standard from which a variance is sought, and identifies areas not adequately covered by the California regulations. SLAC's variance request commits to include 10 CFR Part 851 and existing contract requirements in the IIPP where those gaps exist.

Based upon a review by my office, I recommend approval of the SLAC variance application, conditioned on SLAC's adherence to the commitments made in Table I of the variance application to adopt and implement in its IIPP the combination of 10 CFR Part 851, contract provisions, and California regulations indicated, except that, and in addition, approval should also be conditioned upon SLAC's agreement to include contract provisions with each of its subcontractors performing work in furtherance of a

DOE mission at the SLAC site that require the subcontractors to adhere to the applicable provisions of the SLAC variance and either adopt the SLAC IIPP or develop their own IIPPs that are consistent with the SLAC variance.

**SENSITIVITIES:** Substituting 10 CFR Part 851 worker safety standards that were instituted in 2006 for CAL-OSHA standards at SLAC would be the most significant initiative the Department has taken to make use of alternative, but as safe and healthful worker safety and health standards.

**POLICY IMPACT:** None.

**URGENCY:** Approval of the variance is needed so that SLAC can start benefitting from using a larger pool of highly qualified contractors that are already familiar with the CAL-OSHA Standard for the conduct of work at SLAC.

**RECOMMENDATION:** That you approve, with the conditions as noted, this permanent variance for the worker safety and health pilot at SLAC.

APPROVE: PMO DISAPPROVE: \_\_\_\_\_ NEEDS DISCUSSION: \_\_\_\_\_ DATE: AUG 29 2019

Attachments