

**PROJECT TITLE** 

| Print     Sign       Laboratory Lead:  |
|--|
| PI(s):       LL:         AD:       CTIVITY LOCATION BY LAB ROOM NUMBER         Principal Investigator, Laboratory Lead, and CAES Safety Officer         Principal Investigator       Print         Sign       Date:         Print       Sign         aboratory Lead:       Print       Date:         Print       Sign       Date:         AD:       Print       Date:  |
| LL:       AD:         ACTIVITY LOCATION BY LAB ROOM NUMBER         Principal Investigator, Laboratory Lead, and CAES Safety Officer         Principal Investigator, Laboratory Lead, and CAES Safety Officer       Appr         Print       Sign       Date:         Print       Sign       Date:         CAES Safety Officer:       Date:         CAES Safety Officer:       Date:  |
| AD:<br>ACTIVITY LOCATION BY LAB ROOM NUMBER<br>Principal Investigator, Laboratory Lead, and CAES Safety Officer Appr<br>Print Sign<br>Date:<br>Print Sign<br>Laboratory Lead:<br>Print Sign<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Date:<br>Da |
| ACTIVITY LOCATION BY LAB ROOM NUMBER         Principal Investigator, Laboratory Lead, and CAES Safety Officer       Appr         Print       Sign       Date:         Print       Sign       Date:         Caboratory Lead:  |
| Principal Investigator, Laboratory Lead, and CAES Safety Officer       Appr         Print       Sign       Date:         Print       Sign       Date:         Laboratory Lead:   |
| Print     Sign       Principal Investigator:   |
| Print     Sign       Principal Investigator:   |
| Print     Sign       Principal Investigator:   |
| Principal Investigator: Date:<br>Print Sign Date: Laboratory Lead: Date: Print Sign CAES Safety Officer: Date:   |
| Print     Sign       Laboratory Lead:  |
| PrintSignLaboratory Lead:  |
| Laboratory Lead:   |
| Print     Sign       CAES Safety Officer:     Date:  |
| Print     Sign       CAES Safety Officer:     Date:  |
| CAES Safety Officer: Date:   |
|  |
| ·  |
| RESEARCH STAFF   |
| RESEARCH STAFF   |
|  |
|  |
|  |
|  |
| MAJOR EQUIPMENT USED IN ACTIVITY   |

**1. TRAINING REQUIREMENTS** (All CAES general and Lab Specific trainings are required; this is to list additional training requirements.)

#### 2. PURPOSE/SCOPE/APPLICABILITY (include activity abstract and objectives)

1.1 Research Activity Description (include activity approach)

# 3. **RISK AND CONTROLS**

Table 2.1 Risks and controls (replicate table as many times as necessary to describe the hazards of your project).

| This table is fo   | or information purp | oses only. Delete this table prior to submitting the plan for   |
|--|---------------------|---|
| review.  |                     |   |
| Task:<br>Identify any<br>tasks that<br>have                            | Hazard(s)           | Identify any hazards associated with the task that may cause<br>personal injury or equipment damage. Examples of hazards<br>include burns, falls, chemical contact, chemical inhalation,<br>cuts, abrasions, etc.   |
| associated   | Engineering         | Engineering Controls: Engineering controls are used to  |
| hazards or<br>require<br>controls to<br>prevent<br>equipment<br>damage | Control(s)          | remove a hazard or place a barrier between the worker and<br>the hazard. Well-designed engineering controls can be highly<br>effective in protecting workers and will typically be<br><u>independent of worker interactions</u> to provide this high level<br>of protection.<br>Engineering Controls are methods of eliminating, reducing,<br>or controlling employee exposures to a chemical or physical<br>agent by modifying the source or reducing the quantity of<br>contaminants released into the work environment. Examples<br>include safety interlocks, sound dampening materials to<br>reduce noise levels, ventilation systems (fume hoods), self-<br>capping syringe needles, etc. |
|  | Administrative      | Administrative Controls: Methods of controlling or reducing   |
|  | Control(s)          | duration, frequency, and severity of employee exposure to<br>hazardous chemicals or situations by job rotation, work<br>assignment, time periods away from the hazard, or training in<br>specific work practices designed to reduce the exposure.<br>These control measures have many limitations because the<br>hazard itself is not actually removed or reduced.  |
|  | PPE                 | <b>PPE</b> : devices worn by the worker to protect against hazards<br>in the environment. Respirators, gloves, safety shoes, and<br>hearing protectors are examples.  |
|  | Special             | Describe any other information relative to the task that is not   |
|  | Instruction(s)      | covered in the information above.   |
|  | Task Specific       | <i>Identify the training that is required to perform the task.</i>  |

Project Plan: Center for Advanced Energy Studies

| CATES                                 |                      | Identifier:     | CAES – 030 Project | Plan Template |
|---------------------------------------|----------------------|-----------------|--------------------|---------------|
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| Training |
|----------|
| Training |

| Task: | Hazard(s)      |  |
|-------|----------------|--|
|       | Engineering    |  |
|       | Control(s)     |  |
|       | Administrative |  |
|       | Control(s)     |  |
|       | PPE            |  |
|       | Special        |  |
|       | Instruction(s) |  |
|       | Task Specific  |  |
|       | Training       |  |

## 4. WASTE GENERATION

| Type of Waste          | Anticipated Volume      | Container Type         | Disposal<br>Responsibility |
|------------------------|-------------------------|------------------------|----------------------------|
|                        |                         |                        |                            |
|                        |                         |                        |                            |
|                        |                         |                        |                            |
| List any special needs | /requirements for stora | ge and handling and di | sposal of wastes.          |
| If a spill occurs, how | will it be cleaned up?  |                        |                            |

# 5. **\*EXPORT COMPLIANCE**

| <b>Export Controlled</b> | List any specific laboratory areas where export controlled technology is   |
|--------------------------|--|
| Technology and           | located and the restrictions on access to the technology.  |
| <b>Technical Data</b>    |  |
| Management               | <b>NOTE:</b> Export controlled technology is specific information necessary<br>for the development, production, or use of hardware, material, or<br>equipment or an export controlled activity. Information that is publicly<br>available or unrestricted from public release is <u>not</u> export-controlled<br>technology. |
| Software Controls        | List software (that is developed, used or shared) that is not publicly available for free and that has restrictions on further dissemination.  |
| Shipment Controls        | List any equipment, materials or hardware that will be shipped outside of<br>the U.S. borders or will have transfers of ownership or financial<br>responsibility within the U.S. borders.  |

**Project Plan: Center for Advanced Energy Studies** 

| CAES                                  |                      | Identifier:     | CAES – 030 Project Plan Te | emplate     |
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| Access Controls         | List any access controls on technology, technical data or software   |
|-------------------------|--|
| (for proprietary        | related to the project such as the following:  |
| work, if<br>applicable) | • Key card access to lab area where project work is being conducted  |
|                         | • Proper technology, technical data, and/or software access controls (e.g. locking up hard copies of technology and/or technical data in cabinets, password protection/encryption of |
|                         | electronic files and/or software, etc.)  |

### 6. EMERGENCY PROCEDURES

## 7. EXIT STRATEGY

#### 8. SUPPORTING DOCUMENTATION

- 6.1 Additional Documents Supporting this Project Plan
- 6.2 References

#### 9. DRAWINGS AND DIAGRAMS

#### **10. APPENDICES**

Appendix A, Chemical Inventory

### 11. DOCUMENT COMMENTS

This document is a living document. Please provide recommendations below so that your inputs can be reviewed and incorporated into the next revision of this document.

|                  | Document |         |      |
|------------------|----------|---------|------|
| Contributor Name | Section  | Comment | Date |

| <b>Project Plan: Center</b> | for Advanced | <b>Energy Studies</b> |
|-----------------------------|--------------|-----------------------|
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| OAEC                |               | Identifier:     | CAES – 030 Project Plan | Template    |
|---------------------|---------------|-----------------|-------------------------|-------------|
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### **APPENDIX A**

#### **CHEMICAL INVENTORY**

(Chemical hazards are captured in the body of the Project Plan - this section only provides a list of chemicals used in execution of the plan.)

| Name | CAS Number | NFPA                   | Maximum<br>Storage Volume | Comments |
|------|------------|------------------------|---------------------------|----------|
|      |            | Health -               |                           |          |
|      |            | Fire -<br>Reactivity - |                           |          |
|      |            | Reactivity -           |                           |          |
|      |            |                        |                           |          |
|      |            |                        |                           |          |
|      |            |                        |                           |          |