



## 2.29 C-A Procedure for Enhanced Work Planning for Experimenters

### 1. Purpose

- 1.1 This procedure provides the C-A Experimental Work Control Coordinator (WCC) and the Experimental Review Coordinator (ERC) with requirements for Work Control and where needed, planning. This procedure documents WCC's and ERC's responsibilities and communications that exist at the C-A Department for Work Control. The Enhanced-Work-Planning endeavor applies to operation, maintenance, and repair activities for experiments at C-A, for which written procedures and/or risk assessments do not exist. The purpose of this enhanced planning is to enhance a job performed at an experiment with written procedures, and /or with risk reviews, whenever they are deemed to be lacking. This procedure supplements the C-A Department's commitment to safe operations. The [C-A Experimental Safety Review Committee](#) , C-A [Accelerator Systems Safety Review Committee](#), and [C-A OSH Management System Program](#) are integrated with the work control process to achieve this commitment.
- 1.2 This procedure documents existing Work Controls at C-A.
- 1.3 C-A Work Control is intended to capture the five core functions from DOE's Integrated Safety Management System Guide, DOE P 450.4:
  - Core Function 1, Define Scope of Work
  - Core Function 2, Identify Hazards
  - Core Function 3, Develop Controls
  - Core Function 4, Perform Work
  - Core Function 5, Feedback and Improvement
- 1.4 Definitions:
  - 1.4.1 A Work-Control system is a C-A Department approved system used by a WCC to document the requirements of this procedure.
  - 1.4.2 A job is any modification, maintenance, setup and/or construction work by C-A, or non-C-A personnel, within the C-A Complex.

### 2. Responsibilities

- 2.1 Only WCCs and ERCs shall implement this procedure.
- 2.2 The WCC is responsible for ensuring all C-A Work Controls listed in [C-A-OPM-ATT 2.28.d](#) are applied when appropriate. WCCs and ERCs shall review all jobs against the criteria stated [in C-A-OPM-ATT 2.28.d](#), and from [BNL SBMS "Work Planning and Controls for Experiments and Operations"](#).

- 2.3 The ERC shall be a member of the C-A Experimental Safety Review Committee and the C-A Accelerator Systems Safety Review Committee. The ERC shall incorporate any requirements of the committees as appropriate into the Experimental Work Control Plan.

**Note:**

Enhanced Work Planning and Work Control are two different aspects of work. All jobs must be entered into a Work Control System, whereas Moderate and High Hazard jobs also require Enhanced Work Planning, [C-A-OPM 2.28 “C-A Procedure for Work Planning and Control for Operations.”](#)

**3. Prerequisites**

- 3.1 The Department Chair/Division Manager appoints an Experiment Review Coordinator. The ERC shall be trained in C-A Experimental Work Control Coordinator Training (AD-EXPWCC). This training shall consist of Read and Acknowledgement of C-A-OPM [2.29](#), [2.28.d](#) and [BNL SBMS “Work Planning and Controls for Experiments and Operations”](#), Section 1 “Experimental Safety Review”. Additionally Laboratory approved Work Planning and Control training is required.
- 3.2 Experimental Work Control Coordinators shall be trained in C-A Experimental Work Control Coordinator Training (C-A EXPWCC). This training shall consist of Read and Acknowledgement of C-A-OPM [2.29](#), [2.28.d](#) and [BNL SBMS “Work Planning and Controls for Experiments and Operations”](#), Section 1 “Experimental Safety Review”.

**4. Precautions**

None

**5. Procedure**

- 5.1 All work initiated by the WCC shall be documented in a Work Control System.
- 5.1.1 The design of the WCC’s Work Control System may be in the form of a list of Low Hazard, Skill-of-the-Craft jobs, performed at the experiment.
- 5.1.2 The WCC, ERC, along with the [Liaison Physicist](#), and Experimental Spokesperson or designee shall determine the list of jobs.
- 5.1.3 The WCC shall have their Work Control System reviewed by the C-A ESHQ Division Head.
- 5.1.4 The Work Control System shall have the following minimum elements:

- A list of Low Hazard, Skill of the Craft jobs that will be routinely performed by qualified personnel. A cover sheet, [C-A-OPM-ATT 2.29.a](#), shall be implemented. The list shall be approved by the C-A ESHQ Division Head, or the C-A Experimental Safety Review Committee, prior to performing work at the experiment.
- Environmental concerns and waste minimization opportunities, shall be addressed through a review by the C-A Environmental Compliance Representative.
- A list of jobs that are covered by procedures shall be implemented. This list shall be segregated from the list of Low Hazard, Skill-of- the-Craft jobs. Prior to implementation, the C-A ESHQ Division Head shall approve all procedures. A copy of all approved procedures shall be maintained at the experiment for inspection.
- A signoff sheet, [C-A-OPM-ATT 2.29.b](#), shall be implemented for Low Hazard Skill-of-the-Craft jobs, or jobs Covered by Procedures. These signoff sheets shall be reviewed at the discretion of the ESHQ Division Head, or designee.
- Collider-Accelerator Support (CAS), or Main Control Room, can provide Work Planning for Moderate and High Hazard jobs during off hours. Work initiation may commence following approval from the ESHQ Division Head, or designee.
- Procedures that are documented and approved by the C-A ESHQ Division Head, or designee, may be used in place of an Enhanced Work Plan.
- Enhanced Work Permits for Moderate/High Hazard jobs, [EWP Forms](#), shall be available at the job site.

**Note:**

The Enhanced Work Planning Guidance on Determining Low, Medium, and High Hazard (Risks) [C-A-OPM-ATT 2.28.d](#) and [BNL SBMS “Work Planning and Controls for Experiments and Operations”](#) is available to work planners as an aid in evaluation of hazard levels of the job.

5.2 Coordination, priority and scheduling of jobs are to be communicated by Work Control Coordinators at experiment planning meetings.

- 5.3 Prior to assigning work, Work Control Coordinators shall evaluate each job using the criteria in [OPM-ATT 2.28.d](#) and “Screening Guideline for Work Planning & Control and Application of the Quality Graded Approach” from [BNL SBMS “Work Planning and Controls for Experiments and Operations”](#)
- 5.4 While a job is under way, changes to a job may require the Work Control Coordinator to re-review the job against the criteria in [C-A-OPM-ATT 2.28.d](#), and “Screening Guideline for Work Planning & Control and Application of the Quality Graded Approach” from [BNL SBMS “Work Planning and Controls for Experiments and Operations”](#) In such cases, re-review and re-approval of the job is required by the C-A ESHQ Division Head.
- 5.5 Worker feedback on randomly selected jobs shall be assigned using the C-A Self Evaluation Program ([C-A-OPM 9.4.2](#)).
- 5.6 Worker feedback regarding the Work Planning on a specific job shall be captured in the [EWP Form](#) . This form is to be used when the job performed deviates from the enhanced work plan.
- 5.6.1 Copies of completed forms with feedback are to be forwarded to C-A ESHQ Division Head, or designee, for review and shall be maintained.
- 5.6.2 Management encourages feedback. There shall be no reprisals by anyone completing the feedback form.
- 5.7 The Work Control Coordinator determines whether a post job review is necessary. Assistance for the review may include the ES&H Coordinator, or other subject matter experts. Criteria for determining if post job review is required includes, but is not limited to:
- if the job deviated from the Enhanced Work Planning
  - if exposure to hazards/hazardous materials exceeded expectations
  - if lessons learned would be beneficial from review
  - if required on a Radiation Work Permit.
- 5.7.1 In some cases the review team may decide that a post job analysis would be beneficial for lessons learned, and will request the review.
- 5.7.2 The C-A ESHQ Division Head, or designee, shall maintain post job reviews.

5.8 The C-A Work Control Manager shall ensure that work planning described herein shall be captured in the C-A Independent Assessment Program, [C-A-OPM 13.10.1](#).

5.8.1 The C-A Work Control Manager shall ensure this written work control procedure complies with BNL policy.

## 6. **Documentation**

6.1 The Work Control Coordinator shall also maintain any procedures or checklists that resulted from the Enhanced Work Planning process.

6.2 Enhanced Work Planning Permits and associated records shall be kept for an indefinite period.

## 7. **References**

7.1 [C-A-OPM 9.2.1 “Procedure for Reviewing Environmental , Health and Safety Aspects of an Experiment.”](#)

7.2 [C-A-OPM 9.3.1 “Procedure for Reviewing Conventional Safety Aspects of a C-A System.”](#)

7.3 [C-A-OPM ATT-2.28.d, “C-A Work Screening Guide.”](#)

7.4 [BNL SBMS “Work Planning and Controls for Experiments and Operations” Subject Area.](#)

7.5 [C-A-OPM 1.10.4 “OSH Management System Program Description.”](#)

7.6 [C-A-OPM 2.28 “C-A Procedure for Work Planning and Control for Operations.”](#)

7.7 [BNL SBMS “OSHAS 18001 Interim Procedures” Subject Area.](#)

## 8. **Attachments**

8.1 [C-A-OPM-ATT 2.29.a “Work Plan Cover Sheet for Experiments.”](#)

8.2 [C-A-OPM-ATT 2.29.b “Low Hazard – Skill of the Craft Signoff Sheet.”](#)