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C-A OPERATIONS PROCEDURES MANUAL

2.16 Procedure to Escort Personnel in C-A Primary Areas, Controlled Areas, Radiological Areas, and ODH Areas

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Hand Processed Changes

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Approved: \_\_\_\_\_ *Signature on File* \_\_\_\_\_  
Collider-Accelerator Department Chairman Date

R. Karol

## 2.16 Procedure to Escort Personnel in C-A Primary Areas, Controlled Areas, Radiological Areas, and ODH Areas

### 1. Purpose

1.1 This procedure applies whenever untrained persons want to enter C-A Primary Areas, Controlled Areas, Radiological Areas, ODH Areas, or whenever training cannot be verified.

1.1.1 A Primary Area is defined as any interlocked enclosure designed to prevent access to an uncollided or primary beam. These areas include the Tandem Heavy Ion Transfer Line (HITL), Booster and AGS rings, Linac transport lines, the BLIP spur, Building 912 Switchyard and Target Caves, g-2 Blockhouse, AGS-to-RHIC (AtR) Transfer Line, U and V Lines and the RHIC Tunnel (including the intersecting regions).

**Note:**

Although designated as primary areas, the experimental intersecting regions at RHIC are only posted Controlled Areas and Section 5.8 of this procedure covers escorted entry into these areas.

1.2 This procedure provides instructions for the Operations Coordinator and a [Primary Area Escort](#), when entry by an untrained person to a primary area is required; that is, to a primary area in the “Controlled Access” or “Restricted Access” state. It is noted that many, but not all, C-A Primary Areas are also posted High Radiation Areas, and that High Radiation Area rules apply in these cases.

1.3 This procedure applies to [Primary Area Escorts](#) who may wish to enter primary areas with persons who have not completed C-A Access Training.

1.4 This procedure applies to escorts who have need to take visitors or untrained persons into Controlled Areas, Radiological Areas, or ODH Areas at the Collider-Accelerator Complex.

1.5 This procedure applies to BNL, C-A and experimenter escorts for tours (public, collaborators, students, etc.) of Controlled Areas at the Collider-Accelerator Complex.

**Note:**

Any tours at STAR, PHENIX, BRAHMS or PHOBOS, require notification of the Shift Leader (if manned), Experiment Spokesperson (or designee), and the associated C-A Liaison Physicists, to determine any additional requirements.

## 2. **Responsibilities**

- 2.1 The escorted person may never be out of the escort's sight while in the area. In addition, the escort must record their own dose and the escorted person(s) dose, after entry to any High Radiation Area.
- 2.2 Only the Associate Chair for ESHQ, or designee, may make additions or deletions to [the Escort for Primary Areas List](#).
- 2.3 The Associate Chair for ESHQ shall authorize the primary areas applicable to each "escort." This is denoted on the Escort for Primary Areas List.

## 3. **Prerequisites**

- 3.1 The escort shall have all required training completed for the area to be visited.
- 3.2 The personnel listed in the Escort for Primary Areas List may escort others whenever the primary areas are in the "Controlled Access" or "Restricted Access" state.
- 3.3 Persons who have Fixed Target, Collider Users Training, Radiobiology Training, or C-A Access Training, and Radiation Worker I Training or higher, may escort visitors and untrained individuals in non-primary High Radiation Areas, Radiation Areas, or Controlled Areas (including Controlled Areas - TLD Required), at Collider-Accelerator facilities for which they have knowledge.
- 3.4 Escorts, Operators, Operations Coordinators, FS Representative, FS Supervisor, RCTs, and ESH Coordinators, must read and understand this procedure.

## 4. **Precautions**

- 4.1 Escorted entry into High Radiation Areas requires RCD manager or designee approval.

## 5. **Procedures**

**Note:**

- (1) Designees for the Operations Coordinator, ESHQ Division Head, and ESHQ Associate Chair, are the ESH Coordinator, the FS Representative, and the Training Manager.
- (2) Designees for the RCD Manager are D. Ryan or H. Kahnhauser.
- (3) Designees for the FS Representative are the FS Supervisor or the on-duty RCT.

## Primary Areas or High Radiation Areas

- 5.1 All escorts shall complete the form in [C-A-OPM-ATT 2.16.a](#), "Briefing Outline and Training Waiver for Persons Under Escort".
- 5.2 During accelerator operation, before escorting in primary areas, present the completed Briefing Outline and Training Waiver for Persons Under Escort form to the MCR Operations Coordinator (OC) or the ESHQ Division Head.
  - 5.2.1 The OC, or ESHQ Division Head, will verify that the escort training is valid by checking BTMS, and that the person is an approved escort for primary areas by looking at the [Escort for Primary Areas List](#), and that the Radiation Control Division (RCD) Manager, or designee, and the FS Representative, or designee, has approved the escorted entry. The RCD Manager shall approve all escorted entries into posted High Radiation Areas.
  - 5.2.2 IF the escort training is not valid, THEN the escort may report to the C-A Associate Chair for ESHQ, or designee, for training.
  - 5.2.3 The OC, or ESHQ Division Head will approve the escort by signing the Briefing Outline and Training Waiver for Persons Under Escort form, and return completed forms to the ESHQ Division Head.
- 5.3 During shutdown periods, before escorting in primary areas, present the completed form to the ESHQ Division Head, or designee.
  - 5.3.1 The ESHQ Division Head will verify that the escort training is valid by checking BTMS, and that the person is an approved escort for primary areas by looking at the [Escort for Primary Areas List](#), and that the RCD Manager, or designee, and the FS Representative, or designee, has approved the escorted entry. The RCD Manager shall approve all escorted entries into High Radiation Areas.
  - 5.3.2 IF the escort training is not valid, THEN the ESHQ Division Head shall send the escort to the C-A ESHQ Associate Chair, or designee, for training.
  - 5.3.3 The ESHQ Division Head will approve the escort by signing the Briefing Outline and Training Waiver for Persons Under Escort form.
- 5.4 For escorting in High Radiation or Contaminated areas, the escort shall also follow [C-A-OPM 9.5.11](#), and sign in on the appropriate RWP.

- 5.5 During extended RHIC shutdowns, the RHIC tunnel is usually radiologically and ODH de-posted in the area by the Building 1005S basement entrance. This is to make tours easier to conduct in this area. Paperwork (escort form) is not required to escort into this area if de-posted radiologically and de-posted for ODH. Also, the individual who is the escort does not need to be on the C-AD Escort for Primary Areas list. As always, an individual with current C-A Access training and a blue RHIC access card must conduct the tour in this de-posted area.

**Caution:**

As you move away, from this area of the tunnel in either direction, eventually you will hit radiological postings, thus requiring an escort form to be completed. A Visitor TLD is also required.

Non-Primary Areas/Non-High Radiation Areas

- 5.6 For escorting in non-primary radiological areas, present the completed form to the ESHQ Division Head, or designee, during working hours, or to the MCR Operations Coordinator (OC) after hours.
- 5.6.1 The FS Representative, or designee, will approve the escorted entry for any Radiological Area.
- 5.6.2 The ESHQ Division Head, or the MCR OC, will verify that the escort training is valid, approve the escort by signing the Briefing Outline and Training Waiver for Persons Under Escort form (see [C-A-OPM-ATT 2.16.a](#)), and allow the tour or visit.
- 5.6.3 Completed forms shall be returned to the ESHQ Division Head.

C-A Facility Tour Guides

- 5.7 BNL, C-A, and RHIC Experiment Tour Guides, trained in GERT or higher, may use the Information Briefing Acknowledgement form, approved by BNL RCD, for public tours of C-A areas that are Controlled Areas, and that do not require a TLD. See [C-A-OPM-ATT 2.16.b](#). The use of this form is self-explanatory, and when completed it is sent directly to the BNL Training Office, Building 703.

### Working in Radiological Areas by Escorted Persons

- 5.8 Escorted personnel may perform limited work in Radiological Areas by contacting the C-A ESHQ Division Head. The following requirements must be satisfied prior to the start of work:

**Note:**

Visitors are not allowed to exceed 25 mrem/year.

- 5.8.1 The Facility Support (FS) representative and the ESHQ Division Head, or designee, shall review the work plan, authorize the work, and brief the escorted workers on the hazards in the work area.
- 5.8.2 The workers shall perform the work under an Enhanced Work Plan (EWP) completed by an authorized C-A Work Planner. The escorted worker(s) shall then sign the (EWP), and the associated Radiation Work Permits (RWP), to signify that they understand the hazards of the job.
- 5.8.3 If the work area is in a High Radiation Area, High Contamination Area, or Airborne Radioactivity Area, BNL Radiological Control Division (RCD) Manager approval (or designee approval) is required.
- 5.8.4 The job shall be continuously covered by a FS Radiological Control Technician (RCT).

### Escorted Entry to Controlled Areas at Experiments (no TLD required areas)

- 5.9 During RHIC operations, the entire RHIC site is posted as a Controlled Area, including the inner road, with the exception of Building 1005 (the Collider Center), the adjacent parking lot, and the approach road to Building 1005. Other experiment areas may also be posted as a Controlled Area.
- 5.9.1 Experimenters that are waiting for a C-A training course (e.g., Collider User), may be escorted to their experiment until the next scheduled course. The escort must be an experimenter who has all training requirements current for the experiment.
- 5.9.2 The escorted individual may do work at their experiment, providing the work does not change radiological conditions, and after they have read, understood, and signed the experimental, Low Hazard – Skill of the Craft Work Plan.
- 5.9.3 The ESHQ Division Head, or a C-A ESH Coordinator, must approve the escorted entry during working hours. The Operations Coordinator, or a C-A

Radiological Controls Technician (RCT), may approve these entries during off-hours. The approver verifies the training of the escort.

- 5.9.4 For these escorted entries, the original, and any subsequent escorts, sign the form ([C-A OPM-ATT-2.16.c](#)), so that the current escort's signature is on the form.
- 5.9.5 Completed forms shall be sent to the ESHQ Division Head at the end of the escorted entry.

## **6. Documentation**

- 6.1 For primary and non-primary radiological, controlled, or ODH areas at C-A:
  - 6.1.1 Completed forms ([C-A-OPM-ATT 2.16.a](#) or [C-A-OPM-ATT 2.16.c](#)) shall be sent to the C-A ESHQ Division Head.
  - 6.1.2 Copies of completed forms shall be periodically sent to the BNL Central Training Office by the ESHQ Division
- 6.2 For Primary and High Radiation Areas at C-A: [C-A-OPM-ATT 9.5.11.a "C-A RWP Access Control Log"](#).
- 6.3 For tours by BNL, C-A or Experimenter Tour Guides in Controlled Areas, completed Information Acknowledgement Forms ([C-A-OPM-ATT 2.16.b](#)), may be sent directly to the BNL Central Training Office, or C-A ESHQ Division Head, by the Tour Guide.

## **7. References**

- 7.1 [FS-SOP-4027, "Entry and Egress Requirement for Areas Controlled for Radiological Purposes"](#).
- 7.2 [BNL SBMS, "Entry and Egress Requirements for Radiological Areas"](#).
- 7.3 [C-A-OPM 9.5.11, "C-A Procedure for Access to C-A High Radiation Areas"](#).

## **8. Attachments**

- 8.1 [C-A-OPM-ATT 2.16.a "Briefing Outline and Training Waiver for Persons Under Escort"](#).
- 8.2 [C-A-OPM-ATT 2.16.b "Information Briefing Acknowledgement"](#).
- 8.3 [C-A-OPM-ATT 2.16.c, "Briefing and Training waiver for Persons Under Escort \(Controlled Areas, no TLD\)"](#).