

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are available by contacting the **ESSHQ Procedures Coordinator, Bldg. 911A***

C-A OPERATIONS PROCEDURES MANUAL

11.4.9 STAR Shield Wall Removal and Installation Procedure

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Hand Processed Changes

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

A. Pendzick

11.4.9 STAR Shield Wall Removal and Installation Procedure

1. Purpose

To prevent damage to the RHIC vacuum pipe while handling shielding @ B1006 (STAR).

2. Responsibilities

It is the rigging lead man's responsibility to follow this procedure.

3. Prerequisites

- 3.1 This procedure must be followed if the RHIC vacuum pipe is in the path of the shielding move.
- 3.2 Insure that the beam has been locked off by the L.E. and permission has been given to start by the STAR Detector Group.
- 3.3 Refer to the specific work order written for any general conditions for this task.
- 3.4 Verify that the crane has been inspected within the last year and the operators SAC has not expired.
- 3.5 Verify the crane PM is current.
- 3.6 Perform the daily, before-use, inspection.
- 3.7 All rigging equipment from the crane hook to the shield block must be 200% proof-tested (Reference Attachment 8.1, STAR Shield Wall Rigging Hardware).

4. Precautions

Keep cracks between the shield blocks to a minimum.

5. Procedure

- 5.1 Insure that the beam has been locked off by the L.E. and permission has been given to start by the STAR Detector Group.
- 5.2 Request that the STAR Detector Group retract all detectors to give the maximum clearance for shielding moves.
- 5.3 Use fall protection equipment for the shield wall area, i.e. harness and self-retracting reeler, and "alternate fall protection", as specified in [C-A-OPM 1.25](#), for the storage area.

- 5.4 Crane operator and PIC shall visibly verify clearance between the shield blocks and vacuum pipe during each translation (Reference Attachment 8.2, Load Path Diagram).
- 5.5 Remove or install the shield wall blocks as per CNV007-E-1, pay attention to minimizing the cracks if installing - 1/8" maximum.
- 5.6 Place all 66"x34"x60" blocks with a single 1" lifting eye on floor with the overhead crane. Remove or install by forklift, to or from the outside storage area.
- 5.7 If storing blocks, insure they are set in order to make installation straight-forward.

6. Documentation

None

7. References

- 7.1 Drawing CNV007-E-1.
- 7.2 Drawing 906-01-01-001.

8. Attachments

- 8.1 STAR Shield Wall Rigging Hardware
- 8.2 Load Path Diagram

Attachment 8.1

STAR Shield Wall Rigging Hardware

- Use the following rigging hardware for the STAR shield wall installation & removal
- Insure all hardware is 200% proof-tested
- Refer to drawing #906-01-01-001

Block #	Block	Weight (tons)	Rigging Equipment
1	5'6" x 4'6" x 5'	10	1' gray sling 17 ton shackle
2	5'8" x 2'10" x 5'	6	2 ea – 2' gray sling 2 ea – 1" eye 17 ton shackle
3	5'8" x 5' x 2'10"	6	2' gray sling 1" eye 17 ton shackle
5	2' x 4' x 2'	1.8	2' red sling 3 ton swivel hook
6	2' x 5' x 2'6"	2	2 ea. – 2' red sling 2 ea. – 3 ton swivel hook
11	5'8" x 4'8" x 2'10"	5.5	Burt fixture 2' gray sling 17 ton shackle

Attachment 8.2

Load Path Diagram

