

*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

ATTACHMENT

4.120.72.b LINAC Gate Tests

| C-A-OPM Procedures in which this Attachment is used. | | |
|--|--|--|
| 4.120.72 | | |
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| | | |

Hand Processed Changes

| <u>HPC No.</u> | <u>Date</u> | <u>Page Nos.</u> | <u>Initials</u> |
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Approved: _____ *Signature on File* _____
 Collider-Accelerator Department Chairman Date

V. Castillo

4.120.72.b LINAC Gate Tests

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title: _____ Checksum: _____

Division B Software Filename and Checksum: Title: _____ Checksum: _____

Initial testing complete:

Test Team Leader's Name (Print): _____ Life Number: _____

Test Team Leader's Name (Sign): _____ Date: ____/____/____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ Life Number: _____

Test Team Leader's Name (Sign): _____ Date: ____/____/____

Test results reviewed by:

Safety Section Head's Name (Print): _____ Life Number: _____

Safety Section Head's Name (Sign): _____ Date: ____/____/____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print): _____ Life Number: _____

RSC Member's Name (Sign): _____ Date: ____/____/____

1.1 CONDUCT Visual check on LINAC doors following Table-1, below

| Gate | Micro Switch | | Verify Elec Wiring OK | Verify Gate Box OK | Verify Open/Close Fctns OK | Verify all x's Corr. | Inspn OK Init. |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|----------------|
| | Verify Align OK | Verify Openn OK | | | | | |
| AGS/HEBT | <input type="checkbox"/> | <input type="checkbox"/> | |
| HEBT | <input type="checkbox"/> | <input type="checkbox"/> | |
| BLIP | <input type="checkbox"/> | <input type="checkbox"/> | |
| PLUG | <input type="checkbox"/> | <input type="checkbox"/> | |
| Plug Door Swing (PDS) | <input type="checkbox"/> | <input type="checkbox"/> | |
| Tank9 | <input type="checkbox"/> | <input type="checkbox"/> | |
| Tank1 | <input type="checkbox"/> | <input type="checkbox"/> | |

Legend: Tick = O.K. x = Problem N/A = Not Applicable

Table 1: Summary of Physical Inspection of LINAC Gates

Check for acceptance of Visual check on LINAC gates

NOTE:

If the AGS/HEBT and Linac/HEBT gate test were tested as part of OPM 4.120.22.b or 4.120.62.b, then sections 1.2 and 1.3 are not required.

Tested in 4.120.22.b or 4.120.62.b Date _____
Name _____ Signed _____

1.2 Test of AGS/HEBT (A/H) gate

- | | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at A/H gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| | PLACE | AGS on RA from MCR | |
| <input type="checkbox"/> | VERIFY | Verify AGS is in | RA |
| <input type="checkbox"/> | VERIFY | Attempt to open A/H gate with AA256 key from AGS side | SUCCESSFUL |
| | OPEN | Crash Glass switch | |
| | CLOSE | A/H gate | |
| <input type="checkbox"/> | VERIFY | Attempt to open A/H gate without a key from LINAC side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK10 is | OFF |
| <input type="checkbox"/> | VERIFY | A/H Crash light at encl 4880 is | ON |
| <input type="checkbox"/> | VERIFY | Crash light at A/H gate is | OFF |
| | CLOSE | Crash Glass switch and leave closed | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK10 is | ON |
| <input type="checkbox"/> | VERIFY | A/H Crash light at encl 4880 is | OFF |
| <input type="checkbox"/> | VERIFY | Crash light at A/H gate is | ON |
| | HOLD | Gate MS and Electric Strike (ES) | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | ON |
| | OPEN | Gate MS | |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | OFF |
| | CLOSE | Gate MS and hold | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | ON |
| | OPEN | ES | |
| <input type="checkbox"/> | VERIFY | Gate lamp is | ON |
| <input type="checkbox"/> | VERIFY | ES lamp is | OFF |
| | OPEN | A/H gate | |
| | CLOSE | Gate redundant (GR) microswitch (MS) | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK11 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 A/H N/Closed light is | OFF |
| | OPEN | GR MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK11 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 A/H N/Closed light is | ON |
| | CLOSE | A/H gate | |
| <input type="checkbox"/> | VERIFY | A/H gate is | CLOSED |
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with BNL-3 key from Linac side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |

| | | | |
|--------------------------|---------------|---|-------------------------------|
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | At A/H gate-box RA light is | OFF |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At N322 gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At N322 gate-box Reset light is | OFF |
| | RESET | A/H Gate with BNL-3 key from the Linac side | |
| <input type="checkbox"/> | VERIFY | Timer On light | ON |
| | | Time Timer On light | |
| <input type="checkbox"/> | VERIFY | TimerOn light goes out after | ~1 min |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | That on the AGS side of the A/H gate the reset for TTB do not enter sign | ILLUMINATED BY 2 BULBS |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with MCR S/R and AA256 key from AGS side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with MCR S/R and H715 key from AGS side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | CLOSE | A/H gate | |
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with H715 key from AGS side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| <input type="checkbox"/> | VERIFY | AGS is in | RA |
| <input type="checkbox"/> | VERIFY | At A/H gate-box RA light is | ON |

| | | | |
|--------------------------|---------------|--|-------------------------------|
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with BNL-3 key from Linac side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK9 | OFF |
| | PLACE | AGS in CA from MCR | |
| <input type="checkbox"/> | VERIFY | is in | CA |
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with H715 key from AGS side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | That on the AGS side of the A/H gate the reset for HEBT do not enter sign | ILLUMINATED BY 2 BULBS |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK9 | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| | PLACE | AGS in RA from MCR | |
| <input type="checkbox"/> | VERIFY | AGS is in | RA |
| | | Open and close A/H gate with AA256 key from AGS side | |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK9 | OFF |
| <input type="checkbox"/> | VERIFY | That on the AGS side of the A/H gate the reset for HEBT do not enter sign | OFF |
| | PLACE | AGS in CA from MCR | |
| <input type="checkbox"/> | VERIFY | AGS is in | CA |
| <input type="checkbox"/> | VERIFY | At A/H gate-box RA light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to reset N322 gate with H715 key from AGS side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At N322 gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At N322 gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with BNL-3 key from Linac side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | Allow a minimum delay of 2 min after reset of N322 gate | |
| <input type="checkbox"/> | VERIFY | Attempt to reset A/H gate with H715 key from AGS side | FAIL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | | Open and close N322 gate | |
| <input type="checkbox"/> | VERIFY | Attempt to reset N322 gate with H715 key from AGS side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At N322 gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At N322 gate-box Reset light is | ON |

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|--------------------------|--|---|-------------------|
| <input type="checkbox"/> | VERIFY | Within 1 min of resetting N322 gate attempt to reset A/H gate with H715 key from AGS side | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At A/H gate-box N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At A/H gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK9 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| <input type="checkbox"/> | Check for acceptance of Test of AGS/HEBT gate | | |

1.3 Test of Linac HEBT (HEBT) gate

- | | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at HEBT gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| <input type="checkbox"/> | VERIFY | HP switch is in mid-position | DISABLE |
| <input type="checkbox"/> | VERIFY | Attempt to open HEBT gate with local P/B | FAIL |
| <input type="checkbox"/> | VERIFY | HP switch is in top-position (or bottom-position) | ENABLE |
| <input type="checkbox"/> | VERIFY | Attempt to open HEBT gate with local P/B | SUCCESSFUL |
| | OPEN | Crash Glass switch | |
| <input type="checkbox"/> | VERIFY | Crash light at HEBT gate | OFF |
| | CLOSE | Crash Glass switch and leave closed | |
| <input type="checkbox"/> | VERIFY | Crash light at HEBT gate is | ON |
| | HOLD | Gate MS and Electric Strike (ES) | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | ON |
| | OPEN | Gate MS | |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | OFF |
| | CLOSE | Gate MS and hold | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are | ON |
| | OPEN | ES | |
| <input type="checkbox"/> | VERIFY | Gate lamp is | ON |
| <input type="checkbox"/> | VERIFY | ES lamp is | OFF |
| | OPEN | HEBT gate | |
| | CLOSE | Gate redundant (GR) microswitch (MS) | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK12 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 HEBT N/Closed light is | OFF |
| | OPEN | GR MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK12 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 HEBT N/Closed light is | ON |
| | CLOSE | HEBT gate | |
| <input type="checkbox"/> | VERIFY | HEBT gate is | CLOSED |
| <input type="checkbox"/> | VERIFY | Latch OK light on gate box is | ON |
| <input type="checkbox"/> | VERIFY | Reset for TTB light on gate box is | OFF |
| <input type="checkbox"/> | VERIFY | Reset for TTB light on gate is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK8 | OFF |
| | RESET | HEBT gate for TTB with H705 key | |
| <input type="checkbox"/> | VERIFY | Reset for TTB light on gate box is | ON |

| | | | |
|--------------------------|--|---|-------------------|
| <input type="checkbox"/> | VERIFY | Reset for TTB light on gate is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK8 | OFF |
| | OPEN | HEBT gate | |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | HEBT gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays FK1 <input type="checkbox"/> and IK8 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | ON |
| <input type="checkbox"/> | VERIFY | HEBT gate-box Area Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to reset HEBT Gate with ME-17 key | FAIL |
| <input type="checkbox"/> | VERIFY | At special reset box at N322 gate ready light is | ON |
| | | At special reset box at N322 gate push Reset P/B | |
| <input type="checkbox"/> | VERIFY | At special reset box at N322 gate reset light is | ON |
| <input type="checkbox"/> | VERIFY | HEBT gate-box Area Reset light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to reset HEBT Gate with ME-17 key | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | HEBT gate-box Gate Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay FK1 <input type="checkbox"/> and IK8 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | OFF |
| <input type="checkbox"/> | VERIFY | Reset for TTB light on gate is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4521 relay FK8 | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with local P/B | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At HEBT gate-box Gate Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay FK1 <input type="checkbox"/> and IK8 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | ON |
| | CLOSE | HEBT gate | |
| <input type="checkbox"/> | Check for acceptance of Test of Linac HEBT gate | | |

1.4 Test of BLIP gate

| | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at BLIP gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| <input type="checkbox"/> | VERIFY | HP switch is in mid-position | DISABLE |
| <input type="checkbox"/> | VERIFY | Attempt to open BLIP gate with local P/B | FAIL |
| <input type="checkbox"/> | VERIFY | HP switch is in top-position (or bottom-position) | ENABLE |
| <input type="checkbox"/> | VERIFY | Attempt to open BLIP gate with local P/B | SUCCESSFUL |
| | OPEN | Crash Glass switch | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK12 is | OFF |
| | CLOSE | Crash Glass switch and leave closed | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK12 is | ON |
| | HOLD | Gate MS and Electric Strike (ES) | CLOSED |

| | | | |
|--------------------------|--|---|-------------------|
| <input type="checkbox"/> | VERIFY OPEN | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are Gate MS | ON |
| <input type="checkbox"/> | VERIFY CLOSE | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are Gate MS and hold | OFF CLOSED |
| <input type="checkbox"/> | VERIFY OPEN | Gate lamp <input type="checkbox"/> and ES lamp <input type="checkbox"/> are ES | ON |
| <input type="checkbox"/> | VERIFY | Gate lamp is | ON |
| <input type="checkbox"/> | VERIFY | ES lamp is | OFF |
| | OPEN | Gate redundant (GR) microswitch | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK13 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 BLIP Door Redun. N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | GR light at BLIP gate is | OFF |
| | CLOSE | GR MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK13 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 BLIP Door Redun. N/Closed light is | OFF |
| <input type="checkbox"/> | VERIFY | GR light at BLIP gate is | ON |
| | CLOSE | BLIP gate | |
| <input type="checkbox"/> | VERIFY | BLIP gate is | CLOSED |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | At BLIP gate-box Gate Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays IK9 <input type="checkbox"/> and EK4 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | ON |
| | RESET | BLIP Gate with ME-17 key | |
| <input type="checkbox"/> | VERIFY | At BLIP gate-box Gate Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays IK9 <input type="checkbox"/> and EK4 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with MCR S/R and local P/B | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At BLIP gate-box Gate Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays IK9 <input type="checkbox"/> and EK4 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Locked light is | ON |
| | CLOSE | BLIP gate | |
| <input type="checkbox"/> | Check for acceptance of Test of BLIP gate | | |

1.5 Test of Plug Door (PD)Gate

| | | | |
|--------------------------|---------------|---|-------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at PD gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| | CLOSE | At encl 4880 relay DK2 | |
| <input type="checkbox"/> | VERIFY | Beam Secured lights at PD gate inside and outside are | ON |
| <input type="checkbox"/> | VERIFY | Beam Operational lights at PD gate inside and outside are | OFF |
| | OPEN | At encl 4880 relay DK2 | |
| <input type="checkbox"/> | VERIFY | Beam Disabled lights at PD gate inside and outside are | OFF |
| <input type="checkbox"/> | VERIFY | Beam Operational lights at PD gate inside and outside are | ON |

| | | |
|--------------------------|--|-------------------|
| | At the PD gate Outside Control Station(OCS) encl M14A23A3 Push the Black Open PB | |
| <input type="checkbox"/> | VERIFY At encl M14A23A5 the Clear to Open Light is | ON |
| <input type="checkbox"/> | VERIFY At encl M14A23A3 the PD Ckt. locked Light is | OFF |
| | PUSH The Stop PB in the Outside Plug Door Control Box (OPDCB) encl M14A23A5 | |
| <input type="checkbox"/> | VERIFY Attempt to open PD gate with BNL-3 key in the OPDCB | FAIL |
| | RELEASE The Stop PB | |
| | OPEN The Right Bumper switch | |
| <input type="checkbox"/> | VERIFY Attempt to open PD gate with BNL-3 key in the OPDCB | FAIL |
| | CLOSE The Right Bumper switch | |
| | OPEN The Left Bumper switch | |
| <input type="checkbox"/> | VERIFY Attempt to open PD gate with BNL-3 key in the OPDCB | FAIL |
| | CLOSE The Left Bumper switch | |
| | CLOSE The One Open Limit switch | |
| <input type="checkbox"/> | VERIFY Attempt to open PD gate with BNL-3 key in the OPDCB | FAIL |
| | OPEN The One Open Limit switch | |
| | CLOSE The Other Open Limit switch | |
| <input type="checkbox"/> | VERIFY Attempt to open PD gate with BNL-3 key in the OPDCB | FAIL |
| | OPEN The Other Open Limit switch | |
| <input type="checkbox"/> | VERIFY Attempt to open the PD gate with the BNL-3 key in the OPDCB | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY At encl M14A23A5 the Clear to Open Light is | OFF |
| <input type="checkbox"/> | VERIFY At encl M14A23A3 the PD Ckt. locked Light is | ON |
| | CLOSE The One Close Limit switch | |
| <input type="checkbox"/> | VERIFY Attempt to close PD gate with Close in the OPDCB | FAIL |
| | OPEN The One Close Limit switch | |
| | CLOSE The Other Close Limit switch | |
| <input type="checkbox"/> | VERIFY Attempt to close PD gate with Close PB in the OPDCB | FAIL |
| | OPEN The Other Close Limit switch | |
| | REMOVE Outside Crash Glass box glass | |
| <input type="checkbox"/> | VERIFY At encl 4880 relay EK1 is | OFF |
| <input type="checkbox"/> | VERIFY PD Gate Crash light at encl 4880 is | ON |
| <input type="checkbox"/> | VERIFY Crash light at PD gate | OFF |
| <input type="checkbox"/> | VERIFY Attempt to close PD gate with Close PB in the OPDCB | FAIL |
| | REPLACE Outside Crash Glass glass | |
| <input type="checkbox"/> | VERIFY At encl 4880 relay EK1 is | ON |
| <input type="checkbox"/> | VERIFY PD Gate Crash light at encl 4880 is | OFF |
| <input type="checkbox"/> | VERIFY Crash light at PD gate is | ON |
| | REMOVE Inside Crash Glass box glass | |
| <input type="checkbox"/> | VERIFY At encl 4880 relay EK1 is | OFF |
| <input type="checkbox"/> | VERIFY PD Gate Crash light at encl 4880 is | ON |
| <input type="checkbox"/> | VERIFY Crash light at PD gate | OFF |
| <input type="checkbox"/> | VERIFY Attempt to close PD gate with Close PB in the OPDCB | FAIL |
| | REPLACE Inside Crash Glass glass | |

| | | | |
|--------------------------|----------------|--|-------------------|
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK1 is | ON |
| <input type="checkbox"/> | VERIFY | PD Gate Crash light at encl 4880 is | OFF |
| <input type="checkbox"/> | VERIFY | Crash light at PD gate is | ON |
| | CLOSE | Both PD Gate MS | |
| <input type="checkbox"/> | VERIFY | At PD gate Door Switch light is | ON |
| | RELEASE | Left PD gate MS | |
| <input type="checkbox"/> | VERIFY | At PD gate Door Switch light is | OFF |
| | CLOSE | Both PD Gate MS | |
| <input type="checkbox"/> | VERIFY | At PD gate Door Switch light is | ON |
| | RELEASE | Right PD gate MS | |
| <input type="checkbox"/> | VERIFY | At PD gate Door Switch light is | OFF |
| | OPEN | Gate redundant (GR) MS near Swing gate | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK2 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 PD Door Redun. N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | GR light at PD gate is | OFF |
| | CLOSE | GR MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK2 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 PD Door Redun. N/Closed light is | OFF |
| <input type="checkbox"/> | VERIFY | GR light at PD gate is | ON |
| | CLOSE | PD gate | |
| <input type="checkbox"/> | VERIFY | Alarm sounds while PD is | CLOSING |
| <input type="checkbox"/> | VERIFY | PD is | CLOSED |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | At PD OCS N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At PD OCS Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK12 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | RESET | PD Gate at PD OCS with BNL-3 key | |
| <input type="checkbox"/> | VERIFY | At PD OCS N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At PD OCS Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK12 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate at PD OCS with MCR S/R and the BNL-3 key to start the process | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | Alarm sounds while PD is | OPENING |
| <input type="checkbox"/> | VERIFY | At PD OCS Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK12 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | TRIP | PD Bumper | |
| <input type="checkbox"/> | VERIFY | PD stops | OPENING |
| | RESUME | PD opening | |
| <input type="checkbox"/> | VERIFY | PD continues to | OPEN |

At the **PD** gate **Inside Control Station(ICS)** encl M14A23A2 turn the **BNL-3** key **CCW**

| | | | |
|--------------------------|----------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | At encl M14A23A4 the Clear to Open Light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl M14A23A2 the PD Ckt. locked Light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to close gate with Close PB in the Inside Plug Door Control Box (IPDCB) encl M14A23A4 | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At PD ICS N/Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At PD ICS Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK12 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | RESET | PD Gate at PD ICS with BNL-3 key | |
| <input type="checkbox"/> | VERIFY | At PD ICS N/Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At PD ICS Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK12 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | OFF |
| | | At the PD gate ICS turn the BNL-3 key CW | |
| <input type="checkbox"/> | VERIFY | At encl M14A23A4 the Clear to Open Light is | ON |
| <input type="checkbox"/> | VERIFY | At encl M14A23A2 the Bolt Light is | OFF |
| | | At the PD gate ICS turn the BNL-3 key CCW | |
| <input type="checkbox"/> | VERIFY | At encl M14A23A4 the Clear to Open Light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl M14A23A2 the Bolt Light is | ON |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| | | At the PD gate ICS Push the Black Open PB | |
| <input type="checkbox"/> | VERIFY | At encl M14A23A4 the Clear to Open Light is | ON |
| <input type="checkbox"/> | VERIFY | At encl M14A23A2 the Bolt Light is | OFF |
| | PUSH | The Stop PB in the IPDCB | |
| <input type="checkbox"/> | VERIFY | Attempt to open PD gate with the Open PB in the IPDCB | FAIL |
| | RELEASE | The Stop PB | |
| <input type="checkbox"/> | VERIFY | Attempt to open PD gate with the Open PB in the IPDCB | SUCCESSFUL |
| | LEAVE | PD open | |
| <input type="checkbox"/> | | Check for acceptance of Test of Plug Door gate | |

1.6 Test of Plug Door Swing (PDS) gate

| | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at PDS gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| <input type="checkbox"/> | VERIFY | Attempt to open PDS gate with AA256 key | SUCCESSFUL |
| | OPEN | Crash Glass switch | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay EK3 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Reset light is | ON |
| | CLOSE | Crash Glass switch | |

- VERIFY** At encl 4880 relay **EK3** is **ON**
- VERIFY** At encl 4880 **N/Reset** light is **OFF**

- OPEN PDS gate switch**
- VERIFY** At encl 4880 relay **EK3** is **OFF**
- VERIFY** At encl 4880 **N/Reset** light is **ON**
- CLOSE PDS gate switch**
- VERIFY** At encl 4880 relay **EK3** is **ON**
- VERIFY** At encl 4880 **N/Reset** light is **OFF**

- OPEN PDS gate**
- VERIFY** At encl 4880 relay **EK3** is **OFF**
- VERIFY** At encl 4880 **N/Reset** light is **ON**
- CLOSE PDS gate**
- VERIFY** At encl 4880 relay **EK3** is **ON**
- VERIFY** At encl 4880 **N/Reset** light is **OFF**

- PLACE Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B**
- VERIFY** Linac is in **CA**
- VERIFY** Attempt to open **PDS** gate with **AA256** key with **NO MCR S/R** **SUCCESSFUL**

- Check for acceptance of Test of Plug Door Swing (PDS) gate**

1.7 Test of Tank 1 (TK1) gate

- VERIFY** Hardware , Electrical at **TK1** gate is **O.K.**
- PLACE** Linac in Restricted Access (**RA**) at encl **4880** with **BNL-3** key and **green P/B**
- VERIFY** **Rest Access** lights at **TK1** gate inside and outside are **ON**
- VERIFY** Linac is in **RA**
- PLACE** Linac in **CA** at encl **4880** with **BNL-3** key and **red P/B**
- VERIFY** Linac is in **CA**

- CLOSE** At encl 4880 relay **DK2**
- VERIFY** **Beam Disabled** lights at **TK1** gate inside and outside are **ON**
- VERIFY** **Beam Operational** lights at **TK1** gate inside and outside are **OFF**
- OPEN** At encl 4880 relay **DK2**
- VERIFY** **Beam Disabled** lights at **TK1** gate inside and outside are **OFF**
- VERIFY** **Beam Operational** lights at **TK1** gate inside and outside are **ON**

- VERIFY** Attempt to open **TK1** gate with **AA256** key and **P/B** for **Slide-bolt** **SUCCESSFUL**

- OPEN** **Crash Glass switch**
- VERIFY** At encl **4880** relay **DK4** is **OFF**
- VERIFY** **TK1** Prime Crash light at encl **4880** is **ON**
- VERIFY** **Crash** lights at **TK1** gate inside and outside are **OFF**
- CLOSE** **Crash Glass switch** and **leave closed**
- VERIFY** At encl 4880 relay **DK4** is **ON**
- VERIFY** **TK1** Prime Crash light at encl **4880** is **OFF**
- VERIFY** **Crash** lights at **TK1** gate inside and outside are **ON**

- CLOSE** Tank 1 gate
- NOTE** **COMPLETE TEST OF GATE AND ELECTRIC STRIKE SWITCHS IN UNDER 2 MINIUTES OR HOLD GATE REDUNDANT MS CLOSED**
- PLACE** Linac in **Tank RF Controlled Access** at encl **4880** with **ME-16** key

| | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK1 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays FK3 <input type="checkbox"/> and CK2 <input type="checkbox"/> are | ON |
| | HOLD | Gate MS, Electric Strike (ES) and Barrier (BS) | CLOSED |
| <input type="checkbox"/> | VERIFY | inside and outside are | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | SUCCESSFUL |
| | OPEN | Gate MS | |
| <input type="checkbox"/> | VERIFY | Door Switch lights inside and outside are | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | FAIL |
| | CLOSE | Gate MS and hold | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamps inside and outside are | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | SUCCESSFUL |
| | OPEN | BS | |
| <input type="checkbox"/> | VERIFY | Door Switch lights inside and outside are | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | FAIL |
| | CLOSE | BS and hold | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamps inside and outside are | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | SUCCESSFUL |
| | OPEN | ES | |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK1 Gate with ME-16 key for RF | FAIL |
| <input type="checkbox"/> | VERIFY | Gate lamps inside and outside are | ON |
| | OPEN | Gate redundant (GR) MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK5 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 TK1 Door Redun. N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | GR lights at TK1 gate inside and outside are | OFF |
| | CLOSE | GR MS | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK5 is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 TK1 Door Redun. N/Closed light is | OFF |
| <input type="checkbox"/> | VERIFY | GR lights at TK1 gate inside and outside are | ON |
| | CLOSE | TK1 gate | |
| <input type="checkbox"/> | VERIFY | TK1 gate is | CLOSED |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | Rest Access lights at TK1 gate inside and outside are | OFF |
| | RESET | Tank 9 gate for beam | |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset lights and at outside gate-box <input type="checkbox"/> N/Reset are | ON |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Bolt Switch light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box No Prev Entry light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| | RESET | TK1 Gate with BNL-3 key in the outside gate-box | |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset light and at outside gate-box <input type="checkbox"/> N/Reset are | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box RF Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Bolt Switch light is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box No Prev Entry light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | ON |
| <input type="checkbox"/> | VERIFY | DK2 , Linac Safely OFF, is | ON |

| | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Attempt to open gate with MCR S/R, BNL-3 key for Slide-bolt and ME-17 key for Electric Strike in that order | SUCCESSFUL |
| | CLOSE | TK1 gate | |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset light and at outside gate-box <input type="checkbox"/> N/Reset is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box Bolt Switch light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box No Prev Entry light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset lights and at inside gate-box <input type="checkbox"/> N/Reset are | ON |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Bolt Switch light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box No Prev Entry light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| | RESET | TK1 Gate with BNL-3 key in the outside gate-box | |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset light and at inside gate-box <input type="checkbox"/> N/Reset are | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box RF Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Bolt Switch light is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box No Prev Entry light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | ON |
| <input type="checkbox"/> | VERIFY | DK2 , Linac Safely OFF, is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with MCR S/R, BNL-3 key for Slide-bolt and ME-17 key for Electric Strike in that order | SUCCESSFUL |
| | CLOSE | TK1 gate | |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK3 <input type="checkbox"/> and IK10 <input type="checkbox"/> are | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 <input type="checkbox"/> N/Reset light and at inside gate-box <input type="checkbox"/> N/Reset is | ON |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box Bolt Switch light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box No Prev Entry light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| | PLACE | Linac in RA at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| | PLACE | Linac in RF Controlled Access (RFCA) at encl 4880 with ME-16 key turned right | |
| <input type="checkbox"/> | VERIFY | Linac is in | RFCA |
| | RESET | TK1 Gate with ME-16 key for RF in outside gate box | |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box RF Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with ME-17 key | FAIL |

| | | | |
|--------------------------|---|--|-------------------|
| <input type="checkbox"/> | VERIFY | Attempt to open gate with ME-16 key | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At TK1 outside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| | RESET | TK1 Gate with ME-16 key for RF in inside gate box | |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box RF Reset light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with ME-16 key | SUCCESSFUL |
| <input type="checkbox"/> | VERIFY | At TK1 inside gate-box RF Reset light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK6 is | OFF |
| | CLOSE | TK1 gate | |
| <input type="checkbox"/> | Check for acceptance of Test of TK1 gate | | |

1.8 Test of Tank 9 (TK9) gate

| | | | |
|--------------------------|---------------|---|-------------------|
| <input type="checkbox"/> | VERIFY | Hardware <input type="checkbox"/> , Electrical <input type="checkbox"/> at TK9 gate is | O.K. |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| <input type="checkbox"/> | VERIFY | Attempt to open TK9 gate with P/B | SUCCESSFUL |
| | HOLD | Gate MS and Electric Strike (ES) | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp is | ON |
| | OPEN | Gate MS | |
| <input type="checkbox"/> | VERIFY | Gate lamp is | OFF |
| | CLOSE | Gate MS and hold | CLOSED |
| <input type="checkbox"/> | VERIFY | Gate lamp is | ON |
| | OPEN | ES | |
| <input type="checkbox"/> | VERIFY | Gate lamp is | OFF |
| | CLOSE | TK9 gate | |
| <input type="checkbox"/> | VERIFY | TK9 gate is | CLOSED |
| | PLACE | Linac in Controlled Access (CA) at encl 4880 with BNL-3 key and P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | CA |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-17 key for beam in the inside gate-box | FAIL |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | ON |

| | | | |
|--------------------------|---------------|---|-------------------|
| | CLOSE | At encl 4880 relays IK9 and IK8 | |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-17 key for beam in the inside gate-box | SUCCESSFUL |
| | OPEN | At encl 4880 relays IK9 and IK8 | |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | ON |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with ME-17 key in the outside gate-box | SUCCESSFUL |
| | CLOSE | TK9 gate | |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK9 outside gate-box Reset for RF light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-17 key for beam in the outside gate-box | FAIL |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | ON |
| | CLOSE | At encl 4880 relays IK9 and IK8 | |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-17 key for beam in the outside gate-box | SUCCESSFUL |
| | OPEN | At encl 4880 relays IK9 and IK8 | |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | ON |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | OFF |
| <input type="checkbox"/> | VERIFY | Attempt to open gate with ME-17 key in the outside gate-box | SUCCESSFUL |
| | CLOSE | TK9 gate | |
| | PLACE | Linac in Restricted Access (RA) at encl 4880 with BNL-3 key and green P/B | |
| <input type="checkbox"/> | VERIFY | Linac is in | RA |
| | CLOSE | Gates TK9 and TK1 | |
| | PLACE | Linac in Tank RF Controlled Access at encl 4880 with ME-16 key | |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay IK6 is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relays FK3 <input type="checkbox"/> and CK2 <input type="checkbox"/> are | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-17 key for beam in the inside gate-box | FAIL |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for Beam light is | OFF |
| <input type="checkbox"/> | VERIFY | At TK9 inside gate-box Reset for RF light is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 relay DK7 <input type="checkbox"/> and IK7 <input type="checkbox"/> is | OFF |
| <input type="checkbox"/> | VERIFY | At encl 4880 N/Closed light is | ON |
| <input type="checkbox"/> | VERIFY | Attempt to Reset TK9 Gate with ME-16 key for RF in the inside gate-box | SUCCESSFUL |

- VERIFY** At **TK9** inside gate-box **Reset** light is **ON**
- VERIFY** At encl 4880 relay **IK3** is **ON**
- VERIFY** At encl 4880 **N/Closed** light is **OFF**

- VERIFY** Attempt to open gate with **ME-16** key in the outside gate-box **SUCCESSFUL**

- VERIFY** At **TK9** inside gate-box **Reset** light is **OFF**
- VERIFY** At encl 4880 relay **IK3** is **OFF**
- VERIFY** At encl 4880 **N/Closed** light is **ON**

- VERIFY** Attempt to **Reset TK9** Gate with **ME-16** key for **RF** in the outside gate-box **SUCCESSFUL**

- VERIFY** At **TK9** outside gate-box **Reset** light is **ON**
- VERIFY** At encl 4880 relay **IK3** is **ON**
- VERIFY** At encl 4880 **N/Closed** light is **OFF**

- VERIFY** Attempt to open gate with **ME-16** key in the outside gate-box **SUCCESSFUL**
- HOLD** **TK9** gate for > then 2 minutes
- VERIFY** At encl 4880 relays **FK3** and **CK2** are **OFF**

- CLOSE** **TK9** gate

- Check for acceptance of Test of TK9 gate**

1.9 Test of MCR Simultaneous Release

- GIVE** **Simultaneous Release from MCR**
- VERIFY** At encl 4880 relay **BK8** is **ON**

- Check for acceptance of Test of MCR Simultaneous Release.**

END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: _____

Date: ____/____/____

TTL: Sign for completion of final testing: _____

Date: ____/____/____