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SSIT-1001(e)3 Light Units - Alignment

Purpose

These instructions describe the light unit alignment and conspicuity tests required at grade crossing warning systems to ensure they are in good condition and properly aligned.

Test Intervals

Tests are performed when installed, as required, and at least once every twelve (12) months as prescribed in *SSIT-7 Signal System Inspection and Test Intervals*. Test must be performed on a clear day.

Rail Safety

Employee shall ensure the site is safe for employees, the public, vehicular traffic and train operations as defined in *SSIT-8 Protecting Train Operations* prior to performing tests and inspections.

Procedure

The following tests are to be performed at each crossing warning system location:

Step	Procedure
1. Inspect Light Units	• Inspection of lights shall be performed as outlined in *SSIT-1001(b)1 Warning System Light Units & Signs - Operation* prior to performing alignment testing.
2. Check Lamp Voltage	• Lamp voltages shall be performed as outlined in *SSIT-1001(e)1 Lamp Voltage* prior to performing alignment testing.
3. Activate Warning System	• Open Test Switch. **If crossing not activated:** Protect crossing until resolved. Report to the ONR S&C Supervisor. Record in site Log Book.
4. Check Road Approach Lighting	→ Check at least one set of front lights can be seen at all times on all road approaches. → Check at least one set of front lights are aligned to 1.6m above the road surface through the center of the approaching traffic lane to the stopping distance. **If flashing lights cannot be seen in approach:** Adjust light angle to increase visibility. Contact the ONR S&C Supervisor if you feel the lighting is not adequate along approach. Refer to Grade Crossing Standards Section 14 for alignment criteria.
5. Check Stop Positions Lighting	→ Check at least one set of front lights or back lights can be seen at all times while stopped at crossing. → Check at least one set of back lights are aligned to 1.6m above the road surface at 15m in advance of warning signal. **If flashing lights cannot be seen from stopped position:** Adjust light angle to increase visibility. Contact the ONR S&C Supervisor if you feel the lighting is not adequate along approach. Refer to Grade Crossing Standards Section 14 for alignment criteria.

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Step	Procedure
6. Check Pedestrian Lighting	→ Check light deflection can be seen from sidewalks or walkways. → Check at least one set of lights are aligned to 1.6m above the road surface at 30m in advance of warning signal (or when first visible). **If flashing lights cannot be seen by pedestrians:** Adjust light angle to increase visibility. Contact the ONR S&C Supervisor if you feel the lighting is not adequate along approach. Refer to Grade Crossing Standards Section 14 for alignment criteria.
7. Check Lighting	→ Check each pair of flashing lights emits same intensity. → Check lights do not have dark spots or shadows. → Check backlights are visible prior to front lights being out of field of vision. → Check front lights' intensity reduces as back lights come into view. → Check gate lights all emit same intensity.
8. Restore Warning System	• Close Test Switch.
9. Update Log Book	• Add any notes of issues observed, or adjustments made.
10. Complete Test Form	• Record the test as completed on Grade Crossing Warning System Test Form. • Record alignment changes on Light Unit Alignment Form (if applicable).