

- minimum of six seconds even if the optical energy signals cease before the green display is obtained.
- I. The system shall allow the traffic signal controller to resume normal timing operation after the desired preemption phase display is obtained and the optical signals cease to emit.
  - J. The system shall not attempt controller manipulation nor retain priority vehicle calls during periods of "intersection flash" operation.
  - K. The system shall allow for easy upgrade.

The following are the specific requirements of the optical emergency preemption system components:

- A. Optical Detector:
  - 1. Shall be of solid-state construction.
  - 2. Fittings shall meet the specification of the system manufacturer to facilitate ease of installation.
  - 3. Shall operate over an ambient temperature range of -40°F to + 180°F (-40°C to + 85°C).
  - 4. Shall have internal circuitry encapsulated in a semi-flexible compound and shall be impervious to moisture.
  - 5. The unit shall include a design feature to allow aiming of the optical sensing inputs for skewed approaches or slight curves.
  - 6. The unit must deliver the necessary electrical signal to the phase selector via up to 500 feet of optical detector cable.
- B. Phase Selector:
  - 1. Shall use a combination of solid state and relay type electrical components.
  - 2. Shall include an internal power supply to supply power to the optical detector(s).
  - 3. Shall include sufficient connectors to provide one for the main wiring harness to the controller, and one for each detector channel.
  - 4. Shall be independently fused.
  - 5. Shall have detector range controls for each channel of operation to adjust optical sensitivity.
  - 6. Shall be capable of generating advance pulses to manipulate the controller.
  - 7. Shall have "commit to green" logics to insure delivery of desired green.
  - 8. Shall have digital timing controls for each channel that adjust the time between advance pulses during yellow intervals from one (1) to nine (9) seconds in one (1) second steps.
  - 9. Shall have digital timing controls for each channel that adjust the time between advance pulses during non-yellow intervals from one (1) to ten (10) seconds in one (1) second steps.
  - 10. Shall have a control that is capable of multiplying the time between advance pulses by two (2).
  - 11. Shall have solid-state indicator lights to indicate power on, signal being received, channel called, and advance circuit operation.
  - 12. Shall have switch to control system power, switch to activate recall, switch to test phase selector operation, and switch to multiply timing control settings by two (2).
  - 13. Shall operate over an ambient temperature range of -40°F to + 180°F (-40°C to +85°C).
  - 14. Shall operate in 0 to 100 percent relative humidity.
  - 15. Shall be capable of being disabled during flash operation.