



Date: 3 March 2010
Memo to: Andrew Mead
From: William Ertle, Chairman TSC-4 (Control Measures)
Subject: Interpretation: 4.3.9.4.2, Visible Warning Devices

4.3.9.4.2 Visible Warning Devices

The signage annunciator control (CAL-AV WSC-200B) is limited (in MANUAL mode) in that the warning lights (located outside the lab door) must be *manually* switched from color to color and has no relationship to actual laser status; laser radiation is accessible in either a green-, yellow- or red-light *manually-controlled* annunciation. Likewise the light can be switched to red without laser function. In AUTOMATIC mode, the limitation is that the light is green without the master interlock key switch thrown (no lasers on – perfectly safe), but red with *only* the key switch on; either lasers enabled (high voltage on – shutter closed), or laser on (beam on – shutter open). The objective safety issue is less troublesome; the door switch **always** closes the safety shutter – but there remains an administrative problem if people were to confuse the automatic and manual annunciations, or neglect setting the proper colored annunciator manually (assuming this even meets the Standard).

In short, I am asking if the Standard is satisfied using only manual switching of (outside) annunciator lights, or if there is a requirement that these outside tri-color lights be *automatically* slaved to the lasers' operation.

Yes, the standard is satisfied with manual switching.

Response explanation:

Subclause 4.3.9.4 recommends (Class 3B) and requires (Class 4) an activation warning system during activation or startup. Subclause 4.3.9.4.2 offers suggested methods for achieving this. The suggestions in 4.3.9.4.2 do not state that warning lights "shall" be tied to the laser power supply-only that they "may be" or "can be." Since these are only suggestions, other methods for activating the warning lights may be used, including manual switches

