10.3.1 Control rooms

Control rooms are often crucial for the production and safe operation of a wide range of processes. Staff monitor and act upon incoming status information (plant, fuel, and product etc.) which is normally displayed on visual display terminals or mimic diagrams (Figure 10.4). The work is often multi-functional and the lighting scheme must enable a wide range of visual tasks to be performed whilst revealing incoming status information with absolute clarity. The lighting should be as flexible as possible to meet the different visual tasks with general dimming or alternative switching arrangements and/or local lighting. The luminaires should blend with the room as far as practical to avoid being sources of distraction. Low glare or shielded, flicker-free high frequency lighting, is preferred where possible.

Figure 10.4 Lighting of a control room

The lighting designer will need to establish precisely how and where the information will be displayed so that the layout geometry and light distribution of the luminaires can be co-ordinated. Often incoming information will be displayed in a vertical or near vertical plane and the display screen(s) or dial(s) will often be fronted by glass or clear plastic. It is essential to avoid veiling reflections in these displays.

There are three ways to do this:

- position downlighter luminaires to avoid the critical luminaire/screen/eye geometry
- select downlighter luminaires with low luminance at the critical luminaire/screen/eye geometry (see Table 10.1)
- treat the ceiling/upper walls as a low luminance source by uniform uplighting with uplighter luminaires.

Table10.1 Downlighter luminance limits in display screen areas

Screen treatment	Maximum luminance (cd/m^2) where some negative polarity software is used
Good or moderate treatment (Type 1)	1000
None (Type 2)	200