

The auditorium is on three levels with control rooms and space for latecomers on each level. These work extremely well for us as an opera company, as we tend to have lots of latecomers and enormously long shows, and we don't want people standing around in the foyers. The lighting, sound and stage management control rooms are on the first level, with a whole raft of boxes for latecomers, and with the follow spot positions at the top level.

Now we move on to the minutiae! Ninety percent of the front-of-house lighting bridge is very good, well thought out and very clever. The PAR fittings that are shown in the picture pull up and can be changed from the lighting bridge which has a suitable kick edge and anti-slip surface. However, even a person of my size can fit comfortably between the lighting bar and the kick edge. It almost defies belief that in this day and age that a 4-ft (1.2-m) high gap should be unprotected under the lighting bar. We asked for a safety-harness line to be put in along the back of the bridge so that people could be harnessed, but that has not been installed because it is not considered to be a major problem. This is the politics of being a tenant in the building; primarily the resident building staff are focused on front-of-house matters and ultimately it is their call. My staff don't go up to the bridges very often, so it is best for me to leave the building managers to resolve this issue.

The next point will be a recurring theme; the specification for parts of the building which were done later. The building was designed by the consultants with certain equipment for hanging in the spaces and one of the reasons why the lighting bars are so high is so that you can get larger lanterns in there. The resident staff then came in and specified the actual lighting equipment. In our view they selected equipment that was underpowered, but that was their choice. To overcome this we have to double up on pretty well every lantern.

There are all sorts of rigging positions and the front-of-house grid has been very cleverly designed. There is a central loudspeaker cluster for use with amplified sound, but the frame for the loudspeakers wasn't really designed by anybody. It is 4.5 metres (14'-9") from top to bottom, and when it was originally installed it had a complete cage enclosing the cluster. It had to be that size to get all the speakers at the required angles, and so it completely obstructed the sightlines from the upper circle! It has now been cut down and there is an infill piece in the ceiling when the cluster is raised. These kinds of technical and sightline errors should not be made on a project of this scale. Most



*Bird's eye view of a rehearsal in the main auditorium, showing the production desk and the normal size orchestra pit*

of the visiting companies come in with their own speaker stacks anyway, so quite often these speakers hang, redundant, in the middle, with the touring rig strapped on either side. This was a surprising failure in a theatre

auditorium where so much is taken to keep the aesthetic generally well planned.

I learnt when we moved in the phrase: 'British-builders'- a lot of the surfaces are caked in dust and this is a some of our singers' multifaceted GRP so they happily on these and on the on the walls. These are all that can be lowered in panels. When amplified sound is being used they cover areas of the wall to increase the sound absorption in the auditorium. This

***In this section technical director Perryn Leech reviews the Wales Millennium Centre, the home of Welsh National Opera. He is followed by production director Gerry van Hezewyk on the Esplanade in Singapore and architect Tony Stafford describing the development of the Leicester Performing Arts Centre.***

*Auditorium lighting bridge showing the lighting rail and the large openings*

