

UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS, PLANNING & BUILDING

PROGRAMS: **Master of Project Management**
 Graduate Diploma in Project Management

COURSE: **INTEGRATION, SCOPE & RISK MANAGEMENT (12419)**

EXAMINATION: **Internal Exam, Semester 1, 2002**

DURATION: **3 Hours of Exam time preceded by 10 minutes of Reading**
 time, a total of 3 Hrs 10 Mins.

For ENTEXT students 10 minutes of Reading time plus 3.5
Hours of Exam time, a total of 3 Hrs 40 Mins.

EXAMINER: **David Farwell Tel – 8221 7171**

INSTRUCTIONS TO CANDIDATES:

- This exam consists of 4 questions each worth 25 marks. Answer all 4 questions.
- No reference materials are allowed.
- Use the Case Study – Raising the Roof to answer the following questions

Question 1

Describe how the project manager would use the project plan to monitor and control all elements of the project.

Question 2

Explain how the project manager would define and manage the scope of the project.

Question 3

Describe the risk management processes and then identify the critical points in the project's life cycle at which risk management should be applied. Give reasons for your response.

Question 4

One of the project manager's responsibilities is to manage both internal and external stakeholders. Identify the key stakeholders in the given case study and describe strategies the project manager could develop to manage these stakeholders.

CASE STUDY

RAISING THE ROOF

The 300 year old Christopher Wren designed, King William Building, to which extensive works are being undertaken, makes up one quarter of the Royal Naval College at Greenwich and is a rectangular building consisting of four separate wings around a central courtyard.

The North Wing contains the Painted Hall, featuring priceless 17th century murals on the ceiling and walls. The lead covering to the roof is to be removed and re-laid, with nine pound lead to the same detail as existing, and repairs to the oak roof being carried out once it is exposed.

The first phase of the project consisted of survey and inspection works to determine the general condition of the roof structures and finishes. This addressed all aspects of the project and identified a number of problems and challenges to overcome including:

- ⌘ Weather protection: The building's Grade 1 Listed Ancient Monument status does not permit the scaffold structure required to support the temporary roof to be tied to the building.
- ⌘ Asbestos: Tests have shown that both blue and brown asbestos are present over the painted ceiling. The removal of asbestos sheets is now quite a standard procedure. However there is an additional problem of asbestos dust. The sheets of asbestos were sawn within the roof space resulting in the dust having seeped through into the ceiling void and into the gaps between the floorboards. Every third floorboard therefore has to be lifted to allow the top of the ceiling to be surveyed. Both the architect and the carpenter must undergo special training in the use of personal protective equipment and asbestos removal procedures, to enable them to carry out this work within the sealed, negative pressure compartments erected by the asbestos removal company.
- ⌘ Hot works: In the interests of fire safety, this work is prohibited on (or within six metres from) the building. Extensions to the scaffold will therefore be erected to support working platforms, so that the lead may be hot worked away from the building.
- ⌘ Chalk slurry: A relatively new procedure of applying chalk slurry to the contact face of the lead will be used. This protects the lead from any moisture that may be present in the new wood used for repairs, as well as from condensation inside the building until patination of the lead has taken place.
- ⌘ Fire protection: This is to be provided as part of the work as the existing roofs were not provided with any.
- ⌘ Fire escape and maintenance access: The existing access across the roofs ran primarily along rain water gullies at the edge of the building with no edge protection at all. Limited edge protection was provided, in the form of unsightly steel handrails via steel or wooden steps and ladders. These are to be replaced by a new means of escape, incorporating a stainless steel wire safety system to which harnesses may be connected for maintenance access. Means of escape across the roofs will be prohibited.

Lead rainwater pipes to the Painted Hall are situated behind mural panels in window reveals. These are to be surveyed and if necessary, repaired. This will involve the careful removal and replacement of the panelling and any damage to the murals being made good.

Conclusion

Great emphasis is placed on the planning and logistical process as all areas open to the public must remain accessible throughout the works.

The project covers all construction above the roof cornice level of each building and includes the lower level roof in the courtyard adjacent to the Painted Hall.

Also included is work to the ceilings, together with their supporting structure, the roof structure, the brick and stone parapets and chimneys, and services within and on the roofs.

The greatest proportion of the work, however, is the replacement of the lead to all the roofs, much of it weighing nine pounds a square foot.

Other constraints on the project have been the client's annual budget, and the requirement to have the buildings clear of scaffold for the millennium celebrations.

Extract from Project February 1999