



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF MANAGEMENT

QUALIFICATION: BACHELOR OF BUSINESS MANAGEMENT (HONOURS)	
QUALIFICATION CODE: APM811S	LEVEL: 8
COURSE NAME: Advanced Project Management	COURSE CODE: APM811S
DATE: July 2022	PAPER: THEORY
DURATION: 3 Hours	MARKS: 100

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION	
EXAMINER(S)	Mr. Joshua Mario, PMP®
MODERATOR:	Mr. Daniel Kandjimi

<p style="text-align: center;">INSTRUCTIONS</p> <ol style="list-style-type: none">1. All questions are compulsory2. Read the case studies and questions carefully, before you answer.3. Number answers according to the numbering structure provided in the question paper.4. You will be penalised for illegible handwriting.5. The Question Paper is applicable to full-time, part-time, and distance students.
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PERMISSIBLE MATERIALS

[None]

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

Project Case Study

Government of South Australia Clean Energy Transition, Australia

Addressing increasing challenges towards a low-carbon future

We all know the news stories from recent years: state-wide blackouts, electricity shortages, weather-related transmission outages, aging power stations, grid instability, and volatile electricity prices. Australia's electricity network is facing unprecedented change and challenges with the transition to a new, low-emissions energy system.

However, a revolution is underway, with plans being pursued to meet the emerging system security challenges, including projects that are transforming Australia's energy supply mix and grid security. The energy landscape is being fundamentally altered, as well as the conventional thinking underpinning network planning, as we take greater responsibility for enabling a sustainable future.

The Government of South Australia had to act quickly after a catastrophic weather event resulted in a state-wide electricity blackout in 2016. It implemented a range of projects to address urgent system security, reliability, and price risks for its energy customers, while enabling increased renewable future energy strategy and plan to more actively manage energy risks whether these are associated with the decreasing reliability of supply, increasing energy costs or perceptions about energy and carbon footprint.

Aurecon has been engaged on a number of these projects by the Government of South Australia as a Specialist and Technical Adviser, providing a range of support including strategic and commercial advice, developing procurement strategies, supporting procurement, preparing technical specifications for projects, and providing programme implementation support.

Some of the key projects show how innovation and a user-centered design approach will lower emissions and exploit new technologies in the energy industry.

One big battery revolutionises renewable energy

South Australia's Hornsdale Power Reserve, currently a 100 MW / 129 MWh battery, is unique not just because it is the world's largest lithium-ion battery system but because it was conceived and constructed in record-breaking time.

It addresses specific technical and market needs in the South Australian network, providing a targeted contribution to the state's objective of ensuring reliable, affordable, and clean power for South Australian consumers.

Aurecon advised the Government of South Australia throughout all phases of the original project definition, specification, procurement, and execution through to final testing.

This included assessment and stakeholder engagement on how the battery's unique capabilities could best be deployed to meet key government objectives, and on the development of the formal operating protocol for the facility.

In the wake of the Hornsdale Power Reserve's success, the Australian Energy Market Operator has reported an unprecedented growth in energy storage registration and connection applications. The project has built confidence in the ability of such large storage schemes to be successfully integrated into the electricity network and markets.

After one year in operation, Aurecon produced a report analysing the performance of Hornsdale Power Reserve and highlighted that the use of similar fast response systems could significantly improve the reliability, affordability, and sustainability of energy across Australia. A new report released in February 2020 further demonstrated the market benefit of the Hornsdale Power Reserve to the National Electricity Market; reducing the cost of Frequency Ancillary Services by approximately \$116M in 2019.

The 2020 report also provided an analysis of the major network outage in Victoria on 16 November 2019 which resulted in the South Australian region of the National Electricity Market becoming "islanded" or separate from the rest of the national electricity grid.

The project has demonstrated the ability of such large storage schemes to be successfully integrated into the electricity network and markets. It has provided substantial support to the electricity network and has delivered more than AU \$150 million in electricity cost savings in its first two years of operation.

Source: <https://www.aurecongroup.com/projects/energy/sa-gov-clean-energy-transition>

Answer the following questions:

QUESTION 1

Write an explanatory note explaining the importance of strategic management and how an organisation's strategy can help projects to be successful. Cite relevant examples from the case study to support your answers. **(20)**

QUESTION 2

"Aurecon has been engaged on a number of these projects by the Government of South Australia as Specialist and Technical Adviser, providing a range of support including strategic and commercial advice, developing procurement strategies, supporting procurement, preparing technical specifications for projects, and providing programme implementation support." This paragraph from the case study is very critical, discuss the process of creating a high-performing team, norms to be embraced within a team and managing conflict within a team. **(20)**

QUESTION 3

The case study points out some successes in the projects implemented. Such success however comes at a cost. Discuss the various resource allocation methods and cite relevant examples from the case study to support your answers. **(20)**

QUESTION 4

- 4.1. Define project scope and the purpose of the scope statement. **(10)**
 - 4.2. Analyse the importance of communication in a project and cite some examples from the case study to support your answers. **(10)**
- [20]**

QUESTION 5

In any given project there is a probability of risks as a result the project plan should always cater to such risks in the event they occur.

- 5.1. Outline the risk management process **(10)**
 - 5.2. Discuss the benefits of risks and contingency planning for successful projects. **(10)**
- [20]**

TOTAL MARKS = [100]

Dr. Asa R Asa