

ASSESSMENT REPORT

Sunrise Project (formerly Syerston Project)

Hazard Studies Modification (DA 374-11-00 – MOD 5)

EXECUTIVE SUMMARY

Scandium21 is seeking to modify the development consent for the Sunrise Mine to limit the scope and timing of seven hazards studies required for the development. The consent conditions currently require the hazard studies for the whole development, including the mine processing facility, gas pipeline, limestone quarry, rail siding, water pipeline, and bore fields.

The Preliminary Hazard Analysis determined that the mine processing facility and gas pipeline are the higher risk components of the development, and recommended further hazards studies be undertaken for those components. No studies were recommended for the other components of the development.

The Department's assessment found that four of the studies could be limited to the mine processing facility and gas pipeline only, consistent with the findings of the Preliminary Hazard Analysis, and that this change would not result in negative environmental impacts. The Department does not consider that the scope of the remaining three studies should be amended.

1 BACKGROUND

The Sunrise Project is an approved open cut nickel cobalt mine located approximately 4.5 kilometres (km) northwest of Fifield and 45 km north east of Condobolin in the Central West Region of NSW (see **Figure 1**). The development is operated by Scandium21 Pty Ltd, a wholly owned subsidiary of CleanTeQ Holdings Limited.

The development was approved by the then Minister for Urban Affairs and Planning on the 23 May 2001, and has since been modified three times. The consent allows for the construction, operation and rehabilitation of:

- an open cut mine and processing facility, with a production rate of up to 2.5 million tonnes per annum (tpa) of run-of-mine (ROM) ore to produce up to 53,000 tpa of nickel and cobalt sulphide precipitate and up to 180 tpa of scandium oxide;
- associated infrastructure, including waste emplacements, a tailings storage facility, evaporation ponds and surge dam;
- a limestone quarry and limestone processing facility;
- water supply pipeline and bore fields; and
- a rail siding and a natural gas pipeline.

The consent was triggered in 2006 with partial development of the bore fields, but further development of the project was suspended due to unfavourable economic conditions. However, Scandium21 is now planning to progress development of the mine to meet the projected growth in demand for nickel and cobalt (particularly for use in lithium-ion batteries).

Modification 3, approved in 2016, allows Scandium21 to extract and process scandium in addition to nickel and cobalt, and to develop the mine in two stages. A smaller scale initial production phase would involve development of the mine, water supply pipeline and bore fields only. Development of the limestone quarry, gas pipeline and rail siding would be deferred to the full production phase.

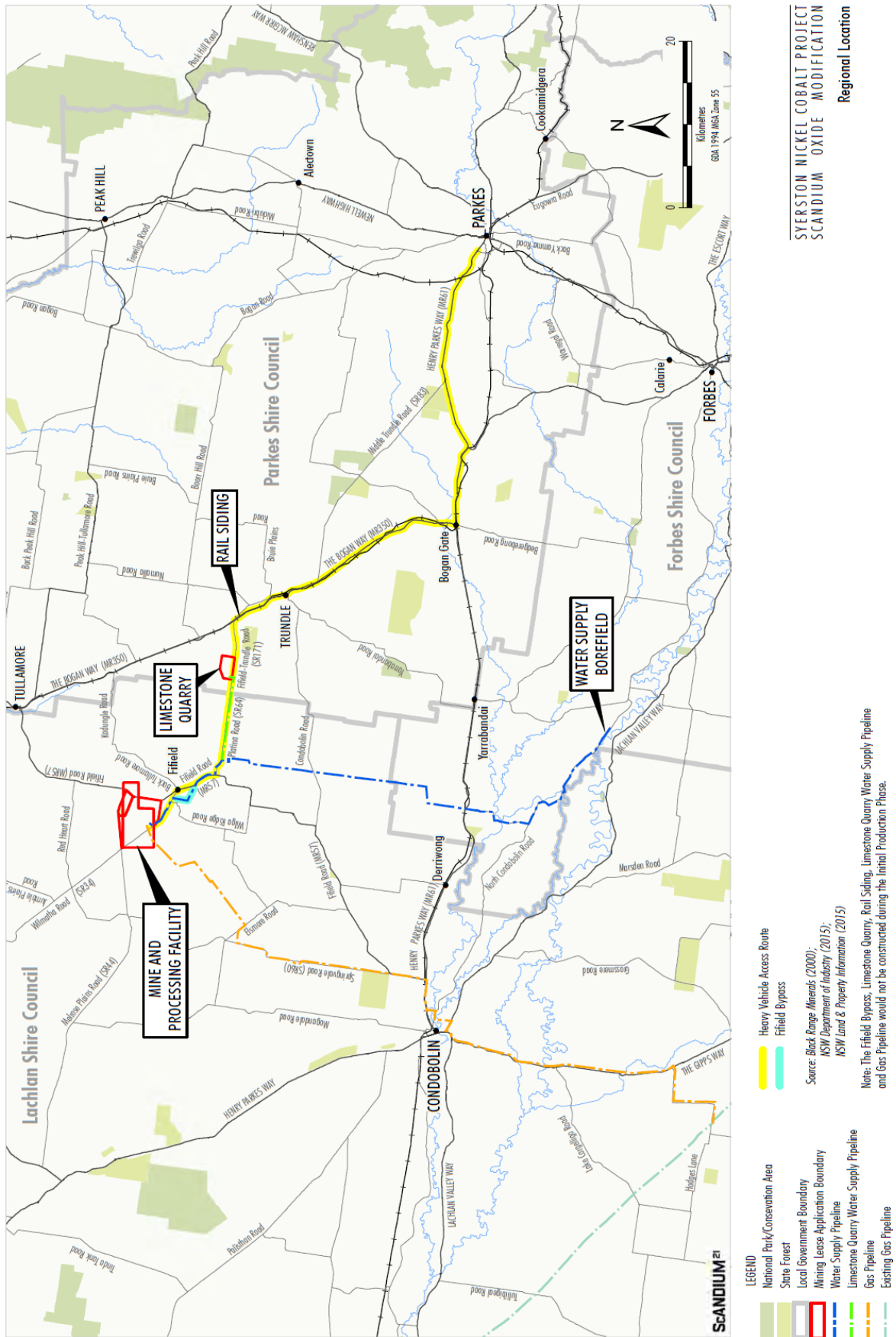


Figure 1: Regional Context

2 PROPOSED MODIFICATION

The project is considered a “potentially hazardous” development under *State Environmental Planning Policy No 33 – Hazardous and Offensive Development* (SEPP 33). Consequently, a number of hazards studies are required to ensure the design, construction and ongoing operation of the development does not compromise the off-site safety of people, property or the environment.

The conditions of consent mandate the scope and timing of submission of these studies as shown **Table 1**.

Scandium21 is seeking to modify the development consent to change the scope and timing of the hazard studies to target the higher risk components of the project only. The proposed changes are summarised in **Table 1**.

Table 1: Timing and scope of hazards studies

Study/Plan	Scope	Timing	Proposed Changes
Pre-Construction Studies			
Fire Safety Study	The development	Prior to carrying out any development	<ul style="list-style-type: none"> • Scope of study limited to the mine processing facility and gas pipeline. • Study to be submitted prior to commencement of construction of the mine processing facility and gas pipeline.
Final Hazard Analysis	The development	Prior to carrying out any development	
Construction Safety Study	Mine processing facility and gas pipeline	Prior to carrying out any development	<ul style="list-style-type: none"> • No change to the scope. • Study to be submitted prior to commencement of construction of the mine processing facility and gas pipeline.
Hazard and Operability Study	Mine processing facility and limestone processing facility	Prior to carrying out any development	<ul style="list-style-type: none"> • Scope of study limited to the mine processing facility and gas pipeline. • Study to be submitted prior to commencement of construction of the mine processing facility and gas pipeline.
Pre-Commissioning Studies			
Transport of Hazardous Materials Study	The development	Prior to commissioning of the mine processing facility and gas pipeline	<ul style="list-style-type: none"> • No change to the scope or timing of study.
Emergency Plan	The development	Prior to commissioning of the mine processing facility and gas pipeline	<ul style="list-style-type: none"> • Scope of study limited to the mine processing facility and gas pipeline. • No change to the timing.
Safety Management System	The development	Prior to commissioning of the mine processing facility and gas pipeline	

The proposed modification is described in full in Scandium21’s Environmental Assessment (see **Appendix C**).

3 STATUTORY CONTEXT

3.1 Section 75W Modifications

The project was originally approved under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Although Part 3A was repealed on 11 October 2011, the project remains a “*transitional Part 3A project*” under Schedule 6A of the EP&A Act, and hence any modification to the approval must be made under the former Section 75W of the Act.

Based on its assessment, the Department considers that the application can be characterised as a modification as the proposal is minor in nature and would not change the mining methods, production rate or disturbance footprint, and would not significantly increase the environmental impacts of the approved project.

Consequently, the Department considers that the proposed modification is within the scope of Section 75W of the EP&A Act.

3.2 Approval Authority

The Minister for Planning is the approval authority for the modification application. However, under the Minister's delegation dated 11 October 2017, the Executive Director, Resource Assessments, may determine the application. This is because there were fewer than 25 public objections to the modification, no reportable political donations were made, and Lachlan, Parkes and Forbes Shire Councils did not object to the proposal.

4 CONSULTATION

The Department publicly exhibited the application and accompanying EA from 24 October 2017 until 11 November 2017.

During the public exhibition period, the Department:

- advertised the exhibition of the application in the Parkes Champion Post and the Forbes Advocate; and
- made the application and accompanying documentation available on its website, at the Nature Conservation Council, and at Lachlan Shire Council offices.

The Department also consulted with the relevant local Councils (Lachlan Shire Council, Parkes Shire Council and Forbes Shire Council) and key government agencies including the Environment Protection Authority, Fire & Rescue NSW, NSW Rural Fire Service and Worksafe NSW.

None of these agencies raised concerns about the modification.

The Department received two submissions from members of the local community objecting to the proposal. One submission raised concerns about the adequacy of the Preliminary Hazard Analysis (PHA) undertaken for the development. Both submissions expressed concern that the modification would mean that hazards posed by other components of the development (such as truck and train transport, pipelines and power poles) would not be properly assessed. These issues have been considered in Section 5.

Copies of the submissions and Scandium21's response to submissions, are provided in **Appendices D** and **E** respectively.

5 ASSESSMENT

In assessing the merits of the proposed modification, the Department has considered the:

- current conditions of consent for the project;
- modification application and supporting information;
- agency and public submissions on the application and the applicant's response to submissions; and
- requirements of the EP&A Act, SEPP 33, and the Department's planning guidelines for hazardous development.

Preliminary Hazard Analysis

A PHA was required as part of the original project application to identify and quantify the hazards and risks, and to provide guidance on whether further safety studies were required.

The PHA assessed the risk and consequence of a number of potentially hazardous scenarios to determine whether the scenarios would present credible off-site impacts. A summary of these findings is presented in **Table 2**.

Table 2: Key findings of the PHA

Development Component	Findings
Mine Processing Facility	The PHA established that most of the risks from the development were associated with the mine processing facility, with the dominant risk being a major gas release from the sulphuric acid plant.
Gas Pipeline	The major potential hazard identified for the gas pipeline was potential leaks leading to fires and explosions. However, the PHA concluded these risks could be mitigated by laying the pipe in accordance with relevant Australian standards and codes, which include recommended measures to reduce the likelihood of loss of containment.
Limestone quarry, rail siding and materials transport route	The main hazards associated with the limestone quarry, rail siding and materials transport route included those associated with on-site storage of diesel, transport of materials and transport and handling of explosives. However, these were considered low risks due to the low combustibility of diesel, the distance of the diesel storage from the site boundaries, and the fact that storage, transport and handling of dangerous materials and explosives must in accordance with relevant Australian Standards.
Water pipeline and bore fields	No potential hazards were identified in relation to these components of the development.

Pre-Construction Studies

The PHA recommended that the final design and operation of the mine processing facility should be reviewed in a Hazards and Operability (HAZOP) Study and Final Hazards Analysis once the detailed design was completed and precise safeguards were known.

No such recommendation was made for other components of the development.

Based on these recommendations, Scandium21 is proposing to limit the scope of the HAZOP and Final Hazards Analysis to the mine processing facility and gas pipeline only.

Scandium21 is also proposing to limit the scope of the Fires Safety Study and Construction Safety Study to the mine processing facility and gas pipeline only, as these studies are related to the detailed design of the facilities and feed into the HAZOP study and Final Hazards Analysis .

The Department's Hazards Unit has reviewed the proposal and agrees that the additional pre-construction hazards studies are not required for the low risk components of the development, i.e. the limestone quarry, rail siding, water pipeline and bore fields.

Given the above, the Department agrees that the pre-construction hazards studies can be limited to the mine processing facility and gas pipeline only, and that these studies need only be undertaken prior to commencement of construction of those components of the development.

Pre-Commissioning Studies

Scandium21 is also proposing to limit the scope of the Emergency Plan and Safety Management System (SMS) to the mine processing facility and gas pipeline.

However, consistent with the Department's guidelines *Hazardous Industry Planning Advisory Paper No 1 – Emergency Planning* and *Hazardous Industry Planning Advisory Paper No 9 – Safety Management*, the Department considers that the Emergency Plan and SMS should be comprehensive enough to cover the full range of activities across all components of the development.

As such, the Department considers that the current scope of the SMS and Emergency Plan should be retained.

The Department notes that Scandium21 is not seeking to amend the scope of the Transport of Hazardous Materials study, and that this study is required to cover the whole development.

Other

In relation to the concerns raised in submissions from the community, the Department notes that the hazards and safety studies under consideration relate specifically to hazards associated with the use, storage or handling of a range of hazardous substances listed in the Department's guideline *Hazardous*

and Offensive Development Application Guidelines - Applying SEPP 33. Other potential impacts from the project were assessed when the original development application was lodged, and are not the subject of the proposed modification.

The Department also notes that the PHA was considered adequate at the time of the original assessment of the project, and the Department was satisfied that the provisions of SEPP 33 had been complied with.

6 RECOMMENDED CONDITIONS

The Department has prepared a Notice of Modification (see **Appendix A**), as well as a consolidated version of the development consent as modified (see **Appendix B**).

The Department has amended the conditions to allow Scandium21 to limit the scope of the pre-construction hazard studies to only the mine processing facility and gas pipeline, which must be prepared prior to the commencement of construction of these components.

The Department has also updated the definitions to ensure all hazardous operations at the mine site are included in the definition of the mine processing facility.

The Department has not recommended any changes to the scope or timing of the pre-commissioning hazards studies.

Scandium21 has reviewed the revised conditions and raised no objections to the proposed amendments.

7 CONCLUSION

The Department has assessed the merits of the modification in accordance with the relevant requirements of the EP&A Act, SEPP 33 and the Department's planning guidelines for hazardous development.

Based on this assessment, the Department has concluded that additional pre-construction hazards studies should only be required for those components of the development that are identified as higher risk, and where the final design information may extend and update the findings of the PHA.

The Department is thus satisfied that the conditions requiring pre-construction studies may be amended to target the mine processing facility and gas pipeline only.

The SMS and Emergency Plan are intended to provide safety assurance during ongoing operations, and should be sufficiently comprehensive to cover all components of the development. Accordingly, the Department does not consider that the scope of the SMS and Emergency Plan should be modified.

The Department considers that the modification of the conditions relating to pre-construction hazard studies is reasonable and would not result in any significant change in environmental impacts beyond those associated with the original project.

Consequently, the Department believes the modification should be approved, subject to conditions.

8 RECOMMENDATION

It is recommended that the Executive Director, Resource Assessments and Business Systems, as delegate of the Minister for Planning:

- **consider** the findings and recommendations of this report;
- **determine** that the request (DA 374-11-00 MOD 5) falls within the scope of section 75W of the EP&A Act;
- **modify** the consent (DA 374-11-00); and
- **sign** the attached modification of approval (**Appendix A**).

Recommended by:

Rhonda 14/12/17

Rose-Anne Hawkeswood
Senior Planner
Resource and Energy Assessments

Recommended by:

Clay Preshaw 18/12/17

Clay Preshaw
Director
Resource and Energy Assessments

9 DECISION

The recommendation is Approved / Not approved by:

DKitto 20/12/2017

David Kitto
Executive Director
Resource Assessments and Business Systems
as delegate of the Minister for Planning

APPENDIX A: NOTICE OF MODIFICATION

APPENDIX B: CONSOLIDATED CONSENT

APPENDIX C: MODIFICATION APPLICATION

Refer to: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8829

APPENDIX D: SUBMISSIONS

Refer to: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8829

APPENDIX E: RESPONSE TO SUBMISSIONS

Refer to: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8829