



Improved Reporting of Mining "Feasibility Study" Results

Wednesday, 3 April 2019 – 2:15 - 2:30pm

PACRIM Congress 2019

Presenting Author: Mr Paul Harper

Co-Authors: Mr Neil Cusworth, Mr Larry Queen & Dr Peter Jolly

Improved reporting of mining “Feasibility Study” results

INTRODUCTION

- Purpose of our proposal
- Reality check
- Why is it important to have more transparency for investor confidence
- What does a feasibility study (FS) look like
- Proposed Competent Person (CP) structure
- What this new structure will achieve
- Recommendation

Improved reporting of mining “Feasibility Study” results

Purpose of our proposal

The share market and mining companies have recognised that greater transparency disclosure is required in the promotion of mining projects to attract a larger proportion of investment funds available in the equity market.

“We propose an improved process for greater transparency around disclosure and use of Feasibility Studies (FS) to enhance and attract investment confidence in the resources industry”

Improved reporting of mining “Feasibility Study” results

JORC Code states

The Feasibility Study will contain the application and description of all Modifying Factors (as outlined in Table 1, section 4) in a more detailed form than in the Pre-Feasibility Study and may address implementation issues such as detailed mining schedules, construction ramp up, and project execution plans.

Is this sufficient ??

Improved reporting of mining “Feasibility Study” results

A reality check

No requirement for a Competent Person (CP) sign-off for FS or PFS sign-off, unlike Resource or Reserve Statements that are prescribed in the JORC Code

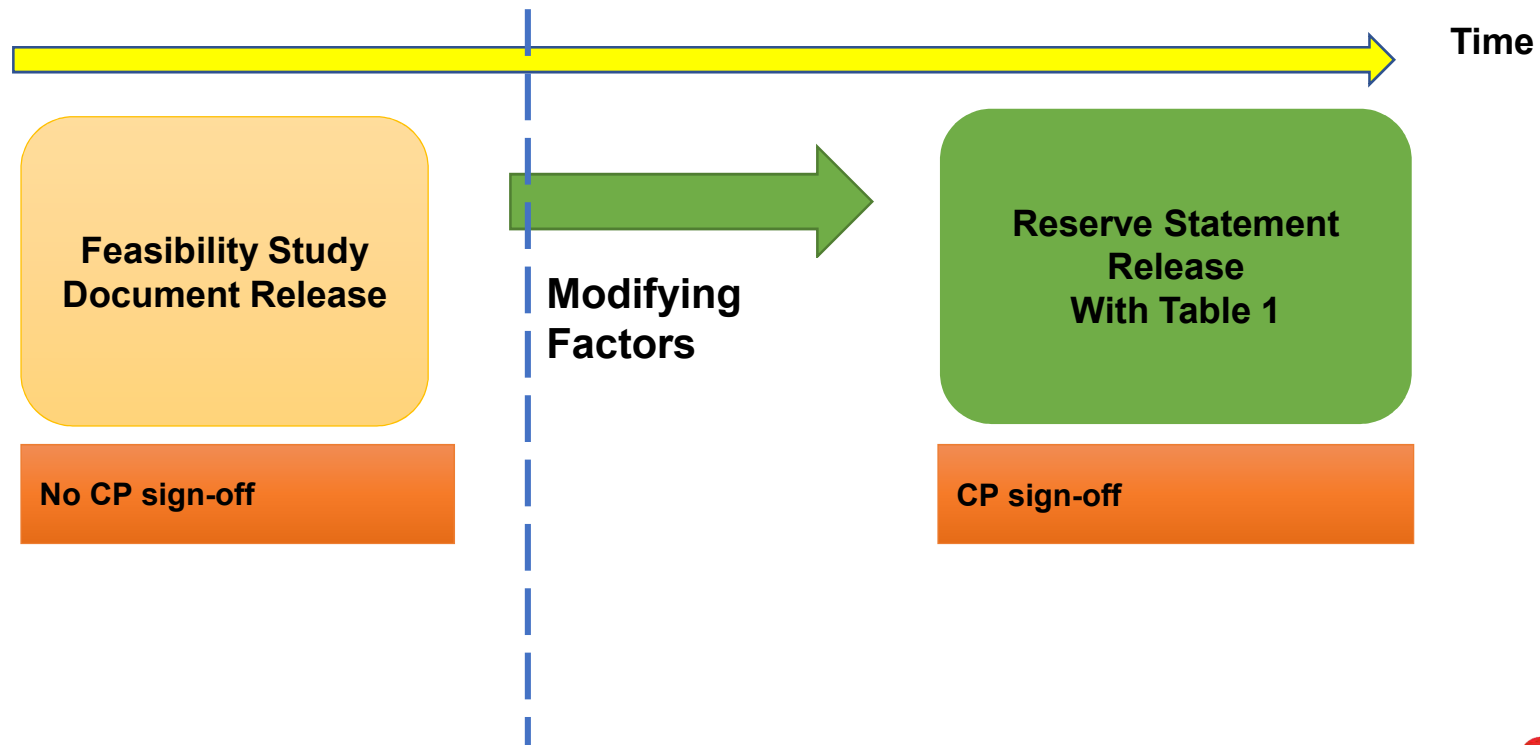
The “Table 1” that accompanies the Reserve Statement release draws heavily on the Modifying Factors (MF’s) produced in the FS or PFS, with the following potential shortcomings:

- Typically, a CP with relevant experience signs off the Reserve Statement. However the CP may not be qualified to manage a FS
- This person may not have been involved in many of the aspects of the FS or PFS, which derive the MF’s used in the Reserve Statement.

Does this mean the CP for the Reserve is signing off on the FS?

Improved reporting of mining “Feasibility Study” results

Current situation based on JORC



REV H

Improved reporting of mining “Feasibility Study” results

What is the probability of a successful project outcome?

- 50% of projects overrun budget
- 50% of projects overrun schedule
- 25% of projects are delivered inside both budget and schedule

This track record creates an environment of risk adversity and low investor confidence

Improved reporting of mining “Feasibility Study” results

So why are so many projects failing?

- Fail to establish core technical aspects of geology, mining, metallurgy at study phases
- Ignoring the sustainability and licence to operate aspects
- Prefeasibility studies failing to rigorously find the best investment case
- Thinking bigger will be better - chasing economics by only upsizing the project
- Assuming optimistic commodity prices for the life of mine
- Producing flawed feasibility studies in the rush to get into production
- Not integrating studies at technical, project and business levels
- Inadequate project implementation planning
- Assuming project management should not be difficult
- Not conducting good quality reviews during the study and implementation phases
- Failure in project controls leading to surprises for company directors
- Believing that things go smoothly with a project.

We are not only letting down investors but our industry as well

Improved reporting of mining “Feasibility Study” results

Business Readiness and Liabilities Aspects of an FS

Summary Level Table of Contents

1. Summary and Recommendations
2. Project Description and Development Approach
3. Risk
4. Health and Safety
5. Environment
6. Geology and Mineral Resource
7. Mining and Ore Reserves
8. Mineral Processing
9. Waste Management
10. Infrastructure and Services
11. Logistics
12. Human Resources – Project Execution and Operations
13. Technology and Information Systems
14. Project Execution
15. Operations
16. Closure and Rehabilitation
17. External Relations
18. Capital Costs
19. Operating Costs
20. Marketing
21. Ownership and Legal
22. Commercial
23. Financial Analysis
24. Funding
25. Status Of Studies
26. Work Plan – Future

REV H

Improved reporting of mining “Feasibility Study” results

Why is it important to have more transparency of studies

- Studies are the outcome of shareholders funds converted into an asset in the form of Intellectual Property
- Studies form the basis of management approvals for the next stage of investment and eventually the development of the asset
- As with projects studies need a structure of the work to allow the scope, cost, quality and time to establish and manage the asset.

Improved reporting of mining “Feasibility Study” results

Proposed Options to be considered

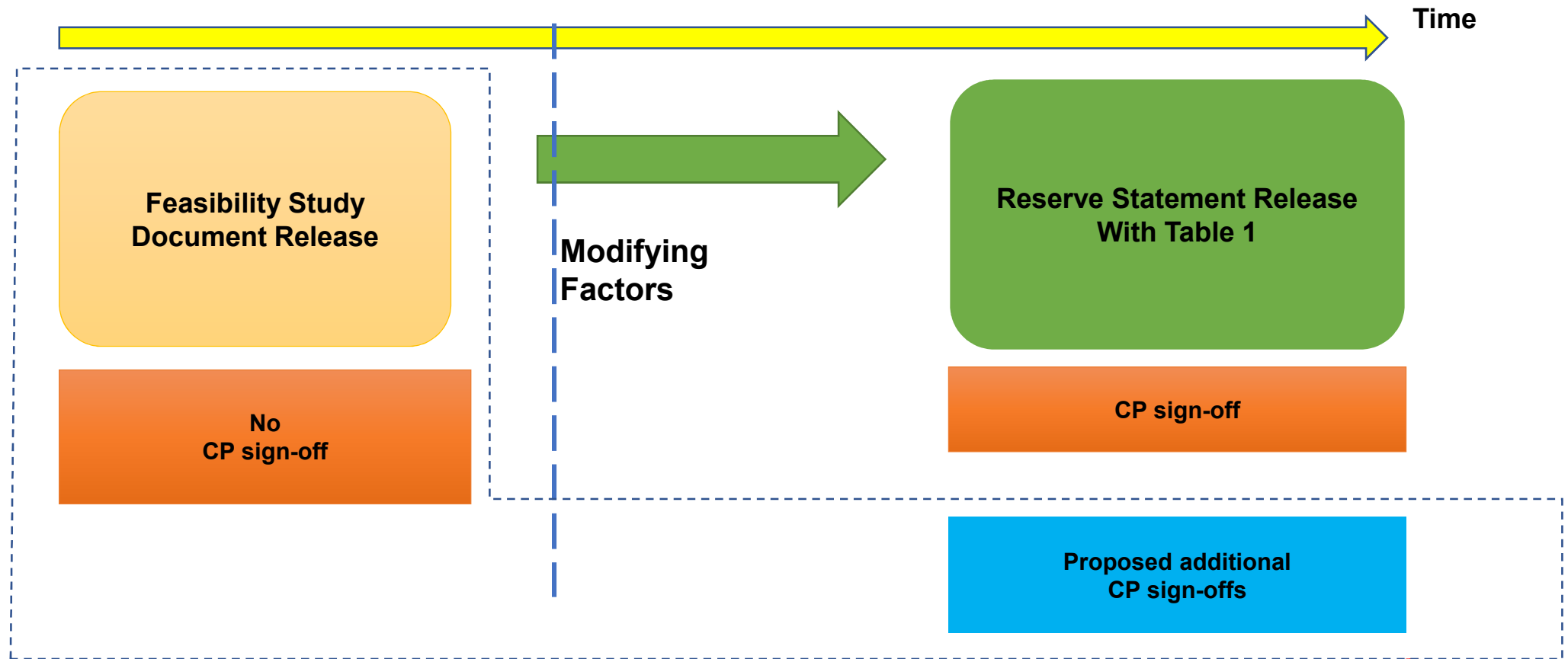
- Additional CP sign-off for critical MF’s in the determination of Reserve Statements
- Table 1 of the JORC Code to include a “business readiness” MF
- Additional sign-offs to include CEO or CFO with responsibility to deliver business case
- Funding and business readiness included as a standard in feasibility studies
- Sign-off by a CP with recognised experience in feasibility studies.

Outcomes

- Provide greater transparency to enhance investor confidence
- Creates accountability for those responsible in delivering the investment recommendation.

Improved reporting of mining “Feasibility Study” results

Proposed changes to JORC code



REV H

Improved reporting of mining “Feasibility Study” results

RECOMMENDATION

We encourage the JORC committee to consider our suggestions for further discussion with the view of:

Creating greater transparency around disclosure and use of Feasibility Studies (FS) to enhance and attract investment confidence in the resources industry.



30 ***Enthralpy***
Proudly Celebrating 30 years in Business

REV H