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Technology and the art of commercialisation

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MOST readers will know of the Hellyer zinc mine in western Tasmania. This rich deposit was for many years the mainstay of Aberfoyle, the venerable Melbourne-based company that was associated with some of Australia's best-known mines over its long history. Even with the orebody exhausted and the mine closed, Hellyer continues to tempt with the promise of riches from its tailings dam. The Mine Canary takes a peek.

Aberfoyle was swallowed by Western Metals in 1998, following a hostile takeover, but the Perth-based operator of the Lennard Shelf zinc mines overstretched itself doing the deal and spent the next few years with an acute case of indigestion.

Western Metals recently finished its days in the corporate bone yard, but not before it had contemplated reprocessing the Hellyer tails to extract some of the \$1.7 billion worth of metal still sitting there. Dominion Mining threw a few dollars at the problem before Intec (ASX: INL) finally arrived with its novel hydro-metallurgical technology.



The Intec Process was originally developed to treat copper concentrates. It eliminates the need for expensive smelting and refining, and the technology promised to re-write the economics of copper mining back when smelter treatment and refining charges (TC/RC's) were running at US\$150 per tonne and US15 cents per pound respectively.

Intec was funded by a who's who of copper miners and the process was proven on a wide range of concentrates. But spot TC/RCs are today around one-third the level of the 1990s – the copper market is 'short' concentrate and smelters are fighting to buy every tonne they can lay their hands on. At these low rates the commercial appeal of the Intec Process is correspondingly reduced.

So Intec decided to find a resource of its own, to both prove its process commercially and make some money. The company has just completed a pre-feasibility study on the Hellyer tailings and found it can achieve better than 90 percent recoveries for copper, zinc, lead and silver. That's a stunning technical performance, however, the financial appeal of the project is a little less obvious.

Intec analysed the project using current metal prices to generate a post-tax internal rate of return of 30.1 percent. Now an IRR of 30 percent is nice, but is it sufficient compensation for the risk of commercialising a novel metallurgical process? And what do the figures look like if we ratchet metal prices down to their long term average, which for lead, silver and copper is arguably 30 percent below the current level?

We all get a kick plugging high spot prices into financial models, but let's be honest, most bankers and investors use long term metal prices when evaluating the financial aspects of a mining project.

The Canary's rule of thumb for mid-sized mining projects is not to invest unless the NPV is at least as high as the initial capital cost. A project with technical risk should exceed this hurdle by a sizeable margin. Maybe I'm overly conservative, or maybe I've seen too many companies waste their time on minor projects that struggle to generate a return while absorbing every minute of managements' time.

Hellyer's capital cost is estimated at \$153 million while its after-tax NPV, using a 10 percent discount rate, is \$165 million. So it just beats the hurdle, if we don't get too stressed about the technology risk or worry about the metal prices used in the analysis!

Don't get me wrong. The Intec Process looks fantastic and deserves to succeed. Testwork has shown the process also works for zinc, lead and nickel concentrates as well as refractory gold concentrates.

But using a mid-sized tailings re-treatment project to launch Intec into the commercial world could do more harm than good to the Intec brand. It's too early to tell whether Hellyer will do much more than wash its face, economically speaking. And if that's all it does, the company may struggle to persuade anyone to build another Intec plant.

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