



CASE STUDY

# Reconciliation tool for EOM process

Independence Group NL, Nova Project • Underground Metals • Western Australia

## OVERVIEW

In May 2015, Stephen Rowles and Luke Waller from Independence Group NL began work at the new Nova Project in Western Australia. Tasked with setting up best of breed systems for the survey department, they worked with Deswik (whose solutions were already in use by the planning team) to extend the Deswik.CAD platform to meet the site's needs and simplify the typical surveying processes.

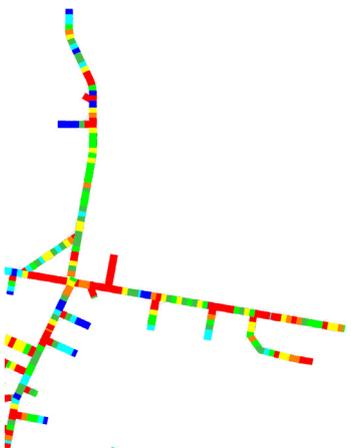
During the process of working with Deswik to optimize the Nova survey processes, Nova's surveyors were made aware of an existing reconciliation tool that had been developed for rapidly calculating the overbreak and underbreak compared to designs. Using the powerful and robust Deswik.CAD solids Boolean engine, the tool provides a 3D comparison of the design solids against the survey as-built solids. While the reconciliation tool had predominately been used for analyzing stopes, it was recognized that it would also be extremely powerful for use on analyzing the lateral development during the End Of Month (EOM) process. Following a few modifications to the tool to make it more suitable for reconciling lateral development, Nova started using the tool for their EOM process in January 2016. This has resulted not only in a higher quality report for the contractor on site, but also significant time savings in the EOM reconciliation process.

In Deswik.CAD, the advance centerline, design solids, and as-built solids are created in a similar manner compared to other software, however, the process has been simplified so as to remove a number of the manual steps. The ability to boolean cut, crop, and clean the solids significantly speeds up the process of preparing the solids representing the month's advance for each drive.

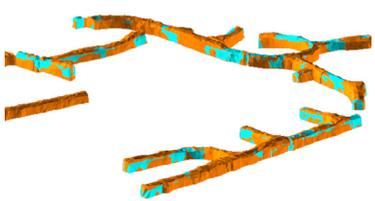
The reconciliation tool rapidly creates overbreak and underbreak solids for each cut along a drive using the advance centerline, design solid and as-built solid. The tool can also reference the geological block model to automatically calculate the expected tonnes and grade per cut. All of the overbreak, underbreak and grade information is captured as attributes on the output graphics as well as exported to an Excel based report. In addition to the survey reconciliation, the Nova geologists are able to use the tonnage and grade information by cut to perform their monthly EOM grade reconciliation.

The cut-by-cut reconciliation outputs allow areas of high overbreak to be compared to the geological and geotechnical structures mapped in the mine. This analysis helps to identify areas where significant overbreak occurs in conjunction with a structure/fault. If the structure/fault were to be mined through again, the ground support could be altered to diminish the overbreak volume.

In summary, while the Deswik.CAD process to generate the drive as-built solids is now faster and produces higher quality outputs than other software, the greatest value for the Nova teams comes from the automatic generation of detailed reports and data assigned to the output graphics that is ready for further analysis and presentation.



Section with overbreak colored by each cut. At present, design stripping is not taken into account.



As-built and design of some of the drives for a month's development.



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