BLEND COMPLIANCE
CASE STUDY

The Corvus Blend Compliance module was developed in response to an approach made by a client's CHPP representatives in November 2018. A workshop was held in late November for the purpose of defining a problem statement, a project scope and deliverables.

Some Key Insights

Project Workshop:
- 29th November 2018
- 2 (paid) Tech Resources
- 1 Tech Resource (at Intov8 cost = $1,075)
- Cost: $3,300

Project Solution:
Site Paid:
- 27th December 2018 (PO Rec'd) - March 2019
- 3 Tech Resources + PM
- Cost: $32,455

Total Site Cost: $35, 755

Intov8 R&D Contribution
- Intov8 Contribution: $50,157.50

THE PROBLEM

- The current mining feed process at Site causes a significant amount of instability within the CHPP due to multiple blend changes and deviations between planned and actual fed coal types.

- Reconciliation remains a manual process to identify which blend option was chosen, what the blend components were planned to be and what was actually fed to the ROM bin.

- Inconsistent blending at site causing fluctuations in product quality at CHPP.

- CHPP supervisions unable to effectively track blend deviation in real time.

- Results in reactive behaviour to correct for fluctuations and ultimately leading to value loss.

- Blend reconciliation is cumbersome, and therefore is seldom completed.

Some large numbers were thrown around during that workshop such as $1M per out-of-spec shipment events and more than one such event occurring during the previous year, costing the company millions. A reliable system to address those problem items had a high level of importance at site.

THE DELIVERABLES

- Data structures and data flows to support a new Blend Compliance module.
- Real time notifications of blend option changes.
- Blend option summary report.
- Real time blend option dashboard.

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THE SOLUTION

Intov8 built the new module and it has been operating successfully to those deliverables since March 2019. The specification for the Blend Compliance report tells the story of what the site wanted from the new system. It was all about coal load locations and proportions shown against plan, and colour scored to provide a quick and clear reference. That specification became a new, custom report. Dashboards were developed to model this report for ease of distribution and transparency between stakeholders.

THE TECHNICAL STUFF

Objects

- 17 purpose built database tables, 12 stored procedures, suites of attribute settings and scheduled jobs.
- Purpose built report and dashboard.
- Email notifications: A notification is sent when a new blend is recorded in the FMS and includes it's planned load location and planned proportion band range. A notification is sent when a blend has changed in the truck cycles.

Data Flow (abbreviated)

- Get everything from the FMS blend tables. Compare it with existing Corvus blend components. Attempt mappings of source system materials and locations to Corvus entities. Create new Corvus blend records if new ones found. Create new component records if new ones found. Send notifications (email) if new blends found.
- Create and maintain events records - get the date range of current events. Get blends from truck cycles for the relevant event date range. Delete events where required. Insert new events where required. Send notifications when different blends become active or the current blend has changed in a truck cycle.
- Do this every 30 seconds and a fuller aspect every hour.
- The events data is the primary data source for reporting.

This new blend module has now been implemented at site for more than a year and we can confirm that the client has had no further "off spec shipments."

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