



**Nyrstar Port Pirie Smelter, SA**

The Port Pirie smelter is located on the eastern side of the Spencer Gulf in South Australia, approximately 200 kilometres north of Adelaide. It is an integrated multi-metal smelter and refinery, with flexibility to process a wide range of lead-containing feedstocks to produce refined lead, silver, zinc, copper and gold. The site capacity is approximately 235,000 tonnes of refined lead and lead alloys, 16 million troy ounces (500 tonnes) of refined silver and approximately 45,000 tonnes of zinc. Other by-products include copper, gold and sulphuric acid. The site processes feedstock from a variety of locations, including lead concentrates from Zinifex Rosebery and Century mine. Port Pirie also processes a large amount of secondary materials and by-products, sourced from the Hobart smelter, existing site stockpiles and other external materials.

It employs 670 employees and 110 full-time contractors on its large work site.

### **Initial Objectives:**

- 1) To make mission critical PPE and personal hygiene items available 24 x 7 in a controlled and accountable way, and;
- 2) To decommission uncontrolled vendor managed KanBan cupboards for general industrial supplies, such as batteries, tapes and abrasives.

### **Project Success Criteria:**

- 1) Successful and cost effective change management and user acceptance outcomes.
- 2) Reduce consumption and cost of managed consumables by between 30 and 50%, equating to expected net savings in the first year after system rental of \$20,000.
- 3) Fully automated warehousing function:
  - a. Remove managed items from SAP requisition list. Create a single source of managed items.
  - b. Vendor managed (Automated Stores function). Release the warehouse team from the management and delivery of high turnover, low cost items where they can not add value to the process.
- 4) The project must be supported by measurable key performance indicators.

### **Project Constraints:**

- Access to the system using the current site pass card.
- 100% flexibility in business rules regarding access and consumption patterns, by user, product and consumption limits. Only employees can access the system.
- The system is visible on the web, and automates order placement with the vendor.

- Can be fully integrated with corporate IT systems such as SAP.
- Vendor invoices monthly based on what is booked out
- Monthly rental plan – no capital requirement.
- Run out current stock from warehouse first

### Phase 1 Deployment Profile:

Device: 1 x 7 tray SupplyBay + SupplyLink 3.0

Customer supplied UPS, power and internet connection.

Location: purpose built recess in warehouse in a high traffic area between plant and changehouse.

Materials stored:

(single supply – no other supply route)

|                               |                          |
|-------------------------------|--------------------------|
| <i>Disposable Respirators</i> | <i>Shampoo</i>           |
| <i>Soap</i>                   | <i>Disposable Razors</i> |
| <i>Tinea Powder</i>           | <i>Batteries</i>         |

Days stored based on baseline consumption: 2



### Phase 1 Results:

#### User Acceptance:

- Staff acceptance of the new system is high, with 74% of staff accessing the system in the first twelve weeks [Figure 1].

#### Consumption:

- Average 62.5% spend reduction on controlled items. [Figures 2 to 5]  
Spend on batteries reduced by over 86%.
- Consumption savings paid the first month system rental in 6 days.
- The annual consumption reduction target of \$20,000 was achieved in eight weeks.
- New consumption pattern = 6 days stock stored in machine
- System performance and process compliance data available 24 x 7 on the Web.

#### Fully Automated Warehouse Function

- No warehouse staff involved in restock of machine – total vendor responsibility.
- No stock outs – live email and SMS alerts on critical stock items 24 x 7.
- Data driven stock management based on actual consumption patterns. Completely consumer driven.

#### Project Support Outcomes:

- Rapid response to all technical and change management issues including site specific environmental risks.
- Weekly project reviews with all stakeholders via conference call and internet. Issues highlighted and dealt with in an effective and timely manner.
- Machine capacity recalibrated from the initial design at week 12 to ensure storage capacity of each product matched consumption data at end of commissioning period.

This means a more efficient restock regime for vendor, reducing their costs and minimising the probability of a stock-out.

Figure 1 – Percentage of registered Users who have used the system.

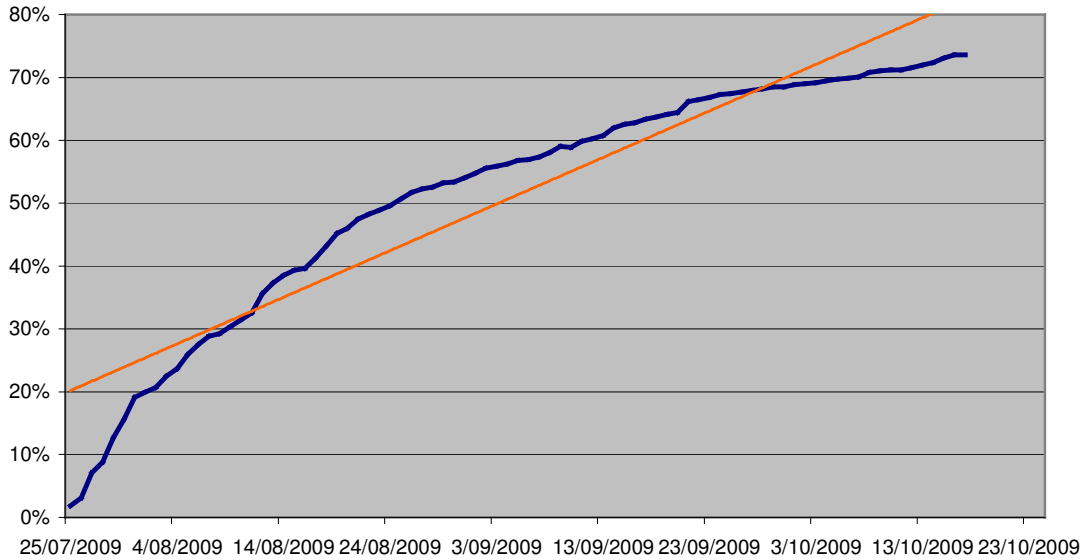
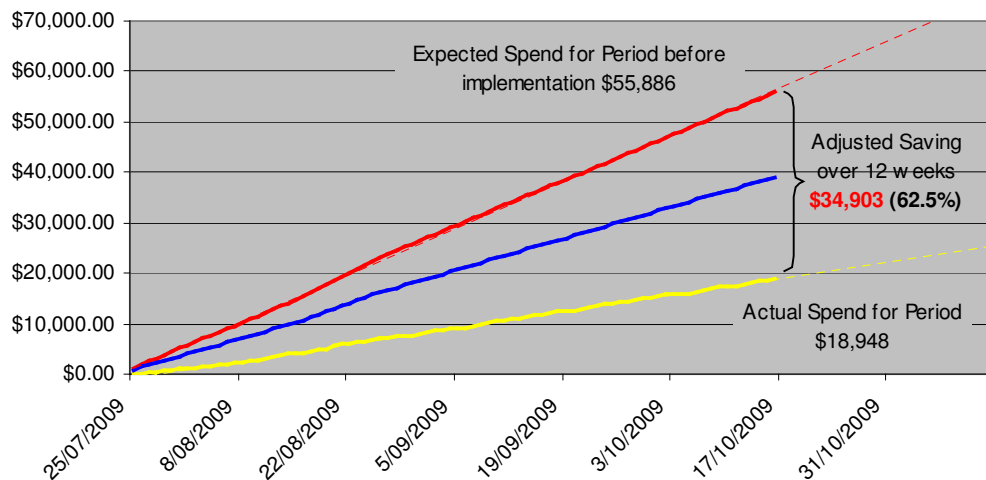
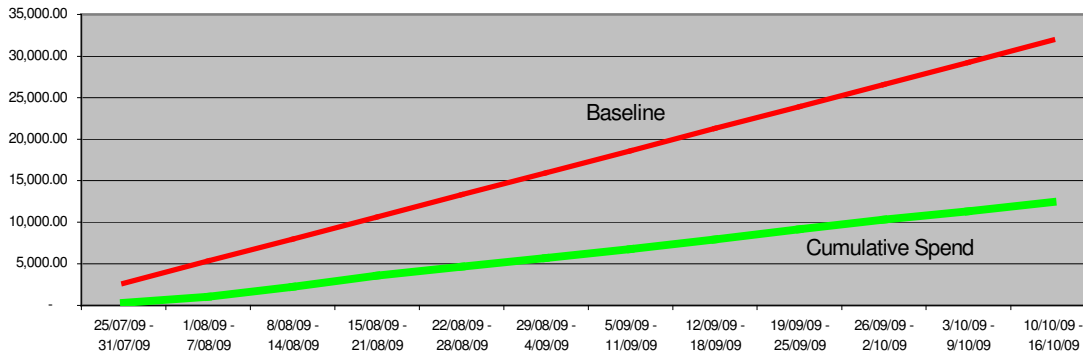


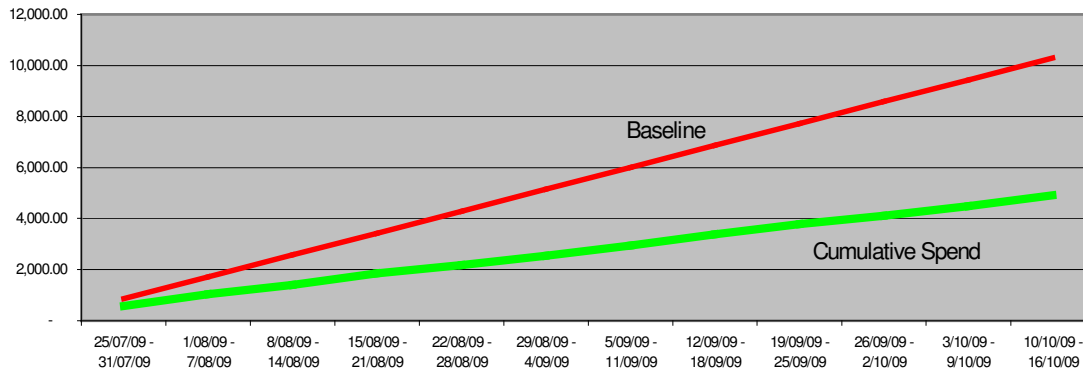
Figure 2: Cumulative Consumption (\$) vs Baseline over 12 Weeks [Adjusted for shut down consumption]



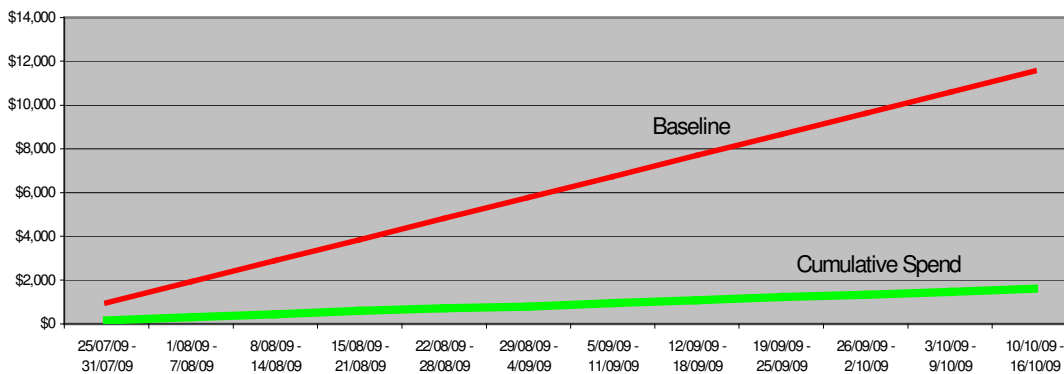
**Figure 3: Respirators Weekly Cumulative Spend vs Baseline Consumption**



**Figure 4: Hygiene Items Weekly Cumulative Spend vs Baseline Consumption**



**Figure 5: Batteries Weekly Cumulative Spend vs Baseline Consumption**



Approved by Nyrstar:16 Dec 2009

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