



QAL Rotables Program

Changing The Way We Do Business



Context

- Previously resided with Supply Department
- \$28M business in 2007
- Major impact on operating budgets and operational security
- Majority of work outsourced
- Vendor relationships crucial








Issues Affecting Performance

- Repair process not streamlined
- Premature failure rates too high
- Lack of standards and detailed work processes
- Poor relationship with operational areas
- Internal culture issues (Everyone blaming each other)
- Too many with a compartmentalised view of reliability



How Do We Fix It

- Rotables Operations Interface 
- Separation of Life Cycles 
- Master Data 
- Business Streamlining and Efficiency 
- Premature Failure Investigation 



Rotables - Operations Interface

- Major area of concern
- Judgments were being made based on emotion
- Real issues being missed due to adversarial attitudes
- Both sides at fault





Ground Rules for Rotables Staff

- NO E-MAIL WARS.
- Verbal communication where issues need to be resolved. Phone or field visits the key to success.
- If we screw up, admit it and have a recovery plan ready to be actioned.
- If we get blamed and it's not our issue, go through the problem with all involved and offer assistance. Don't beat people up
- Logical and analytical approach, not emotional
- NO E-MAIL WARS.....





Communication Channels

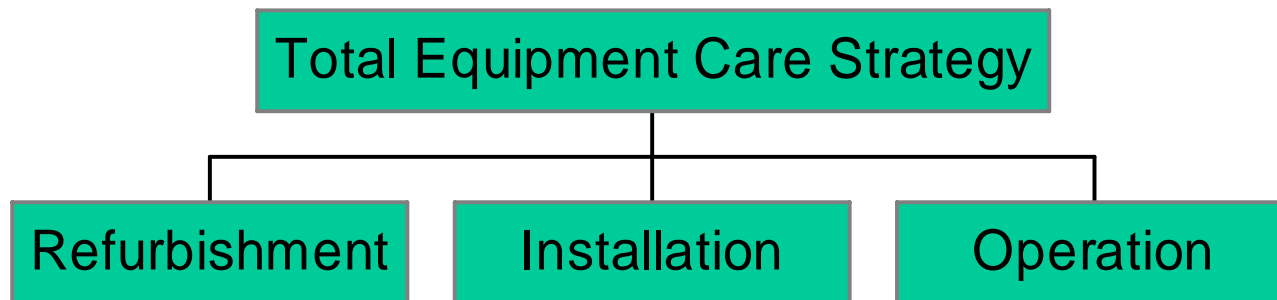
- Implemented Equipment Care Meetings
- Held Monthly
- Attendees consist of Managers and Superintendents from Operations and Maintenance Services
- Open agenda focusing on items causing grief
- Attendance by Maintenance Services personnel able to solve the issues
- Maintain constant 2 -way feedback with Operations





Life of a Rotable

- Lifecycle consists of 3 distinct phases.
- Rotables, Maintenance and Operations group all have critical roles.
- Interdependent relationship





Refurbishment

- Procedures and standards set in place.
- Quality auditing of vendors performing below acceptable levels.
- Focus on interaction between Contact Administrators and “Out of town” vendors.
- Drive to develop “win-win’ relationships instead of bid and award mentality
- Started to work towards alliancing agreements



Installation

- Focus placed on installation procedures.
- Areas of concern being alignment, lack of installation data collection and attention to surrounding infrastructure (e.g. corroded bases, oil coolers not cleaned)
- Major drive on check sheets and quality of work undertaken
- Pump excellence program implemented.
- Implementation has been too slow however starting to gain some momentum.



Installation Aims

- Laser alignment mandatory unless some overriding factor present.
- Training programs put in place where necessary
- Moving to have electronic information capture and download.
- Adherence to standards driven by supervisory personnel.
- At what point is the pump installation complete ? Should be when fully lubricated (ready for start)



Operations

- Recognised as a crucial factor in equipment reliability
- Operators deemed critical to success
- Action taken by Operations to address deficiency
- Increased operator involvement in reliability issues.
- Major problem with packing of pumps
- Dedicated packing personnel put in place





Master Data

- Wide recognition that master data was deficient
 - BOMs not accurate and poorly structured
 - Drawing database in need of comprehensive review
 - Installation standards and procedures lacking
- Information that was available is hard to access
- Flow on affect of procedures not being adhered to as they weren't accessible
- Historically too much “mental retention” of information which was subsequently lost during workshops phase out
- Major changes made but never recorded leading to repeat errors




Master Data Actions

- Dedicated personnel from planning group working on upgrading quality of Master Data in SAP
- Rotables Contract Administrators tasked with reviewing, collating and storing refurbishment procedures.
- Entire SP Drawing database (10, 000 drawings) reviewed to determine what goes, what stays, what gets revised etc.)
- Installation and commissioning procedures attached to work orders for ease of access.



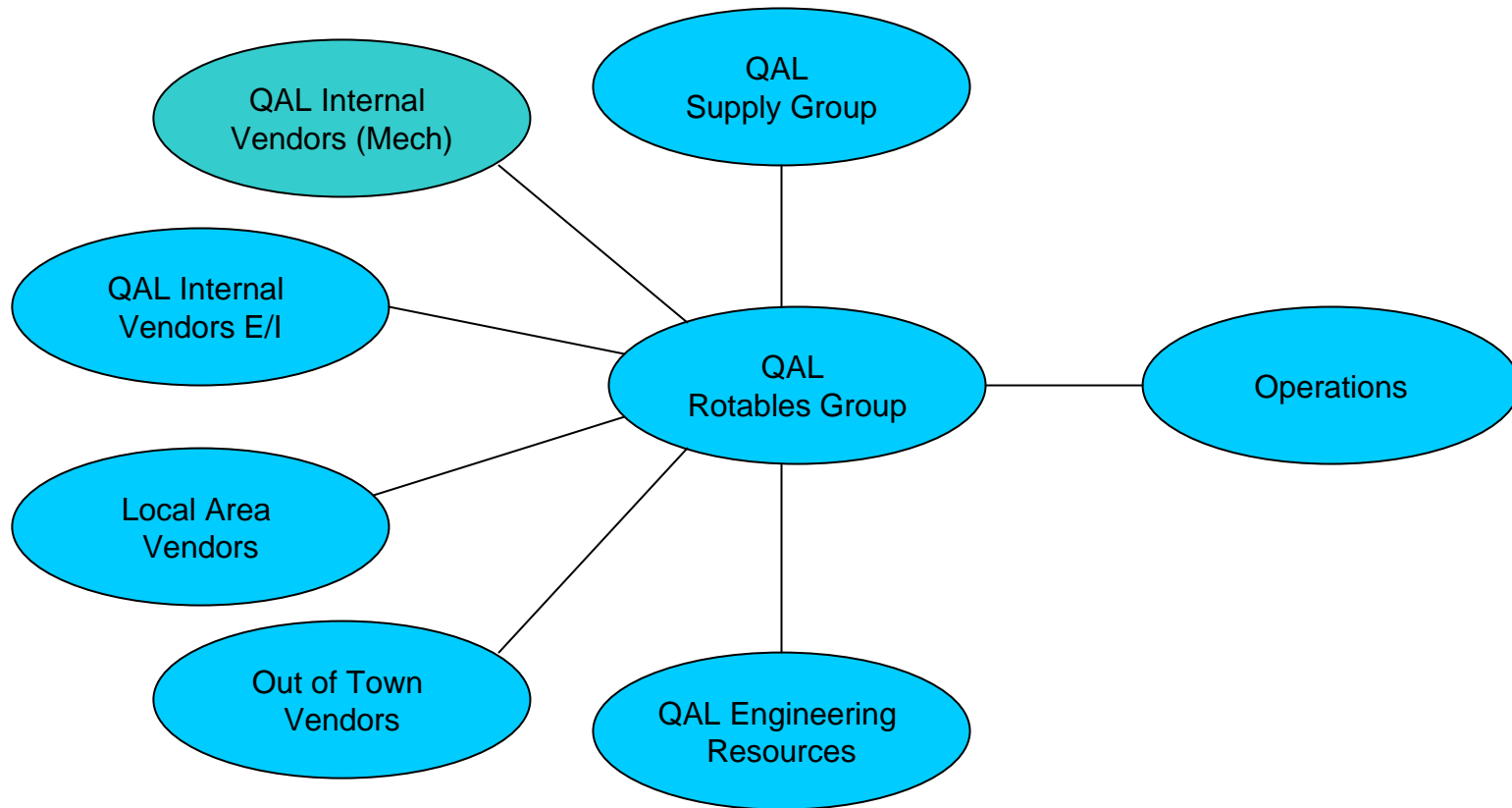


Business Streamlining

- A more business like focus required
- Appointed a team leader with a strong commercial background.
- Completed review of rotatable refurbishment processes
- Business mapping undertaken to clearly delineate various process flows with respect to differing work relationships 
- Action plans developed for deficiencies



Rotable Group Relationships



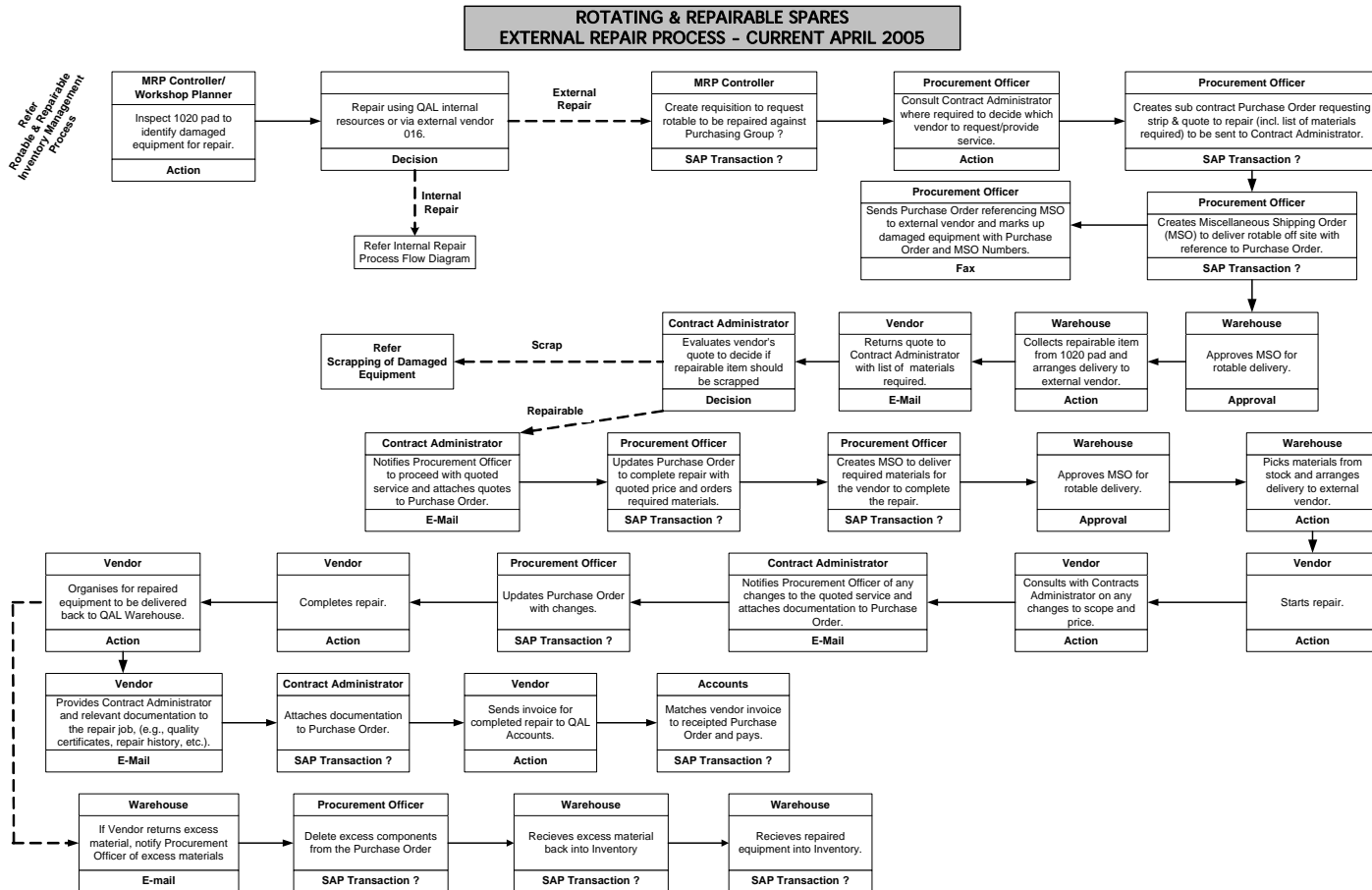


Business Streamlining Key Actions

- Rotables department process requirements communicated to Operations personnel by section to give a clear understanding of business flows
- Reports developed to track key areas of deficiency.
 - YOMO (You owe me one)
 - Vendor turnaround performance
- Tracking KPI 's put in place to monitor progress
- E/I Contract Administrator appointed to Rotables group
- SAP upgrades implemented to improve information flow



External Repair Process





Premature Failure Investigations

- Historical approach to premature investigations was ad hoc
- No effective system for permanent recording of investigations or tracking of actions for completion
- Recognised as a major issue in the area of warranty claims from vendors
- Unnecessary rotatable costs incurred due to repeated failures from lessons not learnt

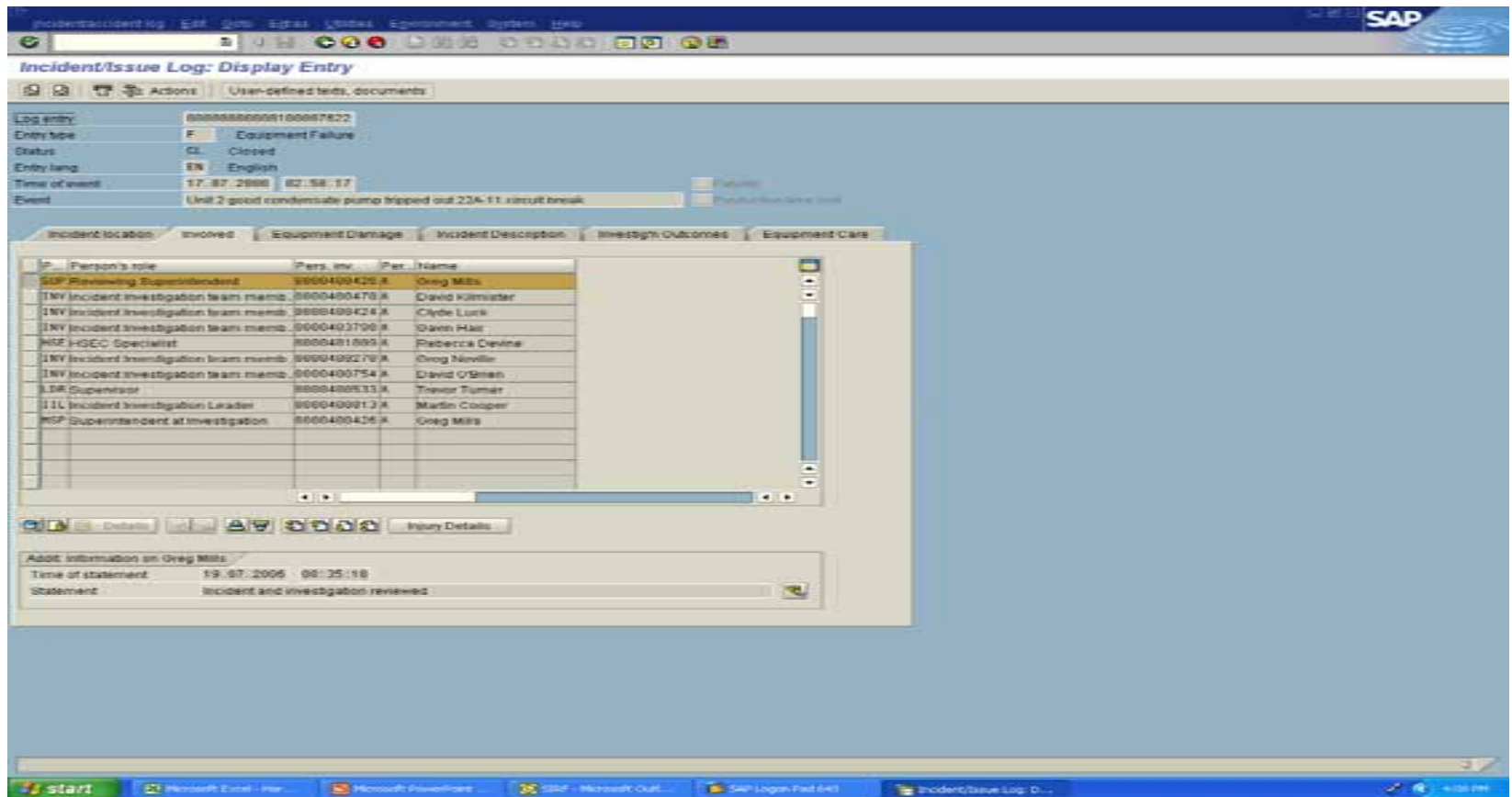


Premature Failure Investigation Key Actions

- Guidelines put in place for investigations (Time, cost, unusual or catastrophic failure)
- Process driven by AME's or Reliability Engineers
- Data entered into SAP system under specific identifying code complete with actions and completion dates.
- Completed investigations route through reviewing Superintendent and Equipment Care Specialist.
- Automatic notification and escalation of actions not completed by proposed date.



Incident Investigation Personnel



incident/issue_log - Edit - Goto - Extras - Utilities - Equipment - System - Help

Incident/Issue Log: Display Entry

Log entry: 00000000100017622

Entry type: F - Equipment Failure

Status: CL - Closed

Entry lang: EN - English

Time of event: 17.07.2006 02:58:17

Event: Unit 2 good condensate pump tripped out 22A-11 circuit break

Incident location | Involved | Equipment Damage | Incident Description | Investigator/Outcome | Equipment Care

Person's role	Pers. Inv.	Per. Name
SUP Reviewing Superintendent	0000409420 X	Greg Mills
INV Incident investigation team memb.	0000400470 X	David Kolmster
INV Incident investigation team memb.	0000409424 X	Clyde Luck
INV Incident investigation team memb.	0000403700 X	Davin Hall
NSE-HQCC Specialist	0000481800 X	Rebecca Devine
INV Incident investigation team memb.	0000409279 X	Greg Neville
INV Incident investigation team memb.	0000400754 X	David O'Shan
LSE Supervisor	0000400533 X	Timor Turner
ILL Incident Investigation Leader	0000400012 X	Martin Cooper
MSP Superintendent of Investigation	0000400426 X	Greg Mills

Add information on Greg Mills

Time of statement: 19.07.2006 08:35:18

Statement: Incident and investigation reviewed

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Incident Actions Summary

incident/incident.log Edit View Extras Utilities Equipment System Help

Incident/Issue Log: Display Actions

Inc log entry: 800000000810007744 A2 Waste Pump Failure - Cracked Diffuser
 Log entry type: F Equipment Failure
 Plant: 1500 Queensland Alumina Ltd.

Action

Actions	Act	Action type	Status	Pr	Priority
80000000000215		Administrative Controls	Task completed	2	Moderate
00000000000021		Elimination (Engineering Design)	Task completed	2	Significant
80000000000034		Engineering (redesign)	Task completed	2	Significant
80000000000041		Elimination (Engineering Design)	Task released	2	Significant
00000000000045		Administrative Controls	Task released	4	Low
80000000000051		Elimination (Engineering Design)	Task released	3	Moderate

Additional information on Action 1

Description: Casted bench test samples with each second s...


Source: QAL - INC - SCE - Q17 Equipment Failure

Planned start: 10.00.2005 00:00:00 Person respons: 9000480755 Pers: X Frank Oriesen

Planned end: 13.03.2007 00:00:00 Assigned by: 9000480755 Pers: X Frank Oriesen

Implemented: 28.00.2005 00:00:00

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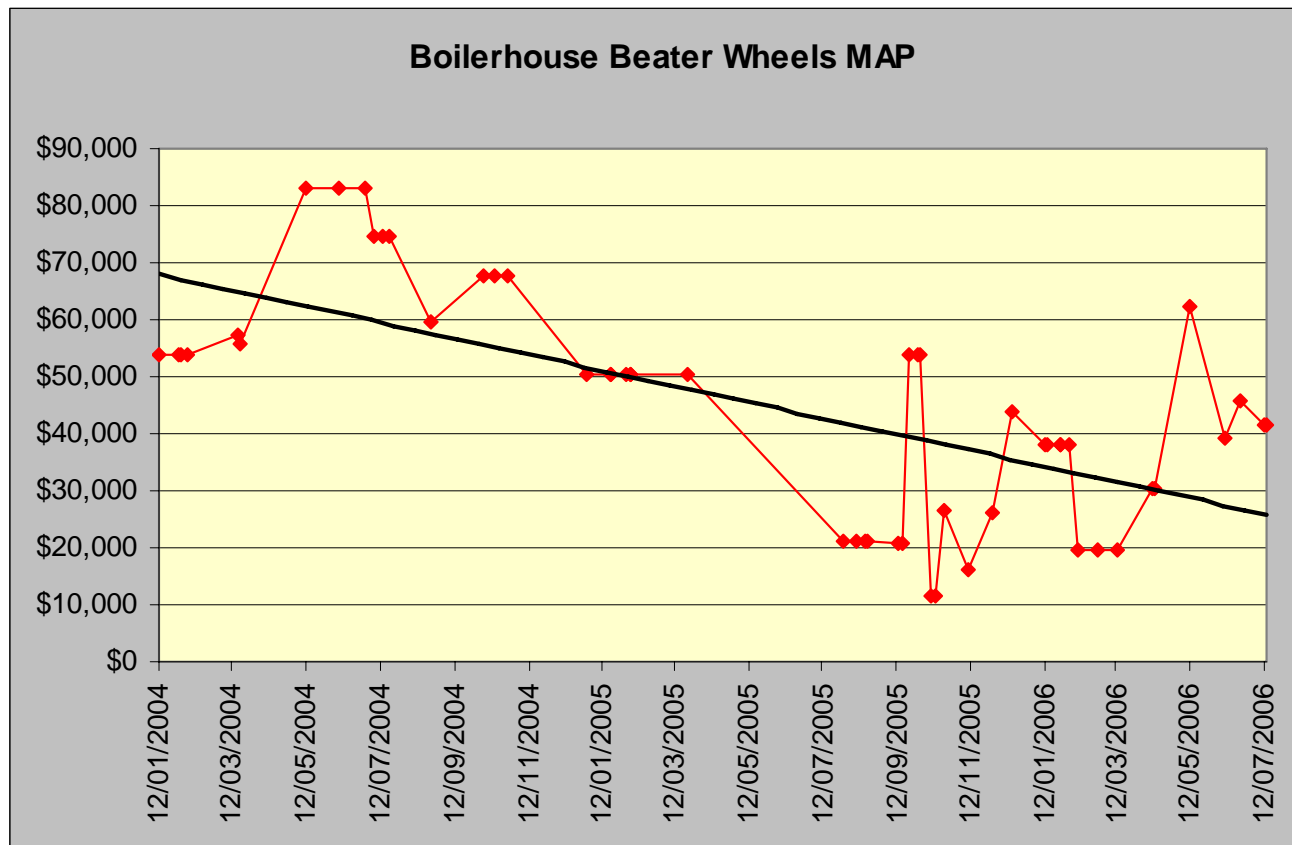


Outcomes

- Communication channels between groups have improved significantly resulting in issues being addressed and solved more effectively
- Business flows have improved and control has been tightened.
- Available information is accurate and useful. Not perfect yet but continuing on improvements.
- A stronger focus on all 3 phases of equipment life
- Corrective actions now captured and tracked for completion. Success has been in involving all relevant personnel in the process.

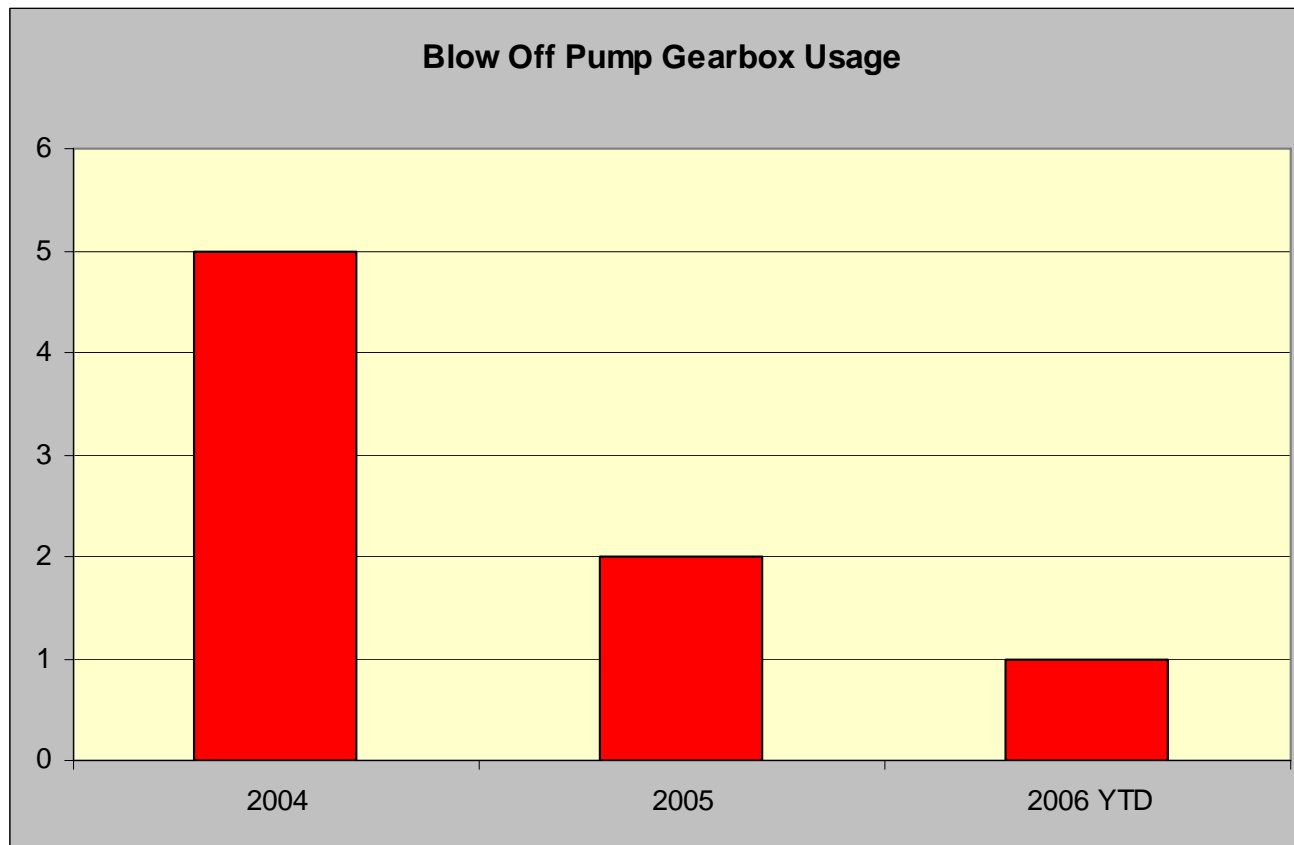


Simple Performance Measures





Simple Performance Measures





Questions / Comments

