

BHP AUSTRALIA COAL LIMITED

QUALITY MANAGEMENT

Introduction

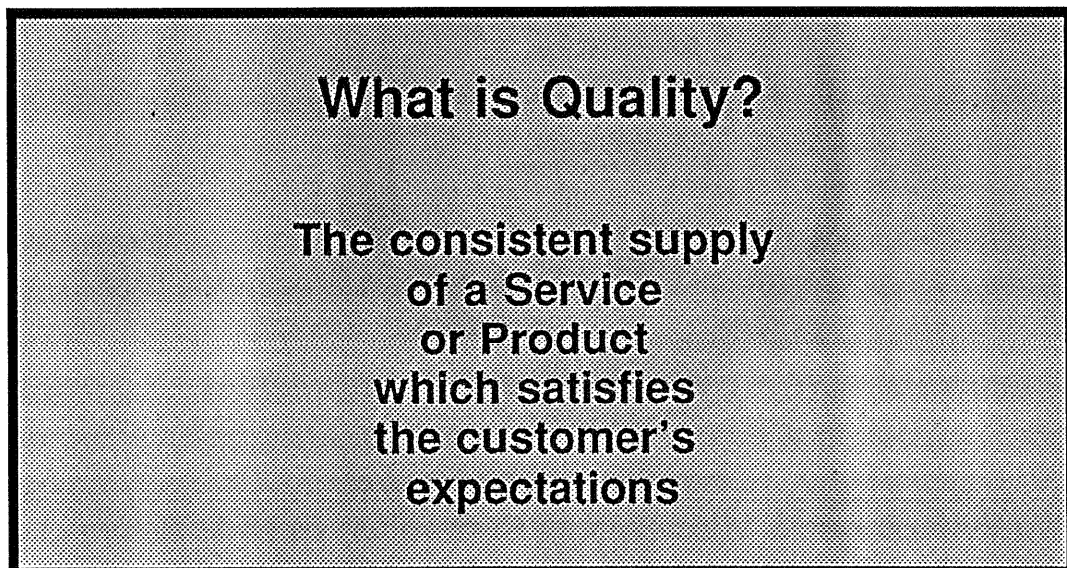
In our changing world we in the industry have come to realise that International Competitiveness is fundamental to most prescriptions for Australia coal future economic health and is applicable throughout the industry.

Everywhere the message is that, for long term survival, we must adopt new technologies, including management technologies which our competitors overseas have already adopted, this includes Quality Management.

BHP Australia Coal Limited has embarked down this track of gaining the international competitive advantage by adopting management technologies such as Quality Assurance, Continuous Improvement, Team Work and Statistical Process Control.

Quality

There are various interpretations of the word "Quality" and as we see in almost all of our advertising campaigns, the media uses Quality as a catch word. We can best describe quality by using Dr Demings terms which concentrates on the customer as follows:-



(Dr Edward Deming 1952)

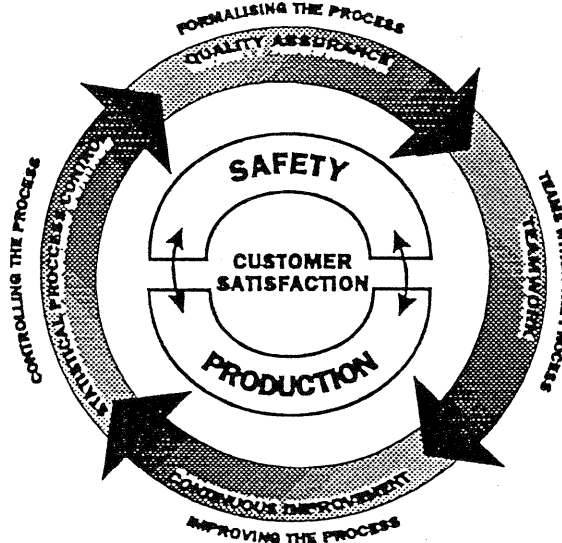
The Approach to Quality Management

The approach to quality management is not as simple as approaching the product with a view of controlling its parameters (Quality Control). A much wider view must be developed and systems put into place to control the implementation of quality from the outset, "Quality can not be inspected into a product it must be planned".

Our approach was to firstly develop a system to identify the process which produced the product and services, this approach (Quality Assurance) requires the documentation of the identified process and to establish and implement procedures and work instructions to control the process. Formalising the Process.

Once we had formalised the process, the next step was to improve the process. To do this we used the best resource available, our people, with the establishment of teams. This teamwork approach uses teams within the process and in conjunction with Continuous Improvement (TQM) embarked on continuous improvement of the process and finally Statistical Process Control to monitor and control the process.

BHP AUSTRALIA COAL LIMITED MANAGEMENT SYSTEM



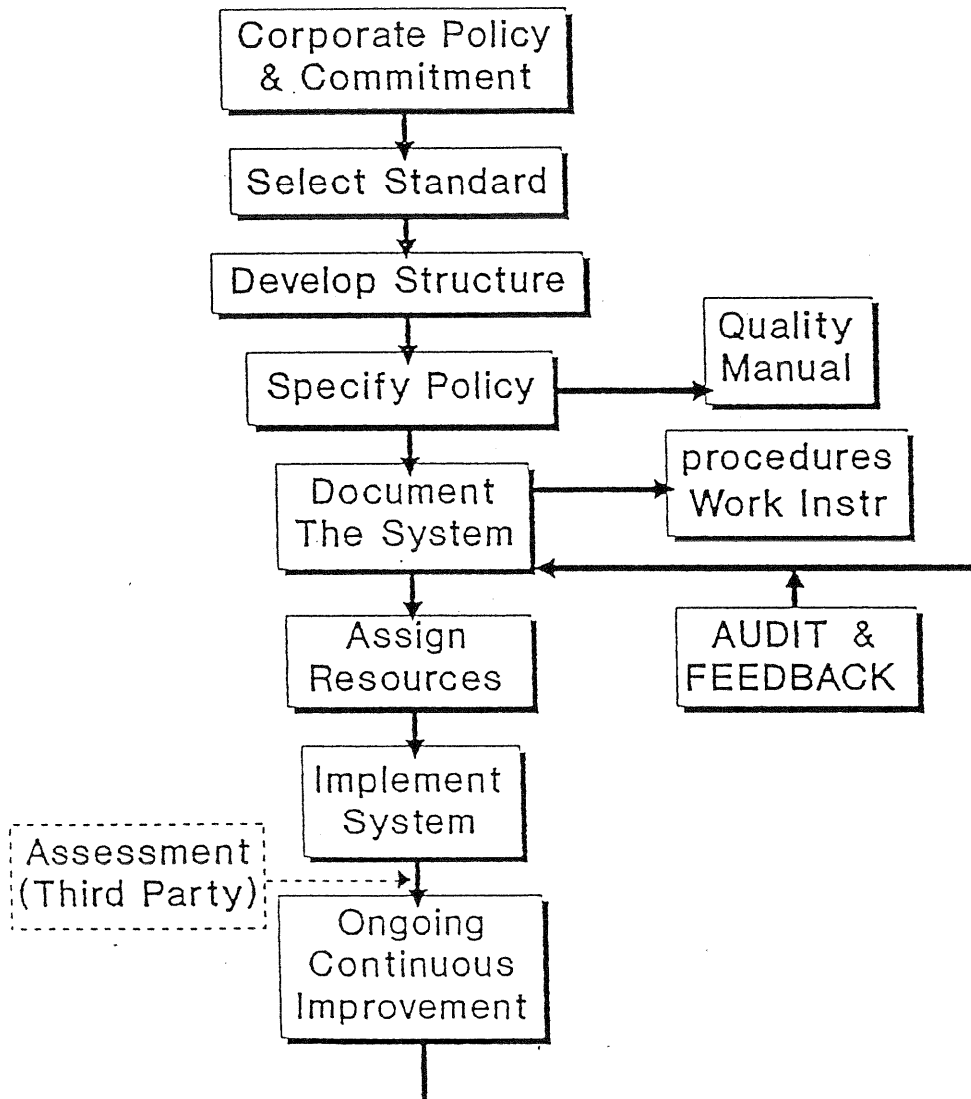
Management System Relationship

The Quality Assurance Management System within BHP Australia Coal Limited has been established in accordance with the requirements of the International Standard ISO 9000 series of Quality System standards, with the system development meeting the requirements of AS 3902 - 1987/ISO 9002 - 1987 "Quality System for Production and Isolation".

All mines and location of BHP Australia Coal Limited are moving down the track of registration with Standards Australia as Quality Endorsed Companies. Gregory Mine has become our first Mine to receive this quality endorsement, this is believed to be a world first for a Coal Mining Site.

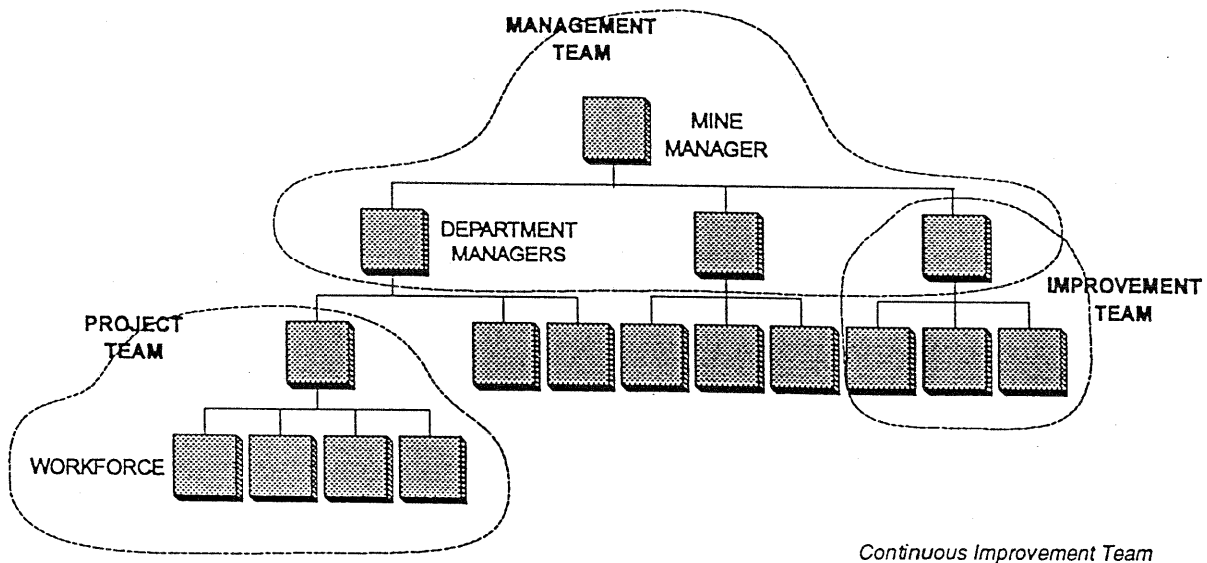
The approach to the implementation of Quality Assurance is based on a standard format as follows:-

QUALITY ASSURANCE IMPLEMENTATION PROGRAMME



Team Work

The development of teams within the process has allowed BHP Australia Coal Limited to tap into our most valued resource, our people. Who better to be involved with the improvement of the progress but the people within the process without their involvement process would be slow, if any at all. To facilitate the team development a structured approach has been developed. This has involved the flattening out of the management structure and the establishment of a three-tiered inter-related team approach.



The Management Team and Improvement Teams act in a supporting role for the Project Teams, whilst actively participating in Continuous Improvement initiatives, including involvement in Project Team activities.

Continuous Improvement

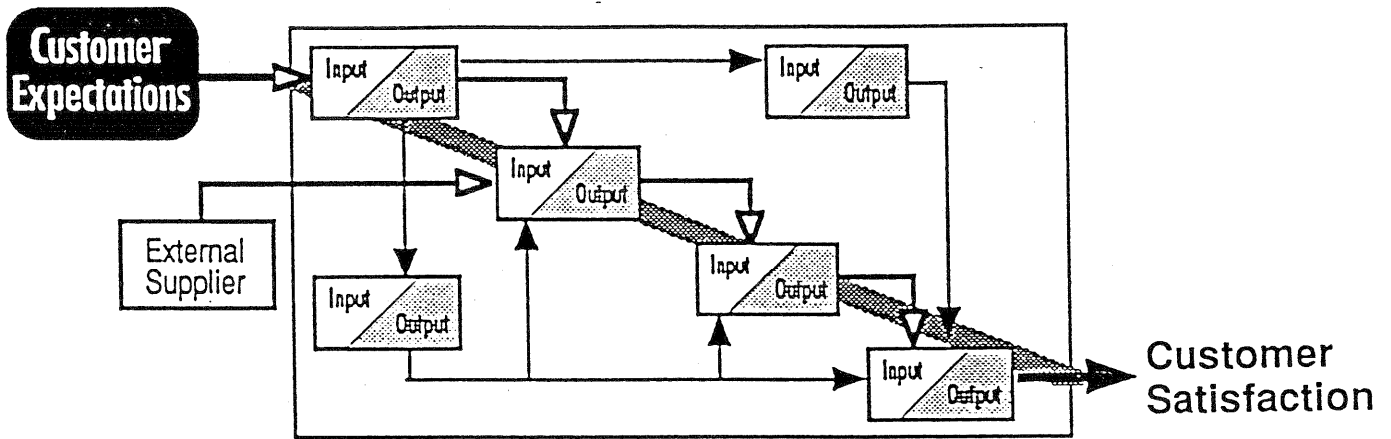
BHP Australia Coal has adopted the Continuous Improvement philosophy (TQM) which seeks to embarking down the path of continuously improving all process, goods and services of our organisation, through the creative involvement of all our people.

To enable this initiative to be successful we had to identify the customer - supplier relationships as the continuous improvement in customer - supplier relationships is a powerful competitive weapon.

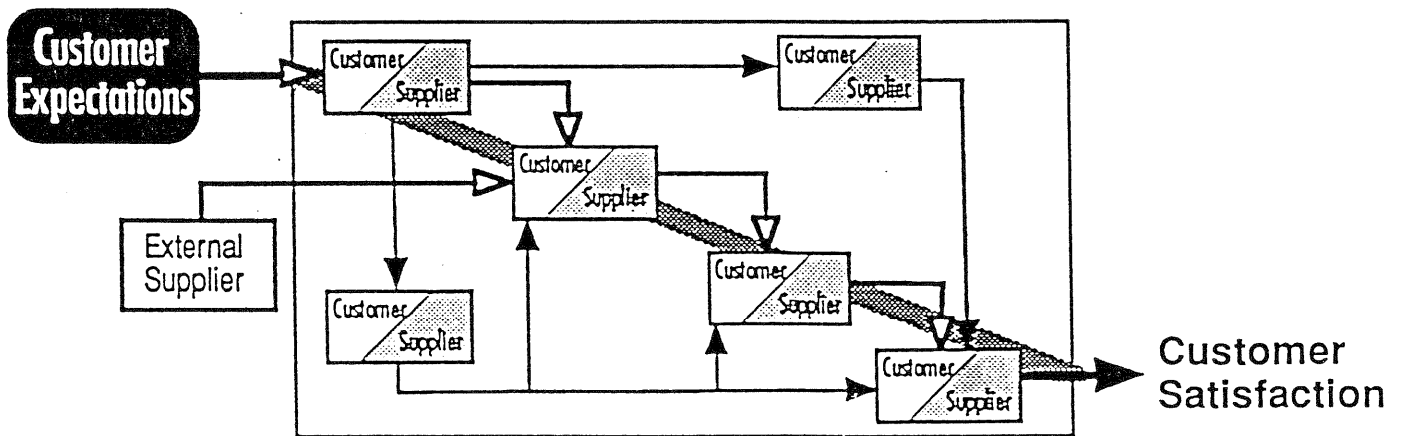
The inputs and outputs of the process and customer satisfaction are directly related, in particular the internal customer.

Internal Customer/Supplier Relationships

Process View

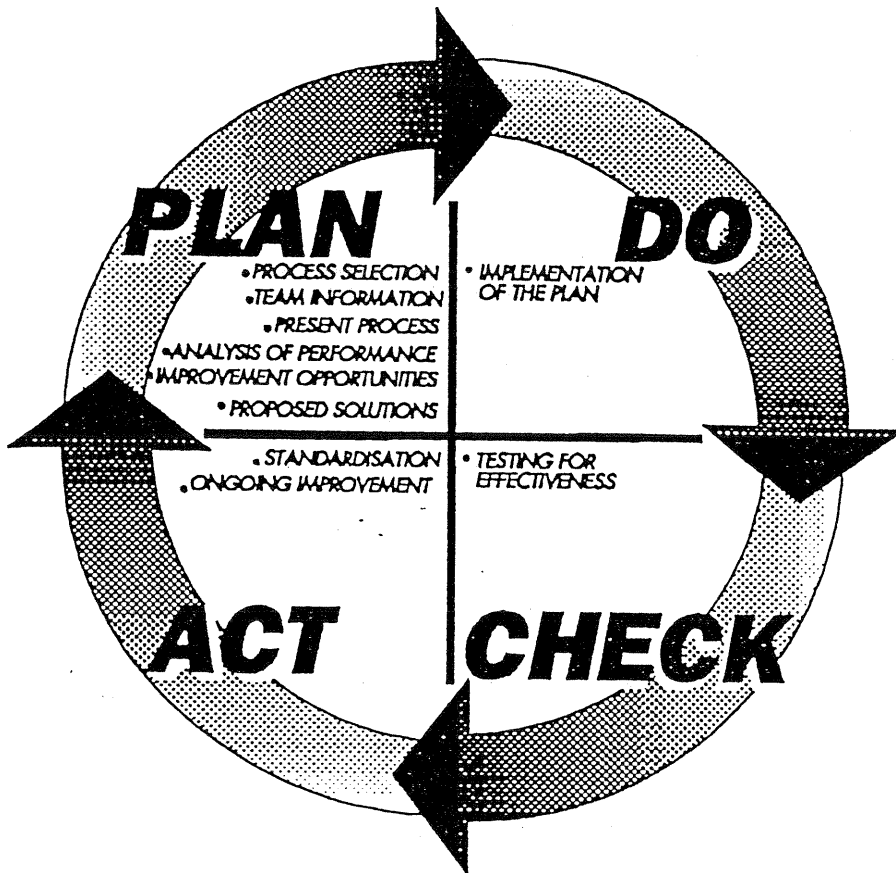


Customer-Supplier View



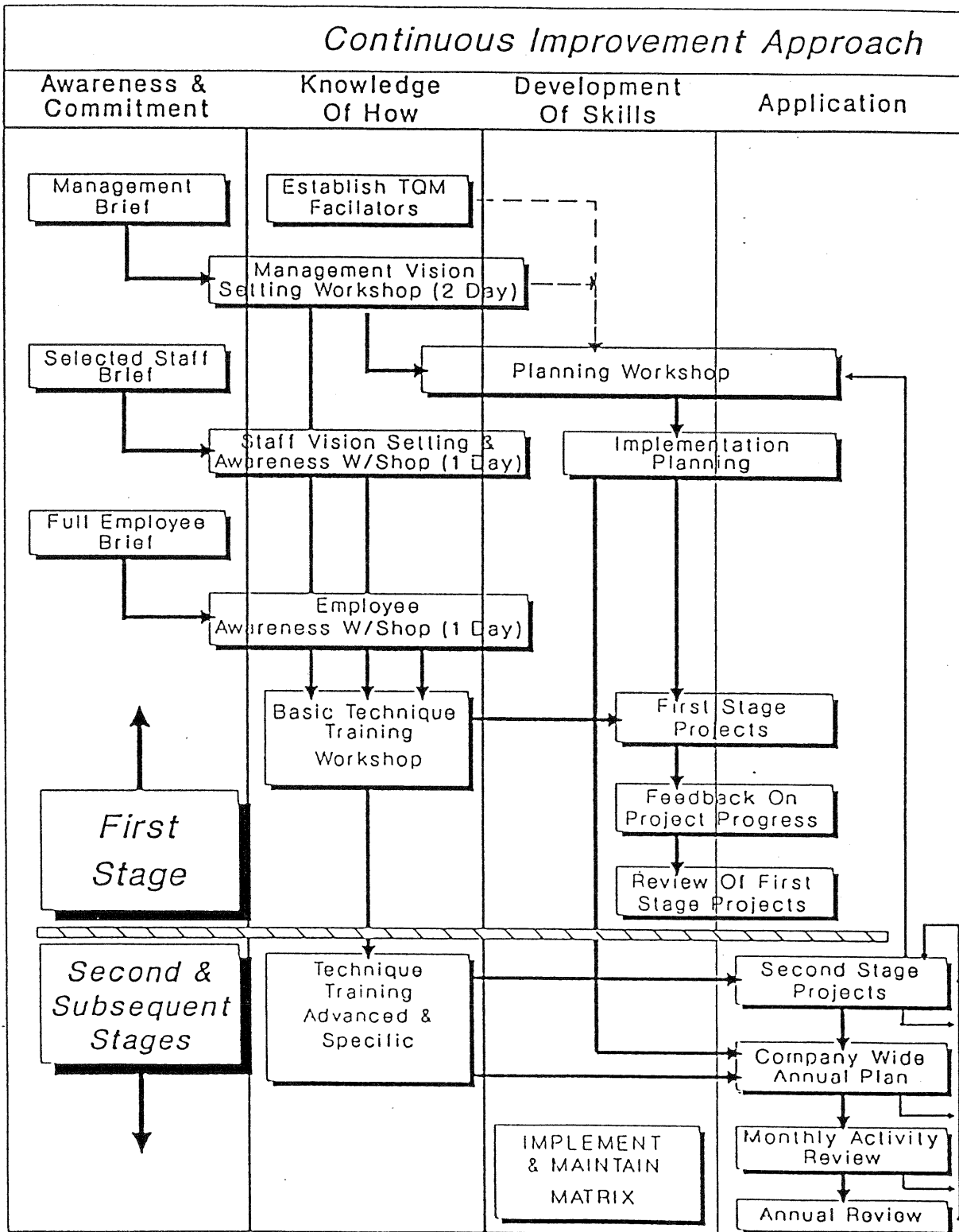
The process of improvement is enhanced through the use of the PDCA cycle. PDCA stands for Plan, Do, Check, Act.

The PDCA Cycle contains a sequence of steps which allow for a logical approach to problem solving and achievement of improvement. The cycle commences at the Plan Phase and proceeds in a clockwise direction. As Processes, technology and understanding improves, we continue to use the PDCA Cycle to examine the process for Continuous Improvement opportunities.



PDCA Cycle

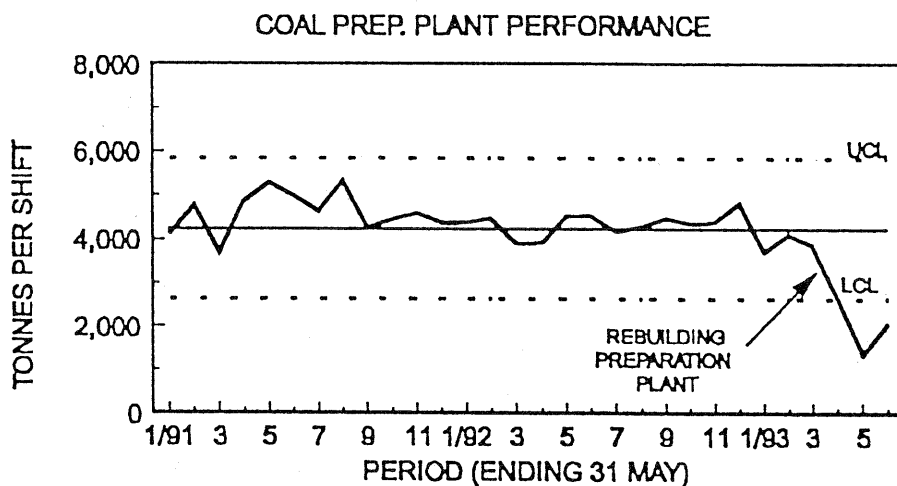
Continuous Improvement implementation has several stages of development and a need to raise the awareness to all level of the organisation. This approach can be achieved through a standard approach.



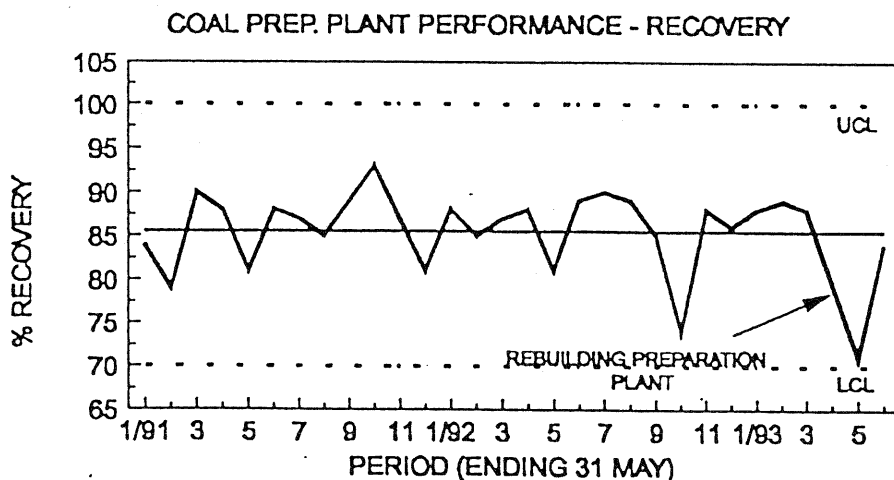
Statistical Process Control

Statistical Process Control or SPC as it is known, is implemented into the management process to firstly measure the process capability and then when change takes place, to monitor the process.

Traditionally, efforts at quality control emphasised inspecting the final product to determine its quality, ie. testing car loads or truck loads of coal leaded for shipment for the purpose of sorting. This is regarded as a philosophy of detection of quality problems. The techniques of quality by prevention, control charting and statistical process control were developed by Walter Shewhart and others in the 1920's and 1930's. BHP Australia Coal Limited is going through this cycle in an effort to improve its competitive position.



Coal Preparation Plant Performance



Coal Preparation Plant Performance Recovery

The basic idea of Statistical Process Control (SPC) is that we achieve quality, increased productivity, and lowered overall costs by controlling the process that produce our products or services rather than inspecting the final product to determine quality. We regard this as a philosophy of prevention of quality problems. Thus, SPC is directed toward improving quality (and productivity), not the determination of the level of quality via inspection of the final product.

Conclusion

When you really look at it, Quality Management is about formalising the process (Quality Assurance "The Wedge"), using the people within the process to improve the process (Teams, who better knows the process than those working within), systematically improving the process through PDCA (Continuous Improvement), and then finally monitoring the process to determine process capability (SPC).

