of the equipment was over-maintained to reduce unscheduled downtime. Maintenance intervals were determined by the failure frequency of the highest failure units.

These practices have tended to remain even after advances have made them unnecessary, locking in excess maintenance activity and cost. To reduce cost, budgets and staff are cut, but without changes in work processes. The result is a growing backlog of activities and an increase in urgent work. These practices need to be updated to reflect new technology and capabilities.

3.21.1 Reducing Cost by Changing Work Practices

Work practice changes are critical to reduce maintenance and operations cost. Often, however, the prospect of changing work practices convinces us that change is too difficult to be worthwhile.

The key to success in changing work practices is, therefore, to start with small, easy to accomplish changes that have big benefit. Some examples that illustrate the point are:

- Changing instrument maintenance practices such as calibration
- Changing valve maintenance practices
- Changing rotating equipment maintenance practices such as cleaning

3.21.2 Managing Changes in Work Process

Work process changes need not be disruptive. They can start small and selectively, one "pain point" at a time, and expand as maintenance personnel become more comfortable with them.

The following practices can help you manage changes in work processes:

- Training personnel on the new work processes
- Posting new processes where they will be seen by the maintenance staff
- Stressing the work process changes until they become automatic
- Rewarding those that adopt the changes quickly and effectively