

How many improvement programs
have you seen in your career?

How many programs really
meant something to you?

Reliability?

How many of these programs have
made a real change in your workplace?

We affectionately call these the
'Flavor of the Month'

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**Reliability
Based
Maintenance
(RBM)**

Quality Program

**Solomon
Study**

**Predictive
Maintenance
(PdM)**

**Total
Productive
Maintenance
(TPM)**

**Operator
Driven
Reliability
(ODR)**

**Business Unit Based
(BUB)**

**Preventive
Maintenance
(PM)**

**Key
Performance
Indicators (KPI)**

**Reliability
Centered
Maintenance
(RCM)**

Benchmarking

Run To Failure

**Condition
Based
Maintenance
(CBM)**

**Job
Safety
Analysis
(JSA)**

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Influencing the mindsets
the "Culture" of the ref
because it is shared by
culture of an organiz
beliefs of a group o
behavior and feeling

Put more simply, it

How are thing

Notice the old

means influencing
difficult to do



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We assume the operators know their procedures.



No chain locks installed.

Blocked in Pressure Relief Valve.

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Safety in our unit is the number one priority.

Rich Amine sample point.

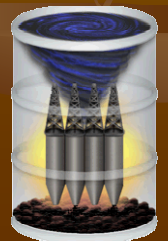
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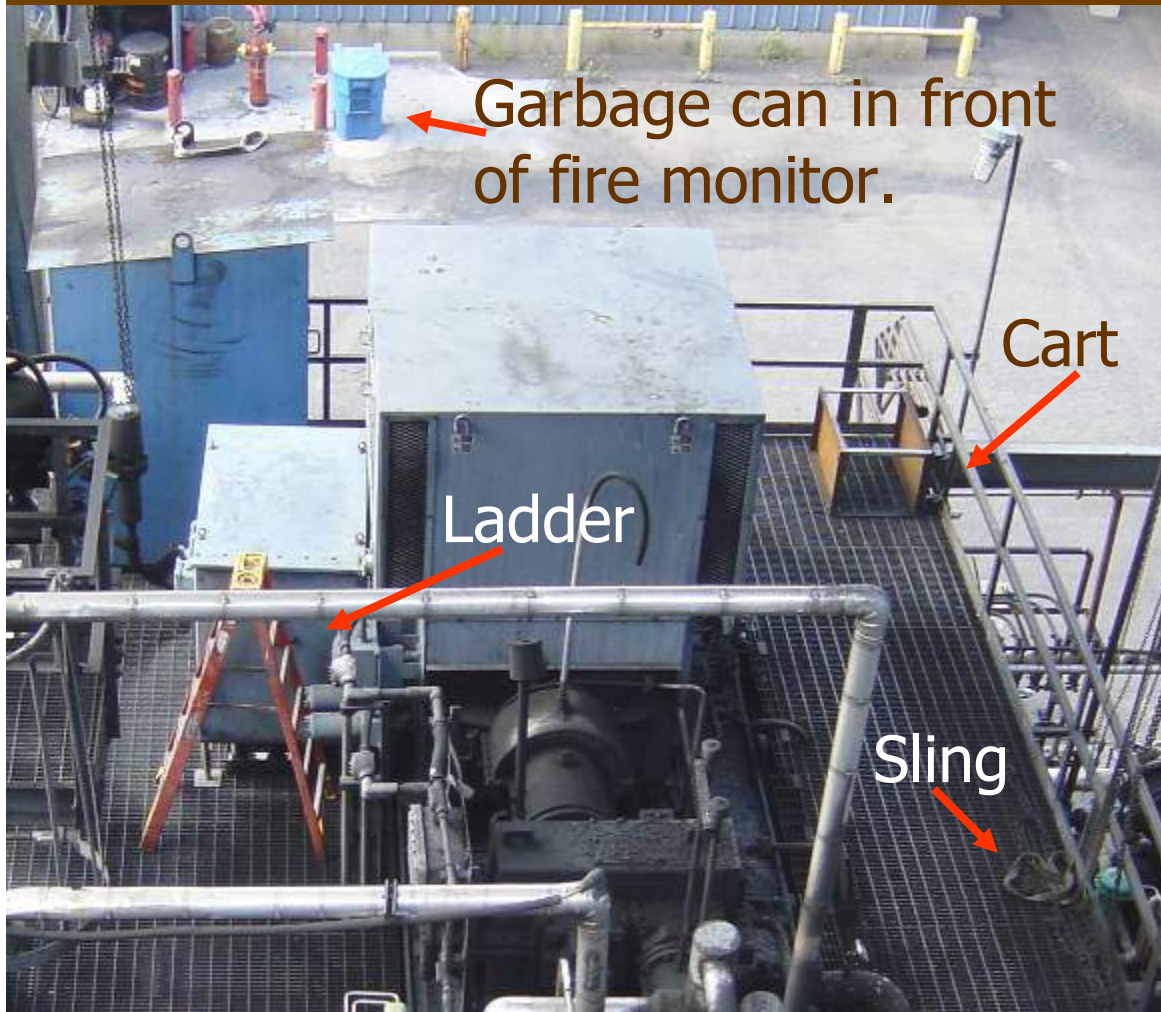
We provide escape egress in our unit.



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We keep our decks clear in case of emergency.



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We make sure the work site is cleaned up after maintenance is done.



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We are ready if we have to go to
tankage or block in at Plot Edge



Before we expect more from our operators we have to make sure their primary tasks are being completed.

Safety in the Unit

Procedures

Emergency Response

Surveillance Rounds

Lock Out Tag Out

Job Safety Audit

**Cold Eye Unit
Review**

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The steps are easy



but the path is long.

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Achieving Operator Driven Reliability (ODR)

Ensure that Standard Operating Procedures in terms of starting up, operating and shutting down the equipment are understood and followed.



This ensures that the plant is operated according to standards.

Operators completing a complement set of surveillance rounds at the desired frequency.

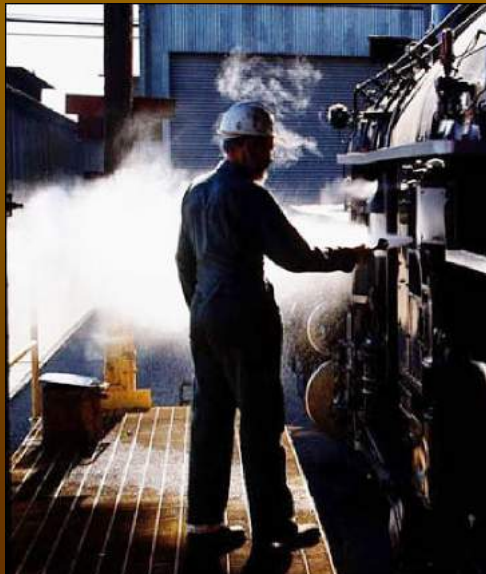
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Another step for operator-driven-reliability involves having the equipment operators take "ownership" of their equipment.

This includes such things as:

- Writing accurate, meaningful work orders
- Having equipment clean and ready to work on when maintenance people arrive
- Participating in the JSA with maintenance
- Communicating with mechanics as to equipment symptoms and condition



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Menu of services

Flowserve equipment --- site evaluation

Unit audits --- Cold Eye Review

Just structure (un-heading,
switching, and decoking).

Whole unit

Operator training

Project work



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