

CMC COLOMBIA 2026



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STOs Don't Fail During Execution, They Fail Much Earlier

*How scope, preparation, and
decisions shape outcomes*

James Reyes-Picknell

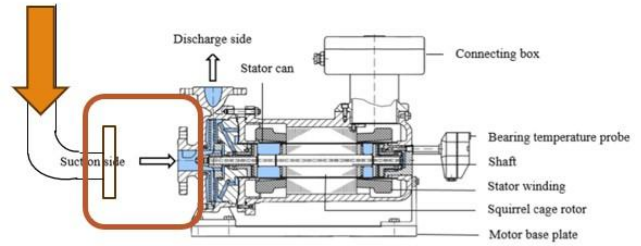
Principal Consultant

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Project tie-in caused major delay

This Failure Was Found Before Startup

- 250 hp “Canned motor” pump in chemical service (VCM)
- Installation appeared correct
- Alignment of piping questioned
- Bolt removed → pipe sprang
- Elevations checked for sufficient NPSH
- Tank installed too low → raised → delay



The pump hadn't failed yet —
but the failure was already “built into” the
system

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The Illusion

We often treat STO problems as Execution Issues

- Delays
- Cost overruns
- Safety incidents
- Startup failures

Has anyone experienced any of these?

Let me ask this another way...

Has anyone **NOT** experienced at least one of these?

Do you realize that these are just symptoms of other problems?

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The Reality

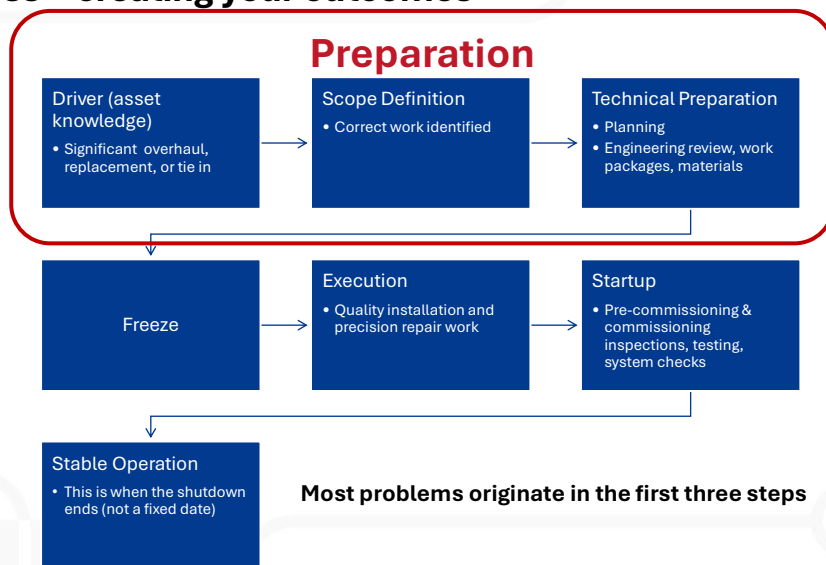
- **STO Problems are Outcomes**
- They are outcomes of your **STO Process**
- They are shaped by decisions about:
 - Scope
 - Preparation
 - Planning
 - Risk

All of these are part of your STO Process and done long before execution

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STO Process – creating your outcomes



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**Execution
cannot
recover from
poor
preparation**

Common Pattern

What We See Repeatedly

- Scope grows during execution
- Work discovered too late
- Plans don't reflect reality
- Findings change the shutdown scope, cost and duration

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Scope Discipline

What Belongs in a Shutdown?

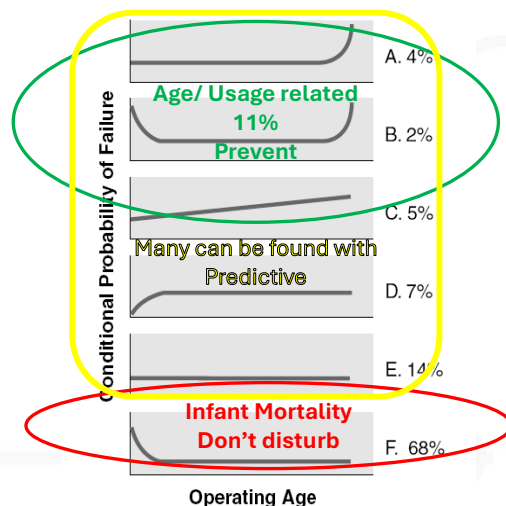
Should include:

- Critical work (age/usage failure modes)
- Life extension
- Major interventions

Should not include:

- Routine maintenance
- Convenience work
- Undefined "inspect & repair"

From RCM



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If Scope Is Unstable, Everything Is Unstable

- Scope changes → cost increases and delays
 - Question every addition before and after freeze
- Scope growth → cost increases and delays
 - Don't add work during shutdown (e.g.: operator requests)
- Incomplete scope → repeat failures at or after startup
 - Deferred work that is really needed = big mistake

If everything is critical, nothing is

Scope Reality



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Preparation Quality

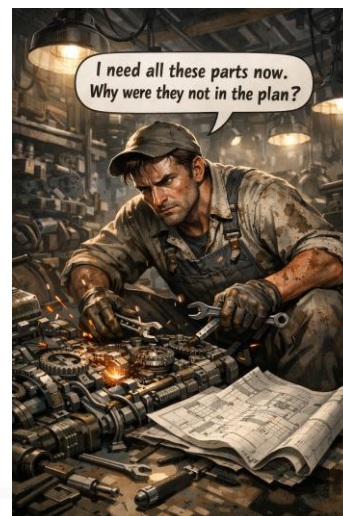
Planning Must Reflect Reality

- Work packs complete (include allowance for what you might find)
- Durations defined, understood and realistic
- Dependencies clear
- Resources aligned

A plan that cannot be executed is not a plan

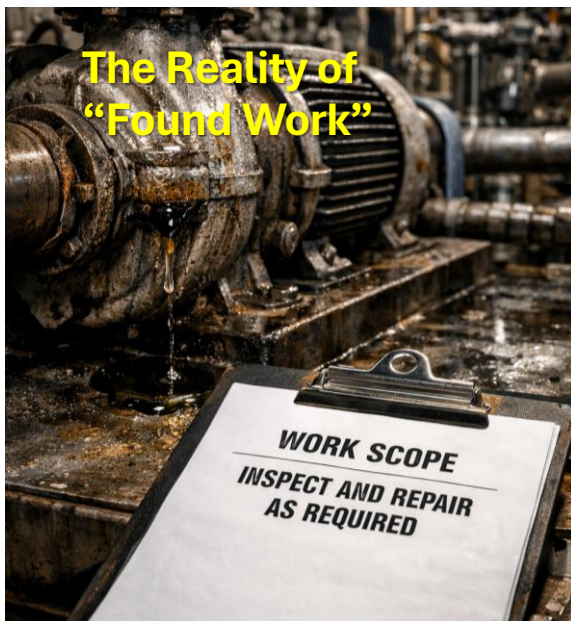
- All job plans must be integrated into one big plan (like a project)

Failing to plan is planning to fail



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Some Found Work is Inevitable

- Internal inspections will be needed
- Inspections reveal issues
 - Ask yourself, why didn't we know about this before the shutdown?
- Unexpected work appears
 - From where? Why wasn't it identified earlier?
- The problem is not findings
 - You were looking for them!
- **The problem for most, is how we handle them**

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Found Work Discipline

Found Work Must Be Managed, Not Absorbed

Classify:

- Critical → act now
- Deferrable → plan later
- Monitor → track

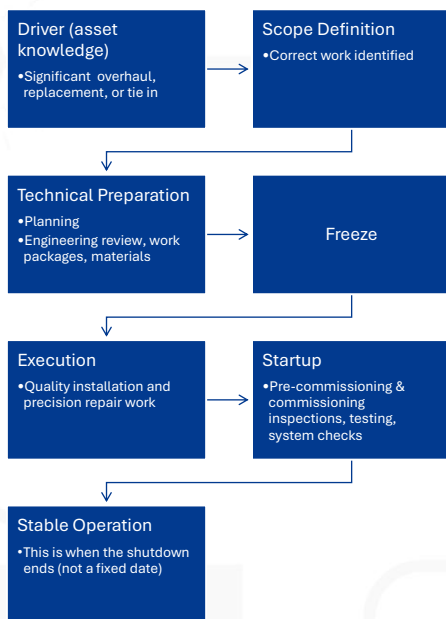
Found work should not destroy the plan

It should spark inquiry

- **What can you do better to discover the work before the next shutdown?**

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Closing thought

STO Performance Is Not About Execution

It is about:

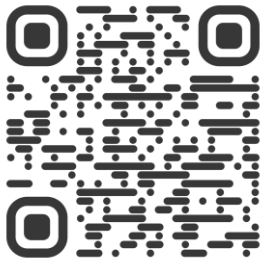
- Defining the right work
- Preparing it properly
- Managing decisions during execution
- Improving from experience (learning from mistakes)



A Question For You

What decisions are you making today that are shaping the outcomes of your next shutdown?

Any questions from you?

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¡GRACIAS!

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