

# Arizona Power Generation – Root Cause Analysis

## Background and Situation

- Previous RCA efforts resulted in inconsistent data gathering which hindered investigations
- Few RCAs were completed compared with the number reported
- Budget allowed for only 4-6 weeks of outside support

## Process Results:

- Collaborated with internal resources to build the formal process flows.
- To ease training and implementation, the process was fully integrated into training materials and RCA toolset/forms
- Created an easy to use incident tracking document
- KPIs are generated automatically without additional user input

Incident report forms include process steps and instructions to guide operators through proper data gathering.

Reference information is included on the form when operators need to make key decisions in the process.

**Incident Report**

Date: 1/1/09  
Time: 10:00pm  
WOB: N/A

Unit / Equipment / System: 55B  
Are you aware of a similar incident occurring in the past?: Yes, twice  
Primary contact person for this incident: José Sánchez

**First reported by:** John Doe (Operator)  
**Describe incident:** (events preceding incident, conditions as found, etc.)  
- 55b trip on high duct pressure  
- Alarms: Drum level, Duct Pressure  
- Unit condition prior to trip: MW: 161, NOx: 1.7, CO: 1.5, Duct Pressure: 13.2, Damper position: Open  
- Unit was at full load, no unusual conditions  
- No warning of Gas Turbine Trip  
- Operator heard unusual noise in the field

**Stabilized by:** John Doe (Operator), Randy Myers (WF)  
**Describe events while the incident was being stabilized:** (actions taken, results, observations, readings, etc.)  
- Unit was secured following the trip

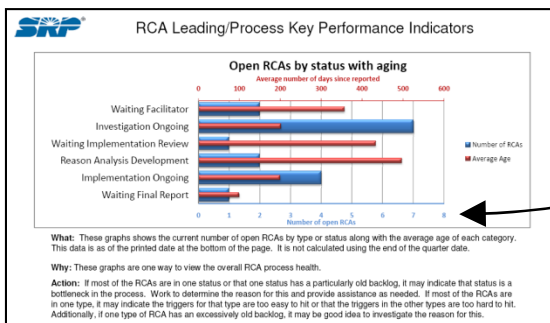
**Does this incident trigger an RCA?** Yes

**Will data gathering occur before or after the event?** Yes

**Data gathered by:** Called out Jane Smith (Engineer)  
**Data gathered:** (alarms, physical condition and/or damage, abnormalities)  
- Tubing not bent  
- Transmitters are physically OK, no loose conduit  
- Duct work/structure has no bulges  
- Damper level problems  
- Damper status was verified to be open

**Describe events while corrective action was taken:** (actions taken, results, observations, readings, etc.)  
- Trip reviewed and confirmed unit was safe to start  
- Unit started and functioned normally

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KPIs are generated each quarter without additional input from users. This leading indicator identifies bottlenecks in the process, allowing the RCA champion to proactively correct.



RELIABILITY MANAGEMENT GROUP

Masters of Implementation