

# Event Tree Analysis

New Hire → Survive & Thrive 1 Year as CMP Equipment Technician 2

From Day 1 to a Stronger Tomorrow: Safe People. Reliable Equipment. A Brighter Future.



## Purpose

Analyze the key events, decisions, and conditions that determine whether a new hire lasts, survives, and thrives for 1 year as a CMP Equipment Technician 2.



## Success Definition

Safe, competent, reliable, and engaged technician who contributes to equipment availability and has a path for growth.



## Failure Definition

Resignation, termination, extended inability to qualify, chronic unsafe behavior, or severe disengagement.



## Role Context

Company : Samsung Austin Semiconductor  
Role : CMP Equipment Technician 2  
Focus : Equipment, process, safety, reliability  
Horizon : First 12 months



## Key Systems

- Training system
- Equipment & tools
- Team & communication
- Work environment
- Personal sustainability



## Analysis Type

Event Tree Analysis (forward-looking)  
Qualitative (no numerical probabilities)



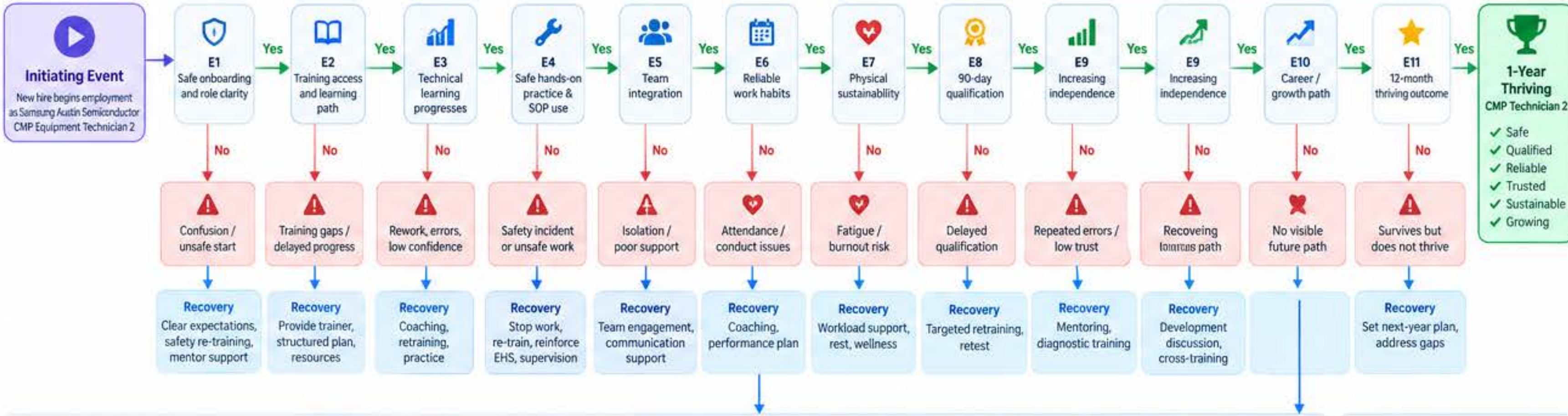
## Guiding Principle

Clarity → Competence → Confidence  
→ Contribution → Recognition →  
Growth → Retention



## Footnote

kantreklab, 2021.



**12-Month Development Timeline**  
Key phases, goals, and outcomes through the first year.



## Three Outcome Levels

- Thriving / Durable Success**  
Safe, competent, reliable, trusted, sustainable, and growing.
- Survival / Conditional Success**  
Still employed, but with unresolved gaps or retention risks.
- Exit / Failure**  
Resignation, termination, serious safety failure, or inability to sustain.



## Representative Event Tree Paths

Example paths (S = Success, F = Failure, R = Recovery).

| Path | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | E9 | E10 | Outcome                 | Description                        |
|------|----|----|----|----|----|----|----|----|----|-----|-------------------------|------------------------------------|
| P1   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   | Thriving                | Ideal development                  |
| P2   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✗   | Conditional             | Strong technician, limited growth  |
| P3   | ✓  | ✓  | R  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   | Thriving                | Training recovery                  |
| P4   | ✓  | ✓  | ✗  | ✓  | R  | ✓  | ✓  | ✓  | ✓  | ✓   | Conditional             | Technical struggle, coached        |
| P5   | ✓  | ✓  | ✓  | ✗  | ✗  | ✓  | ✓  | ✓  | ✓  | ✓   | Conditional             | Team integration failure           |
| P6   | ✓  | ✓  | ✓  | ✗  | ✗  | ✗  | ✓  | ✓  | ✓  | ✓   | Exit Risk               | Reliability failure                |
| P7   | ✓  | ✓  | ✓  | ✓  | ✓  | ✗  | ✗  | ✗  | ✓  | ✓   | Exit Risk               | Fatigue-driven decline             |
| P8   | ✗  | ✗  | ✓  | ✓  | ✓  | ✓  | ✗  | ✓  | ✓  | ✓   | Exit Risk               | Safety failure                     |
| P9   | ✗  | ✗  | ✗  | ✗  | ✗  | ✗  | ✗  | ✗  | ✗  | ✗   | Exit Risk               | Early onboarding breakdown         |
| P10  | ✓  | ✓  | ✗  | R  | ✓  | ✗  | ✗  | ✗  | ✗  | ✗   | Conditional / Exit Risk | No structured qualification        |
| P11  | ✓  | ✓  | ✓  | ✓  | ✗  | ✓  | ✓  | ✗  | ✗  | ✓   | Conditional             | High performer, burnout risk later |
| P12  | ✓  | R  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   | Thriving                | Resilient self-directed learner    |

## Critical Success Barriers

Key controls that prevent problems from becoming failure.



## Common Failure Modes & Recovery

Turn setbacks into progress.



## CMP Technician 2 Technical Success Domains

Key areas of competence for the first year.



## Key Leading Indicators

Track progress before month 12.

- ✓ Training completion
- ✓ Qualification progress
- ✓ Safety behavior
- ✓ Question asking
- ✓ Documentation quality
- ✓ Attendance
- ✓ Team integration
- ✓ Technical independence
- ✓ Feedback response
- ✓ Fatigue management
- ✓ Career engagement
- ✓ Supervisor confidence

## Human Reliability Factors

Performance depends on more than motivation.

