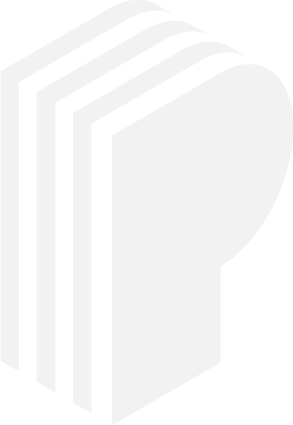
**Root Cause Analysis Report**  
**Project:** UV Exposure & Weather Tracker  
**Client:** South Skin Cancer Treatment Center of America  
**Date:** March 28, 2025



### ../Desktop/WorkFiles/Project%20Management%20Docs/Branding/PMD-Branding-1217-Logo-Icon-SingleColor-WaterMark.png **Introduction**

The purpose of this Root Cause Analysis (RCA) is to thoroughly examine a development failure that occurred during the trial run of the UV Exposure & Weather Tracker, a web-based tool developed for the South Skin Cancer Treatment Center of America. This report aims to clearly identify what happened, why it happened, and how such incidents can be prevented in the future. It provides a step-by-step breakdown of the incident, a detailed account of findings, and clearly defined corrective actions.

The UV Exposure & Weather Tracker was designed to provide real-time UV index monitoring, forecasts, and educational tools for the public. However, during a test run on June 1, 20xx, a failure in the web tool's jacketing process triggered this RCA.

This report ensures transparency, accountability, and continuous improvement in the development lifecycle by outlining the facts, analyzing root causes, and proposing specific solutions.

**Event Description**

On Friday, June 1, 2025 at 9:18 AM, a material failure occurred on cabling line #2 during a trial run of the UV Tracker web tool. The polyethylene jacketing, which was supposed to cover the web tool core, exited the API integration module unevenly and damaged. Areas were either too thick, torn, or missing jacketing altogether, exposing the core.

Developer Shequila Sledge, who initiated the run and monitored the system, observed these irregularities. The issue persisted longer than the typical deformity range expected at the start of a run. Upon realizing the error, Shequila initiated the emergency shutdown sequence, preserved the system data, and notified Project Sponsor Dr. Kimberly Rhodes within minutes.

This incident affected the entire UV Tracker project team and risked impacting the project timeline, budget, and release schedule.

**Chronology of Events**

**9:00 AM:** Technician Joe Smith powered up cabling line #2.  
**9:02 AM:** Developer Shequila Sledge entered process data for the UV Tracker run.  
**9:07 AM:** Core material loaded; line began heating up.  
**9:13 AM:** System acknowledged readiness for operation.  
**9:16 AM:** Irregular jacketing observed—initially dismissed as normal.  
**9:18 AM:** Persistent deformity triggered emergency shutdown.  
**9:20 AM:** Shutdown and data preservation completed.  
**9:22 AM:** Dr. Rhodes was notified, verified shutdown, and began initial inquiry.

This timeline allowed investigators to trace actions precisely and verify the response was timely and compliant with procedure.

**Investigative Team and Method**

The Clinic Director assigned the following team to perform the investigation:

* **Shequila Sledge** – Lead Developer, RCA Team Lead
* **Ashley Taylor** – Web Designer, Process Engineer
* **Michael Young** – Data Engineer, Design Specialist
* **Karen Lin** – QA Specialist, Quality Assurance Engineer

**Methodology:**

* Conducted interviews with staff involved in the trial run
* Analyzed computer logs from cabling line #2
* Reviewed equipment calibration and process documentation
* Used cause analysis tools like the Ishikawa (Fishbone) diagram to assess potential contributing factors

The team used this data to evaluate human, technical, and procedural factors contributing to the failure.

**Findings**

**1.** API integration module temperature was set at 400°F, not the approved 525°F.  
**2.** The insufficient heat caused improper melting of polyethylene, leading to irregular jacketing.  
**3.** Technician Joe Smith attempted to manually set the correct temperature but failed to hit the "Submit" button. After 10 seconds, the system reverted to the default temperature.  
**4.** Shequila Sledge followed all shutdown protocols and reported the incident as required.  
**5.** Other web tool lines use pre-programmed settings to avoid manual entry errors. This line lacked that safeguard.

These findings confirmed the root cause was operator error, compounded by a lack of automated safeguards.

**Root Cause Analysis**

The root cause of the failure was determined to be human error in manually configuring equipment settings. While the technician tried to input the correct temperature, the failure to confirm the entry allowed the system to default to an inadequate setting.

Contributing factors:

* Lack of system confirmation or error message when the correct temperature wasn't submitted.
* Absence of automated presets for experimental web tools.
* Dependence on manual entry in a high-risk step of the production process.

This incident underscores the need for tighter process controls and system validations to catch or prevent similar errors.

**Corrective Action**

To prevent this issue from recurring, the RCA team recommends:

* **Pre-programming configuration files** for all trial runs. Developers will select the file from a dropdown rather than manually entering settings.
* **System updates to require explicit confirmation** of changes to critical settings (e.g., pop-up confirmation or auto-lockout if values aren’t saved).
* **Training refresh** for all technicians on configuration input protocol.
* **Addition of a checklist** for verification before initiating any new trial run.

These measures are designed to improve safety, reduce risk, and support project continuity by minimizing human error.

**Conclusion & Sponsor Acceptance**

This RCA process enabled the team to quickly identify a preventable error and implement meaningful changes. The corrective actions strengthen the UV Tracker development pipeline and ensure similar mistakes do not affect future production.

The findings and corrective action plan have been reviewed and approved by the project sponsor.

**Approved by:**  
  
Project Sponsor Title  
**Date:** March 28, 2025

The UV Exposure & Weather Tracker continues development with confidence that this issue has been addressed, and the lessons learned will guide future innovations.