

NETWORK TELEMETRY & AUTOMATED POLLING SOP

Automated Data Collection, TCP/IP Telemetry, and IMC Server Queue Operations

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Author / Lead Specialist:	Kadeem Manning	QA Manager Approval:	Genevieve Lariviere
Target Network:	CASTNet / EPA AQS Ambient Monitoring	Review Cycle:	Annual / QAPP Compliant

1. PURPOSE & SCOPE

This Standard Operating Procedure (SOP) defines automated polling, TCP/IP telemetry acquisition, and queue management protocols for the Information Management Center (IMC). Automated data collection ensures complete, error-free hourly data retrieval from remote station dataloggers across cellular, satellite, and DSL modems for ambient air and meteorological monitoring networks.

2. TELEMETRY & POLLING ARCHITECTURE

The V3 Data Collection application operates continuously on central IMC virtual machines to queue and execute automated polling jobs. Hourly data files are retrieved directly from on-site dataloggers via TCP/IP or modem connections. Retries are queued automatically when communications fail.

3. OPERATIONAL PROCEDURES

- **Daily Auto-Poll Monitoring:** Review the Data Collection Status Report every morning by 08:00 LST to verify complete hourly polling across all active network stations.
- **Manual Re-Polling Protocol:** For failed stations, open the V3 Polling Configuration tool, navigate to 'Submit Manual Job', specify start/end dates, and initiate immediate job queuing.
- **Log File Auditing:** Inspect daily loading logs (yyyymmdd_machine>Loading.log) and error logs (yyyymmdd_machine>LoadingError.log) located in N:\project\IMC\sitecall\V3\logs to resolve file reformatting or parsing failures.
- **DataView Local CSV Backup:** At stations with unreliable telemetry, configure DataView software on local laptops to save minute/hourly CSV files automatically for manual retrieval via USB or remote desktop.
- **Station Log Software Automation:** Automated PowerShell scripts upload station logs to central database servers twice weekly (Wednesday and Sunday at 12:00 AM).

4. POLLING CONFIGURATION PARAMETERS

Parameter	Target Configuration / Setting	Acceptance Criteria / Action
Primary Connection	TCP/IP via Cellular / Satellite / DSL Modem	PING response < 250 ms; 100% connect rate
Polling Frequency	Hourly automated queue (configured site time)	Poll completed within 15 min past hour
Retry Attempt Limit	3 automated retries per polling cycle	Flag for manual re-poll if retries fail
Datalogger Clock Sync	NIST UTC time synchronization check	Time drift must remain <= 2.0 minutes
Raw File Archive	N:\project\IMC\sitecall\V3\ESC	Permanent MS-DOS 8.3 formatted archive

DOCUMENT AUTHORIZATION & SIGN-OFF

Prepared by: Kadeem Manning Lead Field Calibration Specialist	Signature: _____	Date: _____
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Approved by: Genevieve Lariviere
Quality Assurance Manager

Signature: _____

Date: _____