



NESHAP CEMS Challenges

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CEMS

**“In the Beginning”
A couple analyzers and a
strip chart.**

**NESHAP has turned it into a
MONSTER**





US EPA NESHAP

- Initial limits on D/F and required opacity monitoring
- New limits for HCl, Hg, THC, PM with monitoring flow and clinker production
- MCC uses lime injection and activated carbon injection for emissions control





Mitsubishi Cement Corporation Cushenbury Plant



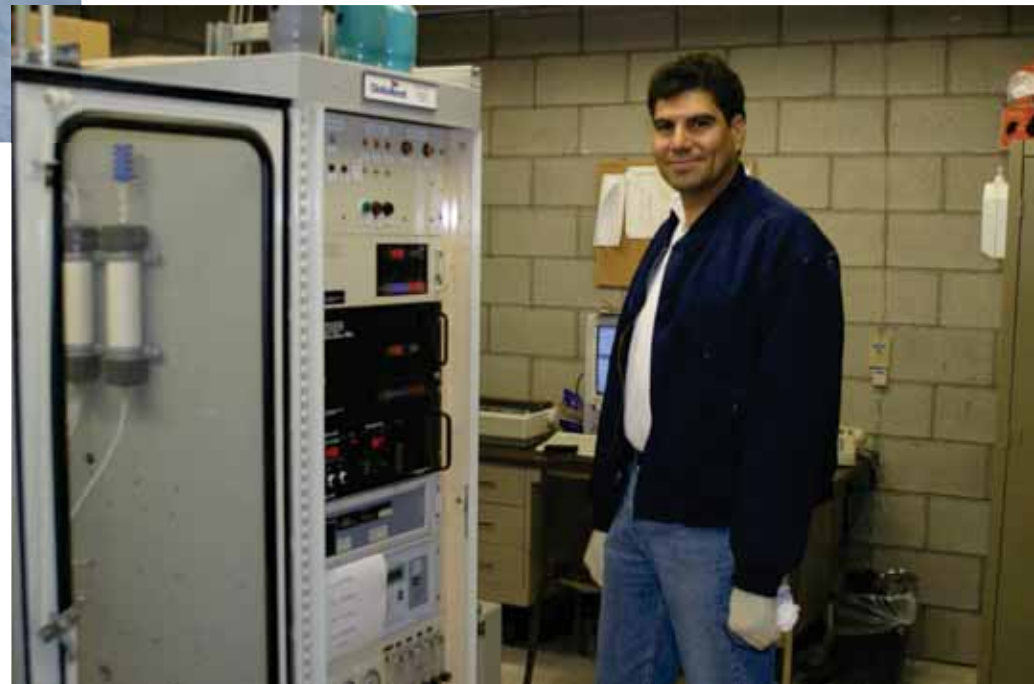


Exhausting Challenges





MCC CEMS in 2005





MCC CEMS in 2015





A New Stack Arises!





And a New CEM Building





MCC CEMS in 2016





“CEMS” Rack:

Moisture

THC

CO₂

CO

SO_x

NO_x

O₂



FTIR

HCl CEMS

Backup for:

CO₂

CO

SO_x

NO_x

Moisture



Mercury CEMS

Elemental & Ionic
Calibrator(s)
Permeater



Clinker Cooler Dust Collector

Retrofitted for particulate monitoring
Two new ducts with particulate CPMS





Particulate spiking feeder





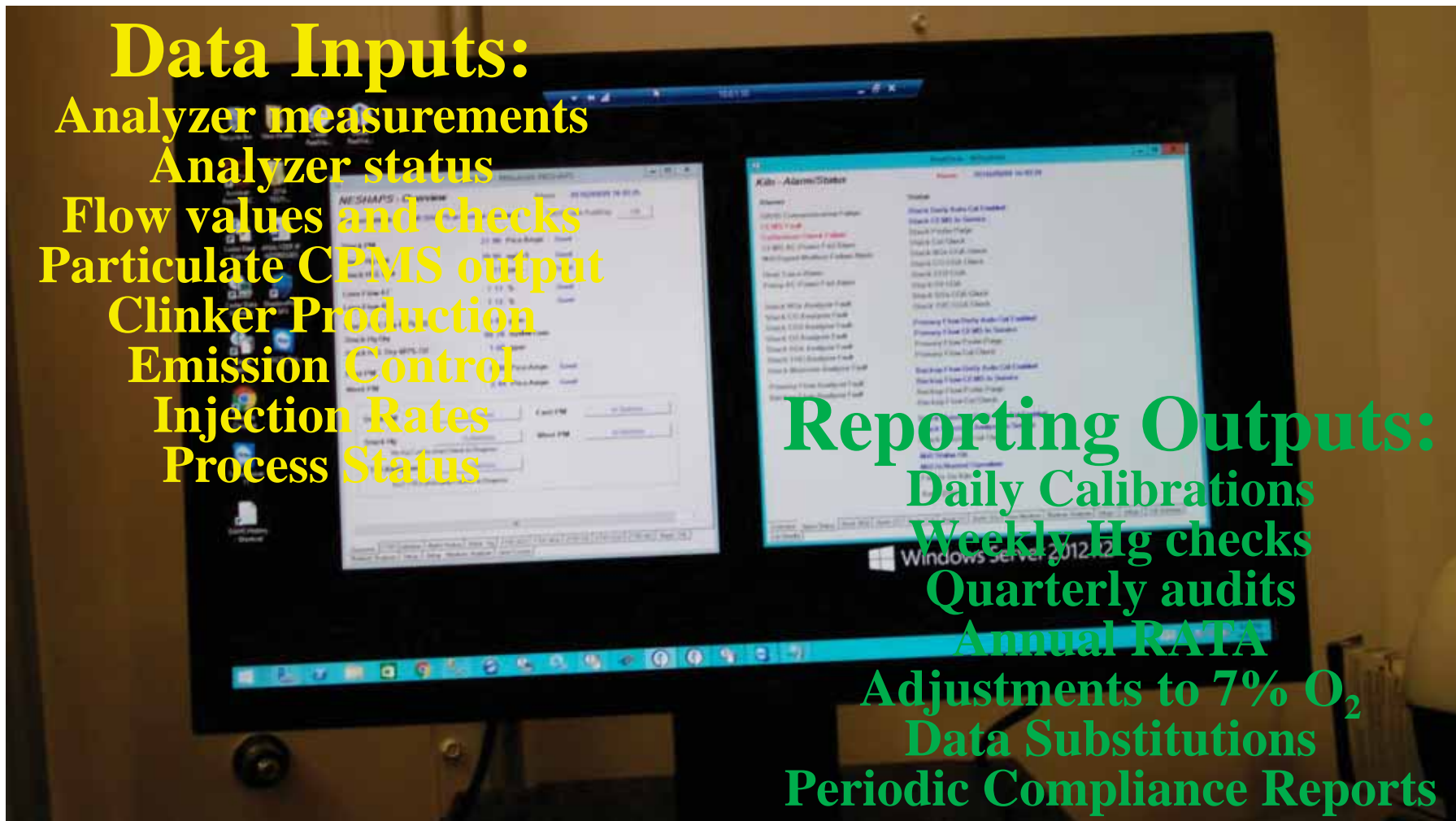
Data Acquisition System

Data Inputs:

Analyzer measurements
Analyzer status
Flow values and checks
Particulate CPMS output
Clinker Production
Emission Control
Injection Rates
Process Status

Reporting Outputs:

Daily Calibrations
Weekly Hg checks
Quarterly audits
Annual RATA
Adjustments to 7% O₂
Data Substitutions
Periodic Compliance Reports





Can cement manufacturing and environment sustain each other?