

2017 PQAO Training Performance Evaluations

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AIR RESOURCES BOARD



Overview

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Types of Performance Evaluations (PE)

- Annual PE
- Semi-Annual PE

Updates to AQDA Process and Looking Ahead

Changes to 2017 Gaseous Audits

Primary Quality Assurance Organization

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Performance Evaluations

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Annual
Performance
Evaluation

- All gaseous, particulate, and meteorological equipment that are reported to AQS
- Siting
- Residence Time
- Mass Analysis Laboratory

Performance Evaluations

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Semi-Annual Particulate Audits

- Only sites within ARB's PQAO
- Audits must be 5-7 months apart
- Particulate Samplers only
- Avoid run days

Performance Evaluations

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Gaseous Audits

- Gaseous sites subject to federal requirements:
 - PE annually
 - National Performance Audit Program (NPAP) annually for 20% of sites in PQAO
- EPA-ARB NPAP self implementation agreement:
 - Allows the ARB TTP audits to fulfill both the annual PE and NPAP requirements
 - EPA-ARB annual side by side audit comparison

Revised Selection Process for PE Audit Levels

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Low Level

- Point must be within two to three times the method detection limit (MDL) of the instruments within the PQAOs network

High Level

- Point will be less than or equal to the 99th percentile of the data at the site or the network of sites in the PQAQO or the next highest audit concentration level

NAAQS
Level

- Point can be around the primary NAAQS or the highest 3-year concentration at the site or the network of sites in the PQAQO

Guidance for NPAP Audit Level Selection

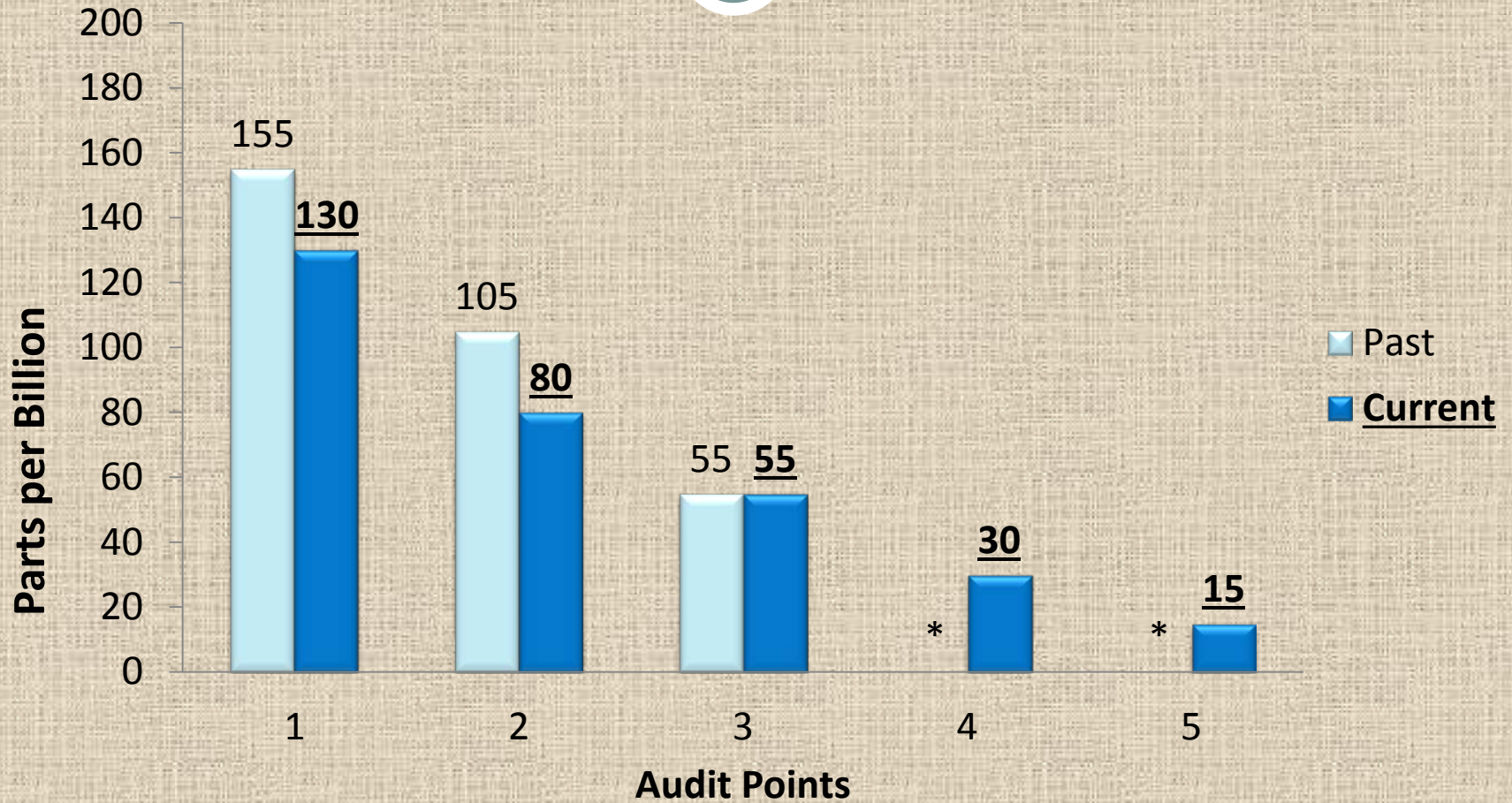
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Rule encourages additional audit points

- Ozone- 5
- CO, SO₂ (trace and full scale)-4
- NO₂- 3
- Additional guidance was issued for selection of audit points for the NPAP

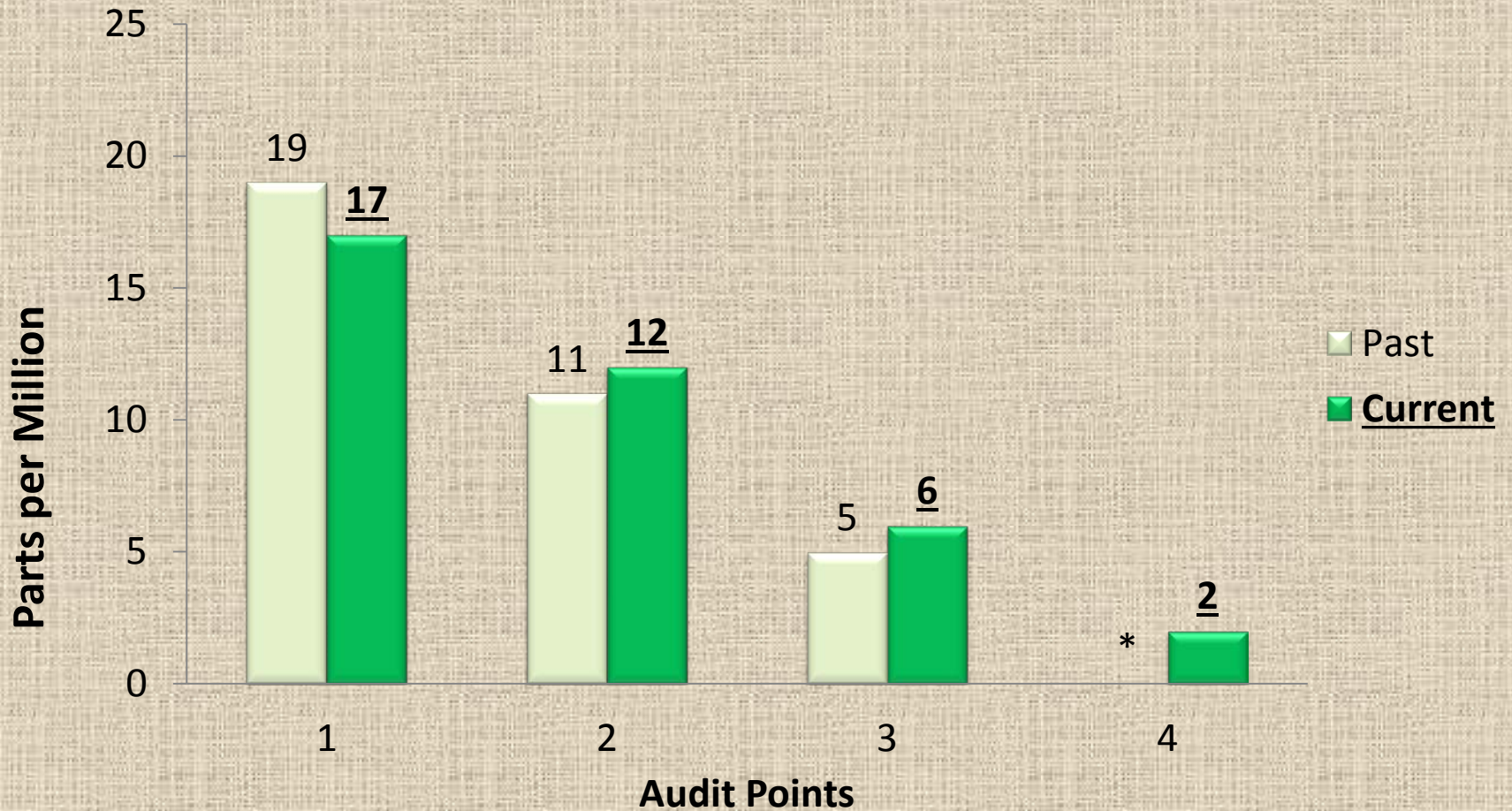
Changes in Ozone Audit

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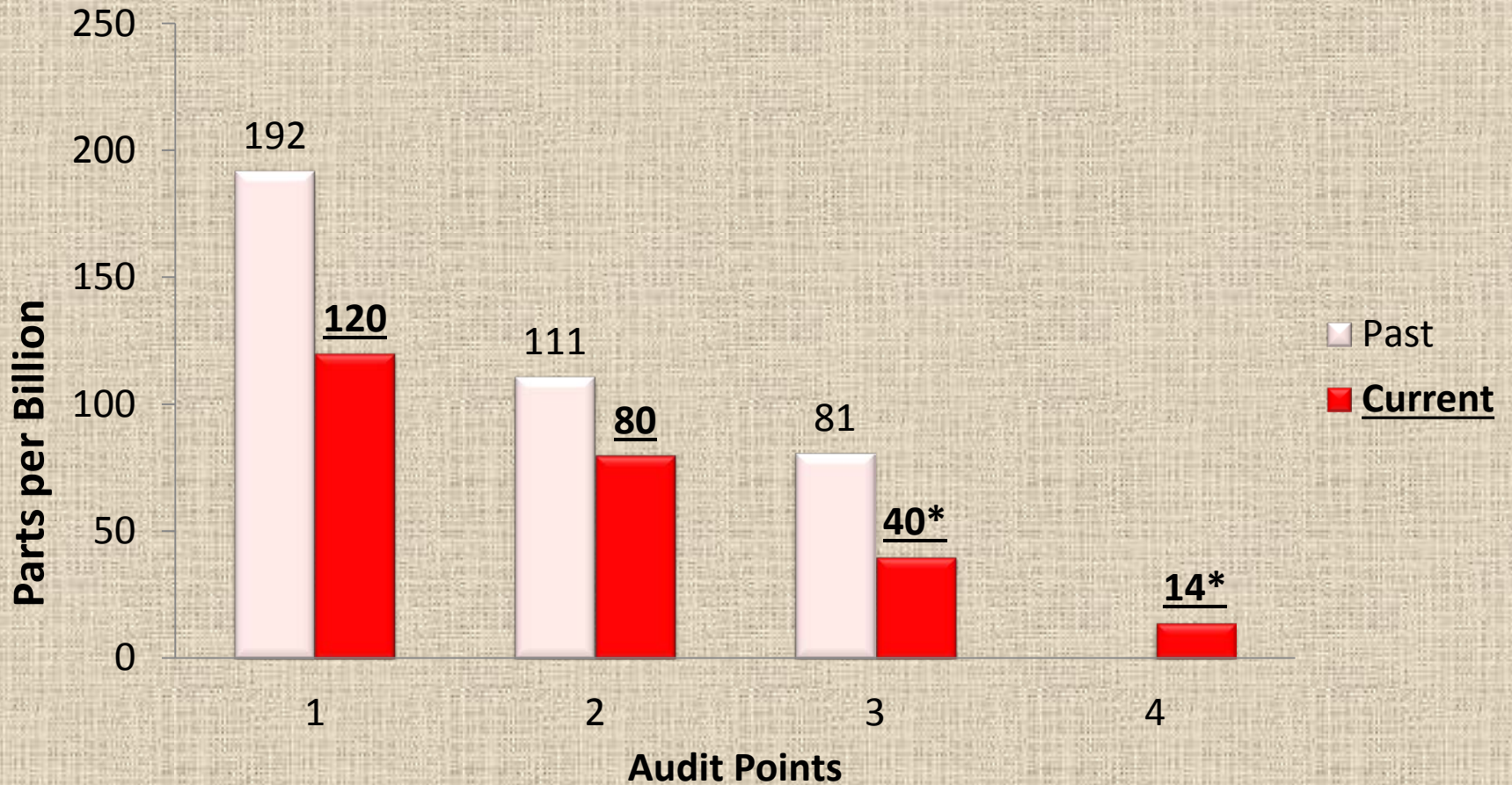
Changes in CO Audit

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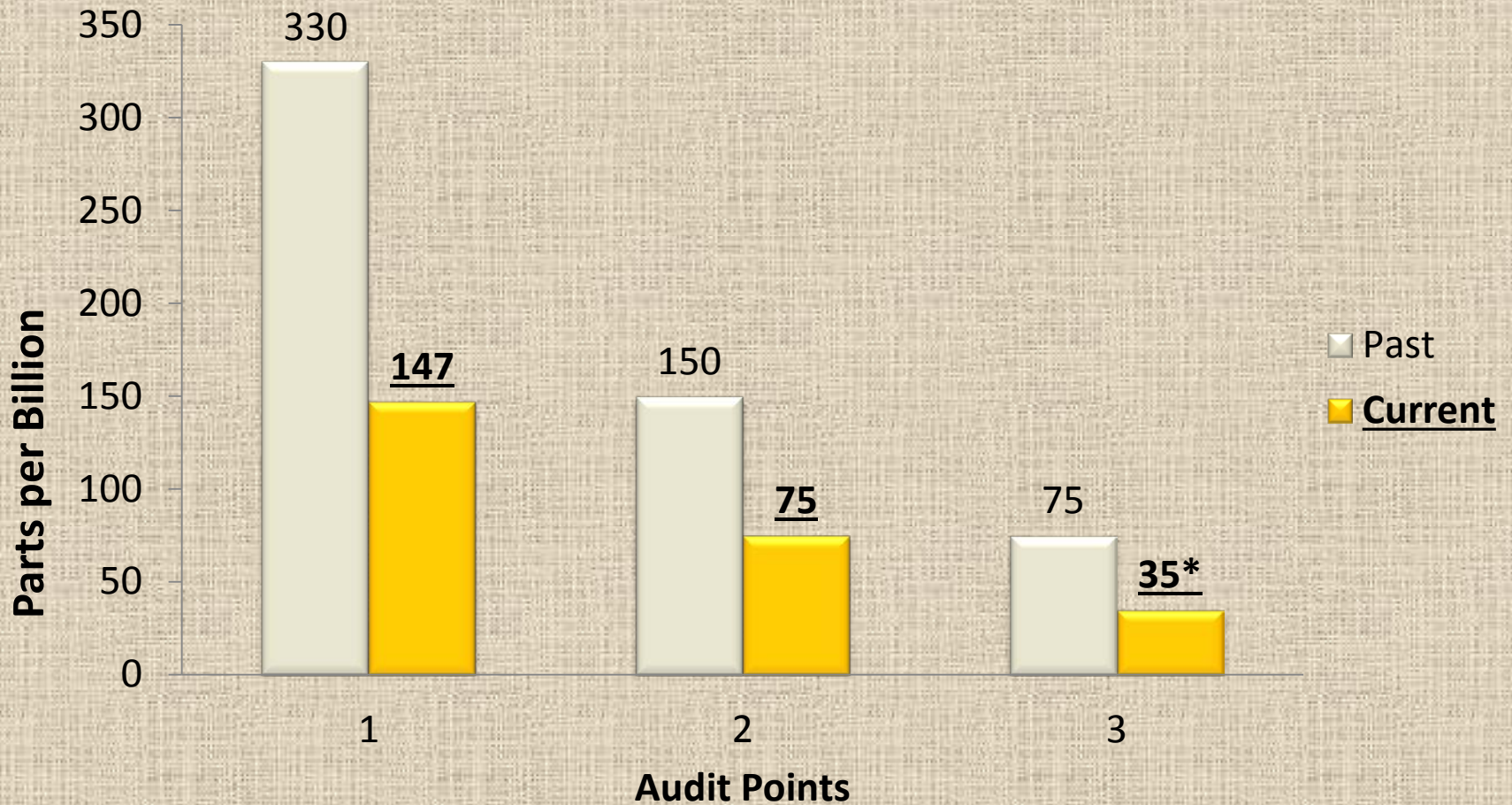
Changes in SO₂ Audit

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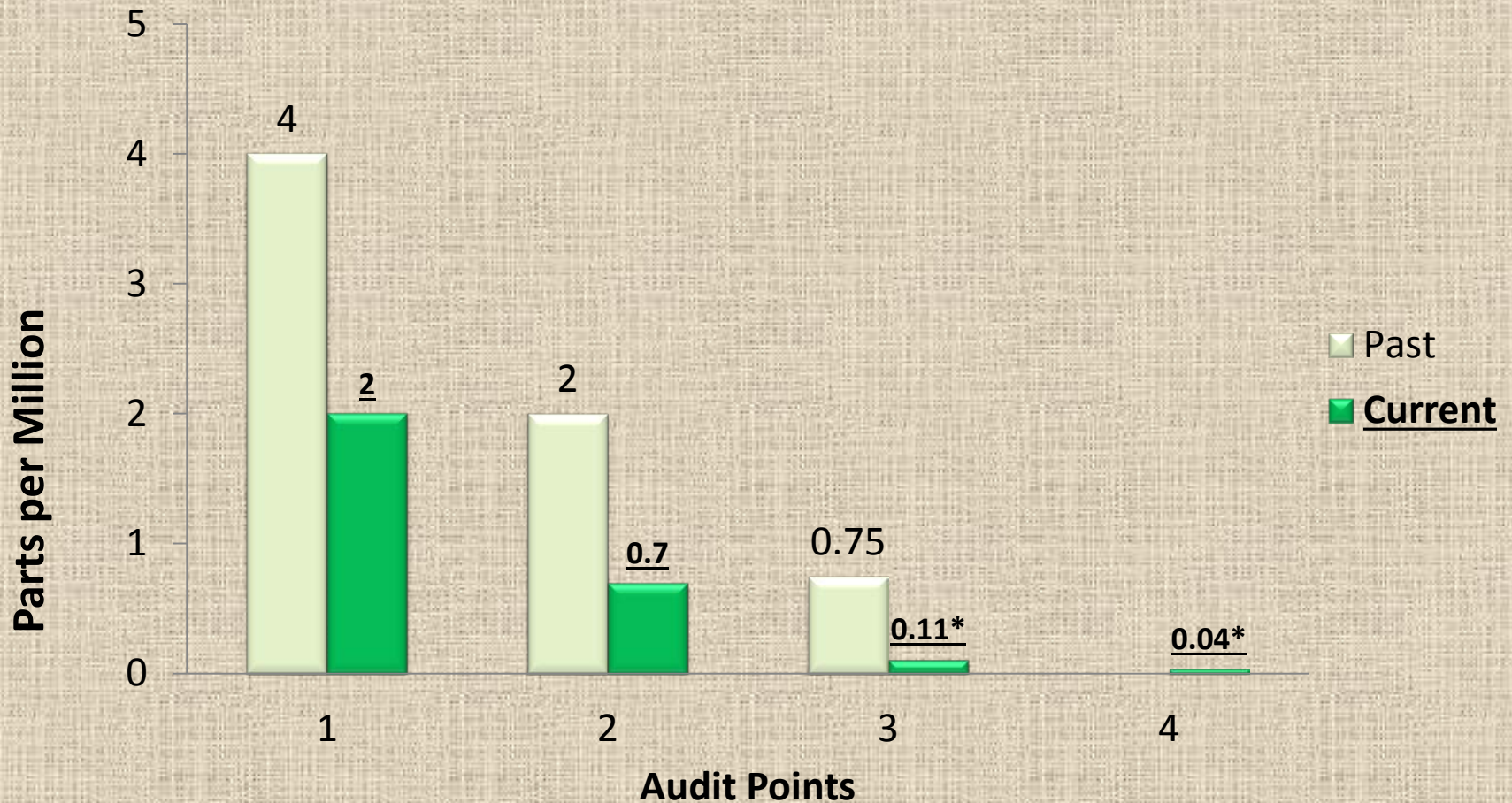
Changes in NO₂ Audit

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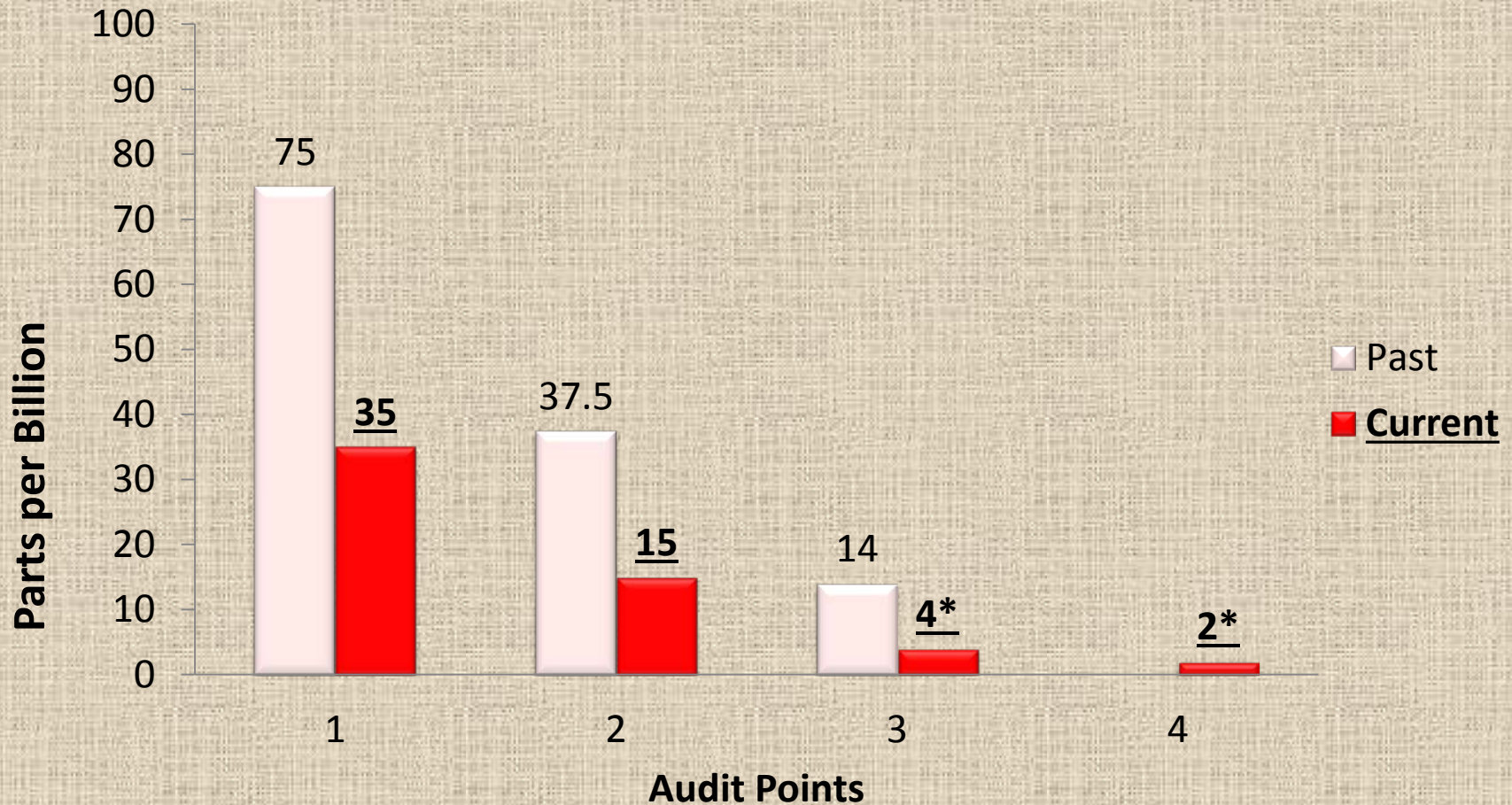
Changes in Trace CO Audit Levels

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Changes in Trace SO₂ Audit Levels

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Gaseous Acceptance Criteria

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Effective:
Q1 2017

- Audit levels 1 and 2 are subject to the following acceptance criteria based on EPA guidance:

Acceptance
Criteria

- O₃, SO₂, and NO₂: ± 1.5 ppb difference or ± 15 percent difference, whichever is greater.
- CO: ± 0.03 ppm difference or ± 15 percent difference, whichever is greater.

Enforcement

- Results from lowest audit targets considered informational for 2017
- No corrective action for failure of lowest audit points for 2017

Challenges in the Process

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Determine new cylinder blend concentrations

Mass flow controller ranges

Producing stable/reliable low level concentrations

Repeatability of results

Minimizing CO drift (provide longer warmup times)

Stable zeros

Looking Forward

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AQDA Resolutions

- AMP 350 report must be submitted to QAS to finalize AQDA when data is invalidated or flagged.
- Correcting of data must be consistent with technical guidance for post processing of data (ARB QA bulletin 006)

Direct Read NO₂

- Near roadway sites
- Amend audit procedure

Direct Read CO

- No approved method
- Option for auditing?

Resources

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- **PandA - Precision and Accuracy Results**
 - Final audit reports
 - Username and password required
 - <http://www.arb.ca.gov/qaweb/panda/panda.php>
- **PQAO Website:**
 - <http://www.arb.ca.gov/aaqm/qa/qa.htm>

Contact

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Up Next...

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Corrective Action: South Coast AQMD's Process

by Andrea Polidori