Overview of the NYSERDA QA System and Contractor Evaluation

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LIFE Statewide Conference – May 2012

Albany, NY

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QSC Oversight

Energy Efficiency:

- **Existing Residential (Energy Efficiency)**
  Home Performance with Energy Star (Market Rate and Assisted)
  EmPower (Low Income)
- **New Residential Construction (Energy Efficiency and Sustainability)**
  NY Energy Star Homes (Market Rate and Assisted)
  HERS Raters
  Green Residential Building Program (LEED R and NAHB Green)

Renewable Energy:

- **Customer Tier Renewable Production (Residential and Business)**
  Photo-Voltaic Solar
  Solar Thermal

2012 Program Goals

- Maintain quality field inspection system

  Cost effective, resource efficient and clear reporting of results.

  Ensure corrective action is taken.
- Be responsive to homeowners and contractors
- Shift from Project quality to Program and System quality
- Implement a valid/consistent project/program scoring system
- ID root causes of know problems and implement systemic solutions using DOE, data mining, etc.
- Expand QSC presence into Partner Qualification, Accreditation and Certification

QA Scoring Plan

Program Quality Scoring, Root Cause and Feedback

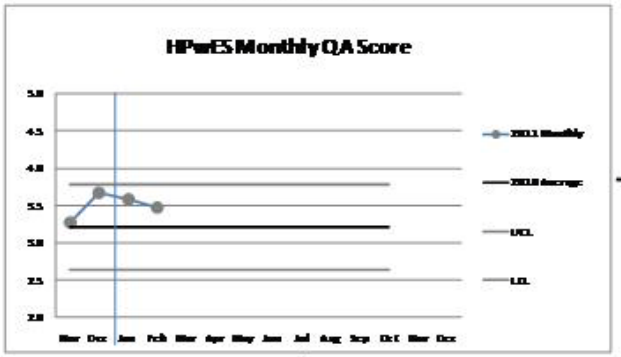
Five
Fully Meets/Exceeds All Requirements

Three
Meets Requirements at Minimum Level

One
Unacceptable: Fails to Meet Requirements

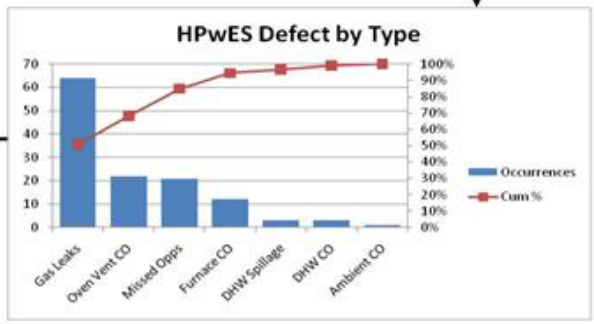
5
4
3
2
1

All Contractor Scoring



Defect Analysis

Occurrences by severity



Root Cause Analysis

Identify and take actions to eliminate Root Cause

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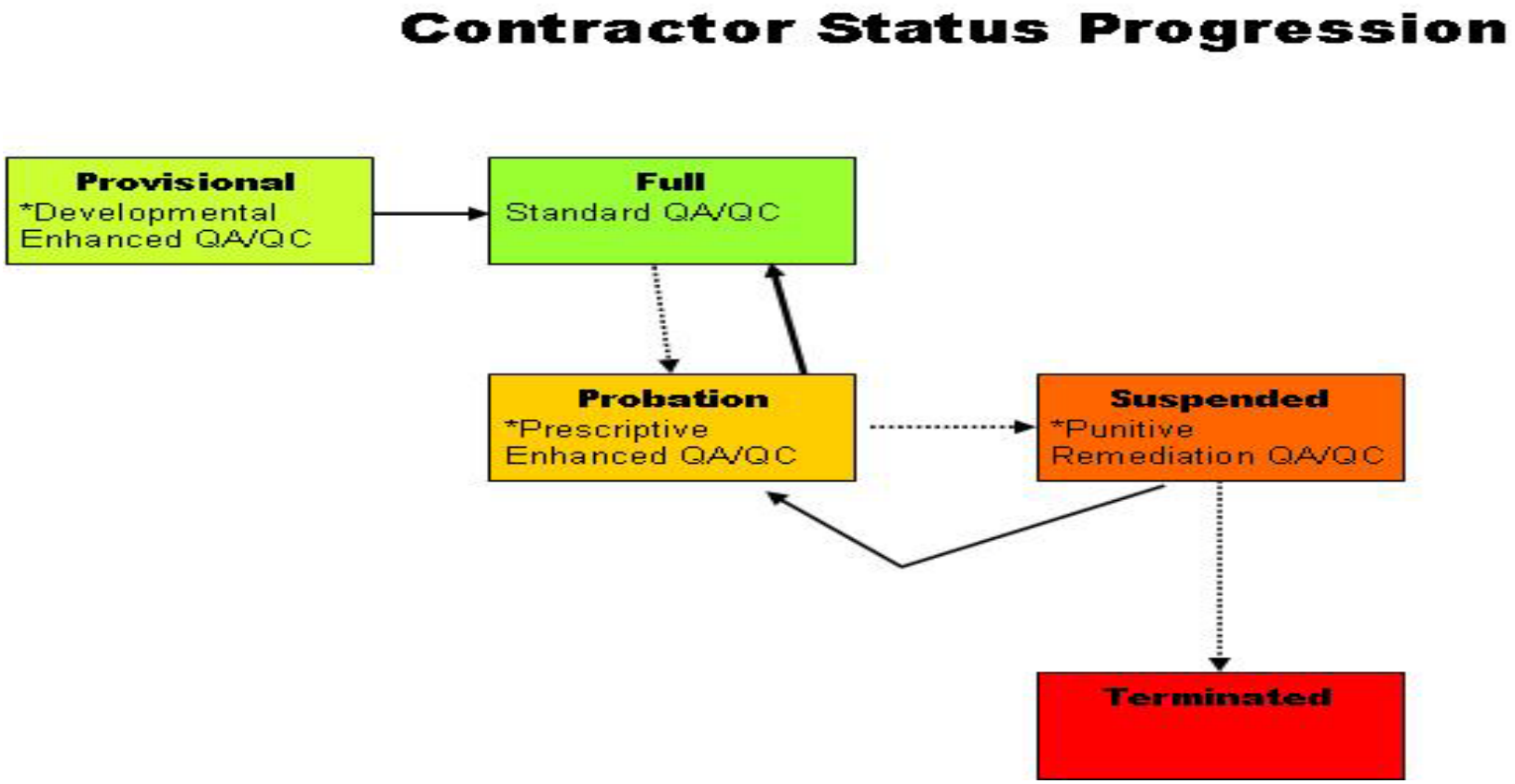
Contractor Status Progression, Rating & Ranking



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Future Plans

Contractor Rating & Ranking (Future)

Contractor Rating

Weighted
Updated quarterly

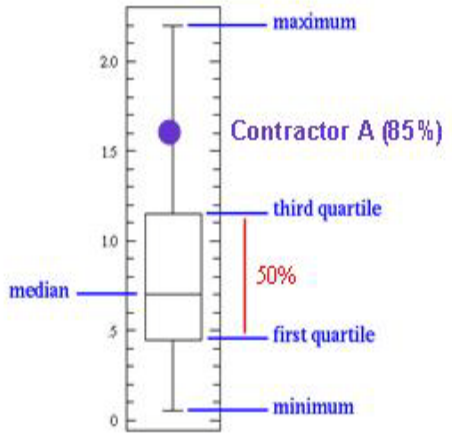
- (Test)-Design-Install-Test 50%
- Responsiveness (Pass-Fail) 20%
- Health & Safety (Pass-Fail) 10%
- Program Rules (Pass-Fail) 10%
- Customer Satisfaction 10%

Contractor Ranking

Peer Groups

Time in Program
Production Volume

	New—2 Years	3 Years +
Low Volume		
High Volume		



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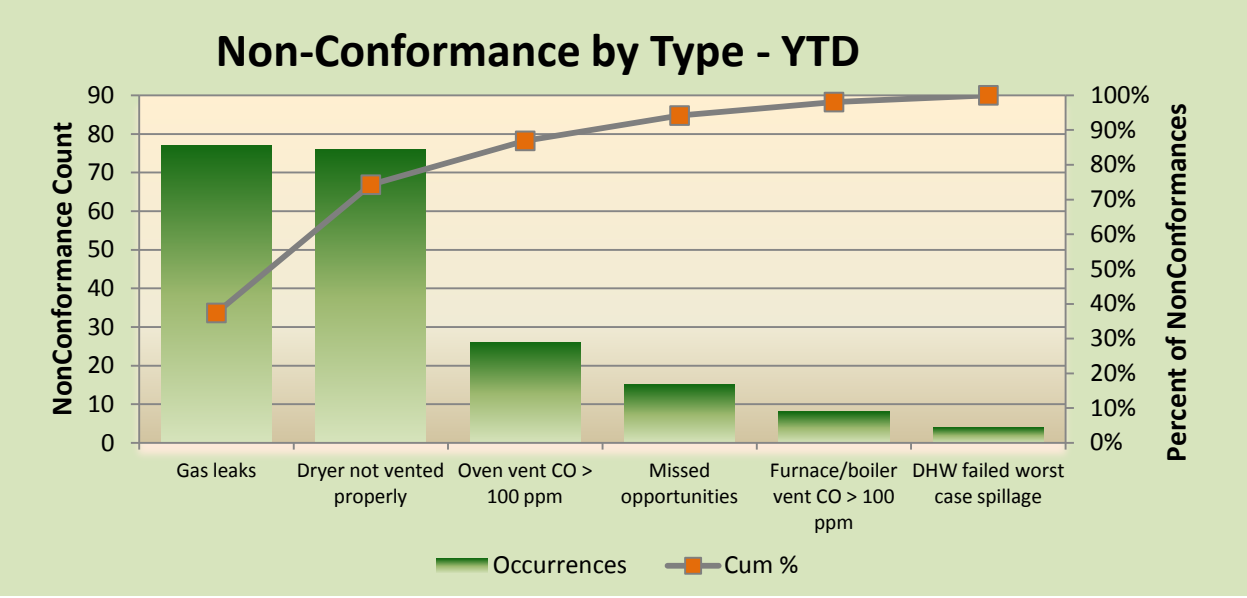
Improve Program Performance

- Perform consistent project inspection testing
  - Have a written process
- Gather good data
  - Determine most common deficiencies
- Do something with the data
  - Training

Gas Leaks

- Across Home Performance projects of all types, the most common non-conformance.



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Gas Leaks

- Patterns

  gas leak rates varied widely by region and QA inspector.

  higher occurrences where equipment lacked sensitivity to detect to 20 ppm (draft BPI Std).

  higher occurrences in some contractors.

- Key Finding

  program lacked detection and calibration standard.

Next Steps

- Proper equipment
- Training

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Gas Leak Program

- Training
  - On-site hands on training
  - Webinar
  - DVD

- Training Equipment Incentives
  - Limit up-front costs

Gas Leak Program

- Gas Equipment Specification Requirements
  - Must detect leaks at 20 ppm or less (methane)
  - Must have a 16 inch flexible probe
  - Must be able to be field calibrated
  - Minimum of 16 hours to a charge
  - Adjustable audio alarm
  - Visual LED or similar output

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Gas Leak Program

- Summary
  - Identify common project deficiency
  - Gather data to better understand cause
  - Identify opportunity for improvement
    - Proper Equipment
    - Training

Enhanced Testing Pilot

- Gauge delivered dense pack levels
  - Probing
  - Borescope
  - IR Camera
- Measure delivered dense pack levels
  - Core Sample

Probing

Kitchen

Dining room

Bedroom

Bedroom

Bedroom

Hallway

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Borescope

Infrared Camera

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Core Sample

Sample 1 [East]: 9.74 grams with a density of 1.5 lb/ft3

Sample 2 [West]: 13.13 grams with a density of 2.1 lb/ft3

Results– Enhanced Testing

- Dense pack installation failures
  - Improper installation techniques
  - Inadequate pressure
  - Failure to take the necessary time

Next Steps

- Using the Dense pack performance data to assess the problem across the program.
- Study results created a baseline.
- Working with program staff to create improvement plan (Advanced Air Sealing Training – Summer 2012).
- Will monitor and assess for improved performance.

Questions?