PROPOSED RULE 1118.1 Control of Emissions From Non-Refinery Flares

Working Group #8

South Coast Air Quality Management District

Diamond Bar, California

September 11, 2018

Agenda

- Progress since last working group meeting
- PR 1118.1 universe
- Revised list of potentially impacted flares
- Revised rule concepts

Progress Since Last Meeting

- Last Working Group Meeting – July 25th
- Met with key stakeholders:
  - Flare manufacturer
- Received landfill data from stakeholder
- Re-visited data and potentially affected flares
- Distributed “Notice of Rulemaking” to owners and operators of external combustion devices that may be subject to PR1118.1
- Released Preliminary Draft Rule Language
- Released list of potentially impacted facilities

Proposed Rule 1118.1 Universe

§ PR 1118.1 includes landfills, wastewater treatment plants, oil and gas extraction and "other flaring"

- ü "Other flaring" includes truck, railcar and terminal unloading, tank degassing

§ PR 1118.1 does not include flares at petroleum refineries, sulfur recovery plants, and hydrogen plants subject to Rule 1118

- ü Rule 1118 applies to all flares at the applicable facilities

Potentially Affected Flares

- During last working group meeting, staff presented the number of potentially impacted flares based on the capacity threshold concept
- Staff reviewed and revised data based on feedback from stakeholders
  - Some landfills were mis-categorized (open versus closed)
    - Number of potentially impacted landfill flares reduced from 36 to 28
  - Flare included as “other flare” exceeding threshold re-categorized
    - Hoag Hospital flare combusting process gas from abandoned oil and gas field

Potentially Affected Flares (cont'd)

Gas Flared	Initial Proposal		Revised Proposal	
	Affected Flares	NOx Red. (tpd)	Affected Flares	NOx Red. (tpd)
Oil and Gas	5	0.012	6	0.014
Landfill gas	29	0.281	21	0.21
Digester Gas	1	0.007	1	0.007
Other Flare Gas	1	0.001	0	0
TOTAL	**36**	**0.30**	**28**	**0.23**

Rule Concepts

Structure of Proposed Rule 1118.1

- Purpose
- Applicability
- Definitions
- Requirements
- Extension Provision
- Source Tests
- Monitoring, Recordkeeping, and Reporting Requirements
- Exemptions

Revisions Since March 2018 Rule Concepts

§ Staff revised rule language released in March
  - ü Added 10 definitions
  - ü Removed 4 definitions
  - ü Revised 8 definitions

§ Changed requirements from replacement of old flares and beneficial use provision to a capacity threshold to reduce routine flaring

§ Revised and clarified the subdivision for source testing and monitoring, recordkeeping and reporting (MRR)

§ Added subdivisions for an extension provision and exemptions

Key Definitions Added (cont'd)

§ Several new definitions included to explain capacity threshold determination
  - ü Annual Throughput
  - ü Capacity
  - ü Capacity Threshold

§ Proposed rule includes flexibility for threshold determination - volume or heat input
  - ü Throughput and/or heat input monitored at least monthly

Key Definitions Added for Threshold

ANNUAL THROUGHPUT means the volume of gas or vapor in million standard cubic feet (MMscf) that is combusted in a flare or flare station in one calendar year, excluding gas used solely to maintain the pilot light

CAPACITY is the maximum volumetric flow rate of gas or vapor that the flare or flare station is rated to process in units of scf per minute or the maximum heat input rate of the flare or flare station in units of million British thermal units (MMBtu) per hour.

CAPACITY THRESHOLD is the percentage of the capacity used to flare gas when an owner or operator of a flare or flare station must take action to reduce NOx emissions and/or reduce the throughput to the flare.

Key Definitions Added (cont'd)

ASSIST GAS means a higher heating value gas required for complete combustion of the gas or vapor stream being routed to the flare burner.

§ Some vapors and gases being combusted in a flare require assist gas
§ Definition included because assist gas may be required when source testing flares used in some processes

Other Key Definitions Added (cont'd)

OPEN FLARE means an unshrouded flare.

- Definition included as separate threshold proposed for open flares
- Approximately 11 open flares in the District, some already slated for replacement

Proposed Requirements

§ If flare throughput below threshold, no action required

§ If flare throughput above threshold

- ü Notify District of action to reduce flare throughput or
- ü Submit application for flare replacement that meets the limits below

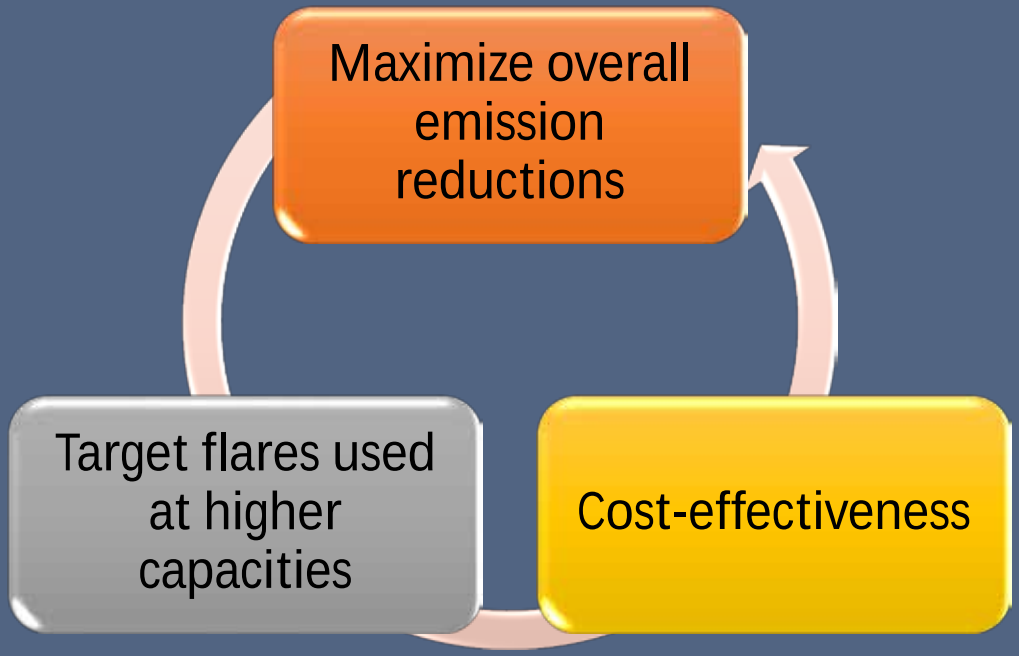
Table 1 – Emission Limit (pounds/MMBtu)

Flare Gas[1]	NOx	VOC	CO
Digester gas	0.025	0.038	0.06
Landfill gas	0.025	0.038	0.06
Process gas	0.018	0.008	0.06
Other flare gas	0.036	0.038	0.06

1. Emission limits for flaring Regeneration Gas to be determined when combusting by 100% biogas.

Capacity Threshold Considerations

- As discussed in last working group meeting, proposed threshold is based on capacity
  - Decided capacity was best metric to determine routine flaring
  - Different thresholds for different industry
  - Driven by potential NOx emission reductions and cost-effectiveness



Revised Thresholds

- Current proposal eliminates capacity threshold for “other flaring”
  - Very low volume of gas flares
  - Less beneficial use opportunities
- Proposed requirement for ‘other flaring’ is emission limits for new or relocated flares
- Proposal retains threshold for open flares which could impact ‘other flaring’ and require flare action

Table 2 - Capacity Thresholds by Gas Flared

Flare Gas	Threshold
Any gas combusted in an open flare	5%
Digester gas	70%
Landfill gas	20%
Process gas	5%

Comments on Initial Compliance Schedule

Stakeholder feedback - additional time and more flexibility requested

- 3+ years to install or replace flare
- Minimum of 3 – 5 years to develop beneficial use project
- Short compliance timeframe could lead facilities to install new flares
- In 5 – 10 years, landfills will develop additional beneficial use projects

- Need flexibility for threshold exceedance to address one high flaring year

Staff Response

Revised proposal includes longer timeframes and potential extensions upon approval

Revised proposal does not require action until two consecutive years of exceedances

Revised Compliance Schedule (cont'd)

Previously Proposed Compliance Schedule

First year

- Monitor throughput and determine percent capacity
- First exceedance of annual capacity threshold
  - Action required in 6 months

Revised Compliance Schedule

First year

- Monitor throughput and determine percent capacity

Second year

- Report any exceedance from first year
- Monitor throughput and determine percent capacity

Third year

- Report any exceedance from second year
  - Action required in 6 months of second consecutive exceedance

Revised Compliance Schedule (cont'd)

Previously Proposed Compliance Schedule

After first year of exceedance

Flare replacement within 12 months of SCAQMD permit issuance

Revised Compliance Schedule

After second consecutive annual exceedance

Flare replacement within 12 months of SCAQMD permit issuance

- 12 month extension(s) upon approval

Flare reduction within 36 months

- 12 month extension(s) upon approval

Revised Compliance Schedule (cont'd)

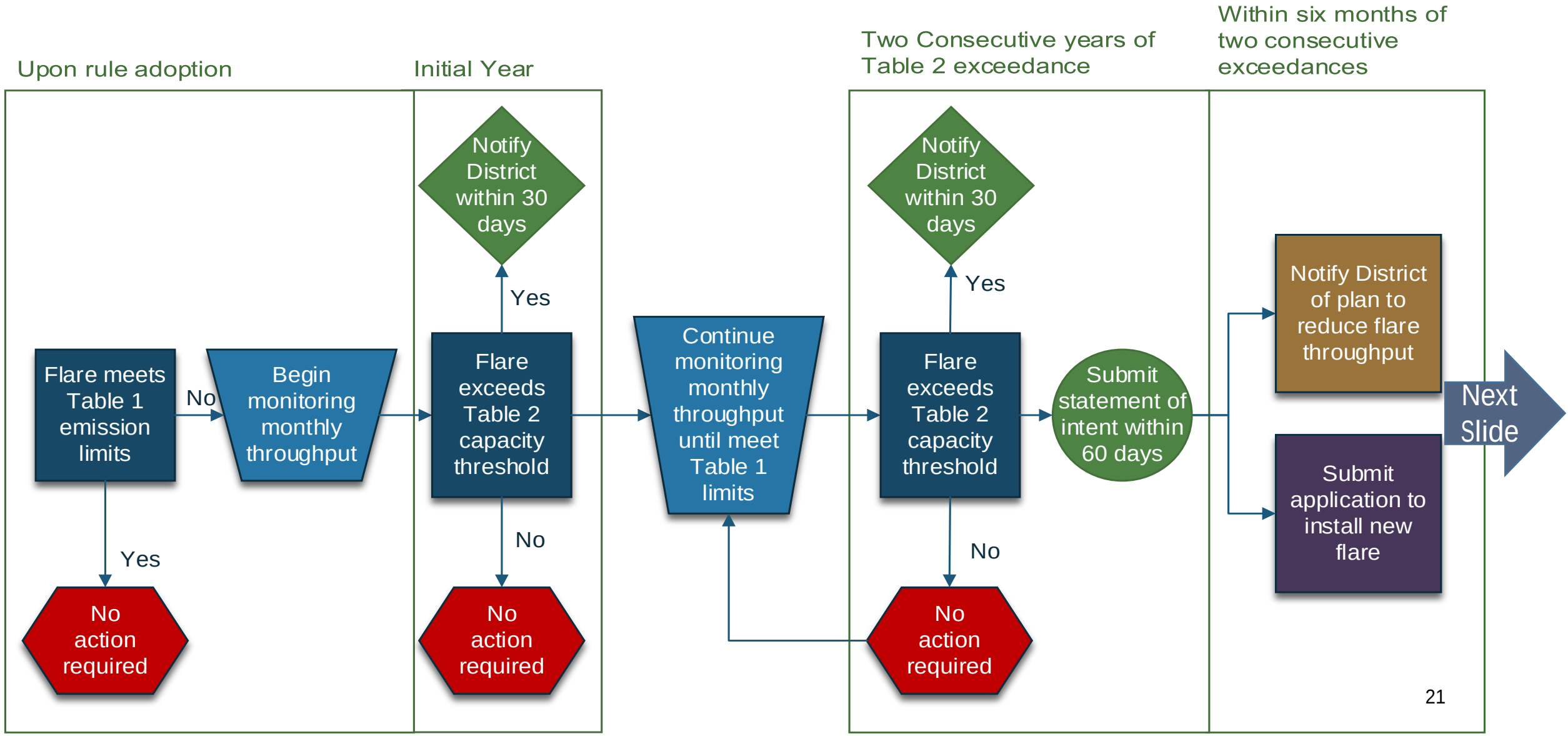
Previously Proposed Compliance Schedule

Action required in ~3 years of rule adoption

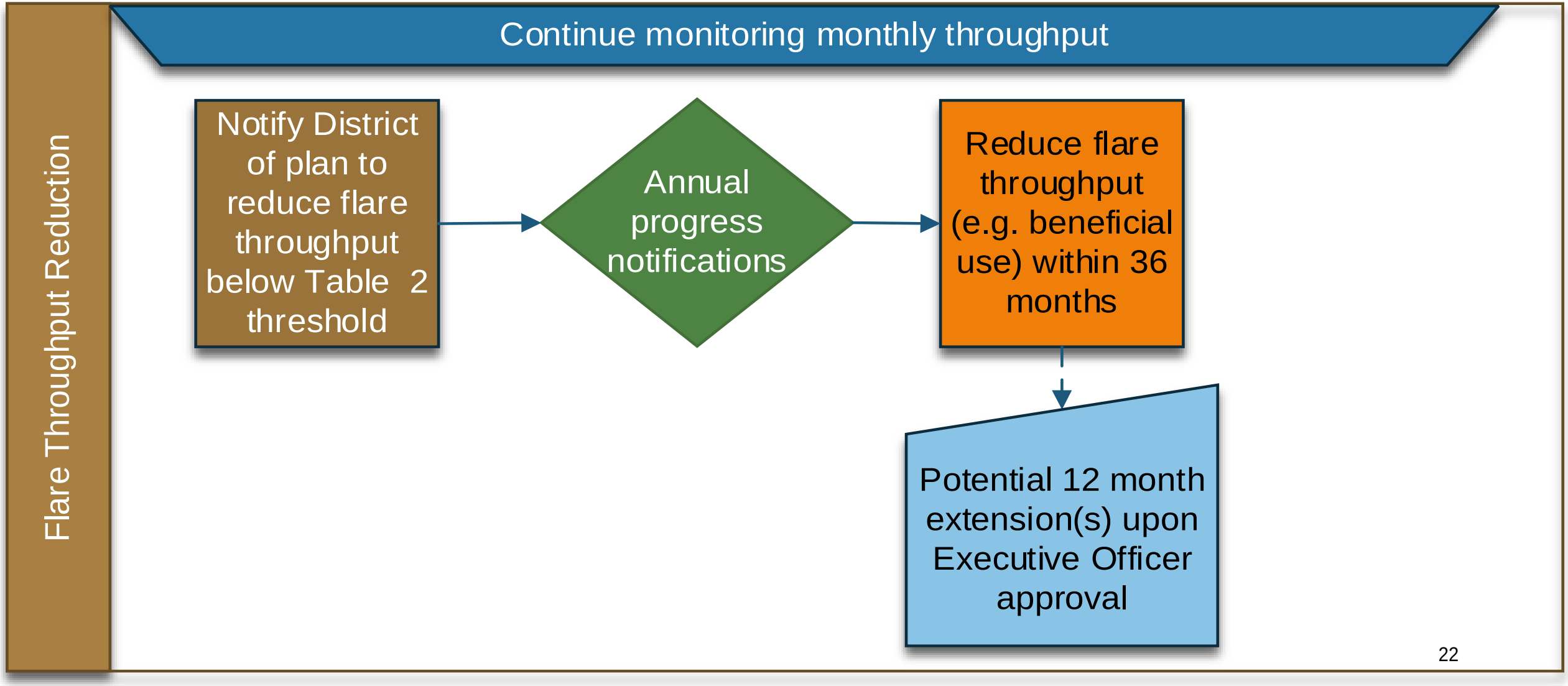
Revised Compliance Schedule

Action required in 4+ years of rule adoption – with potential extension(s)

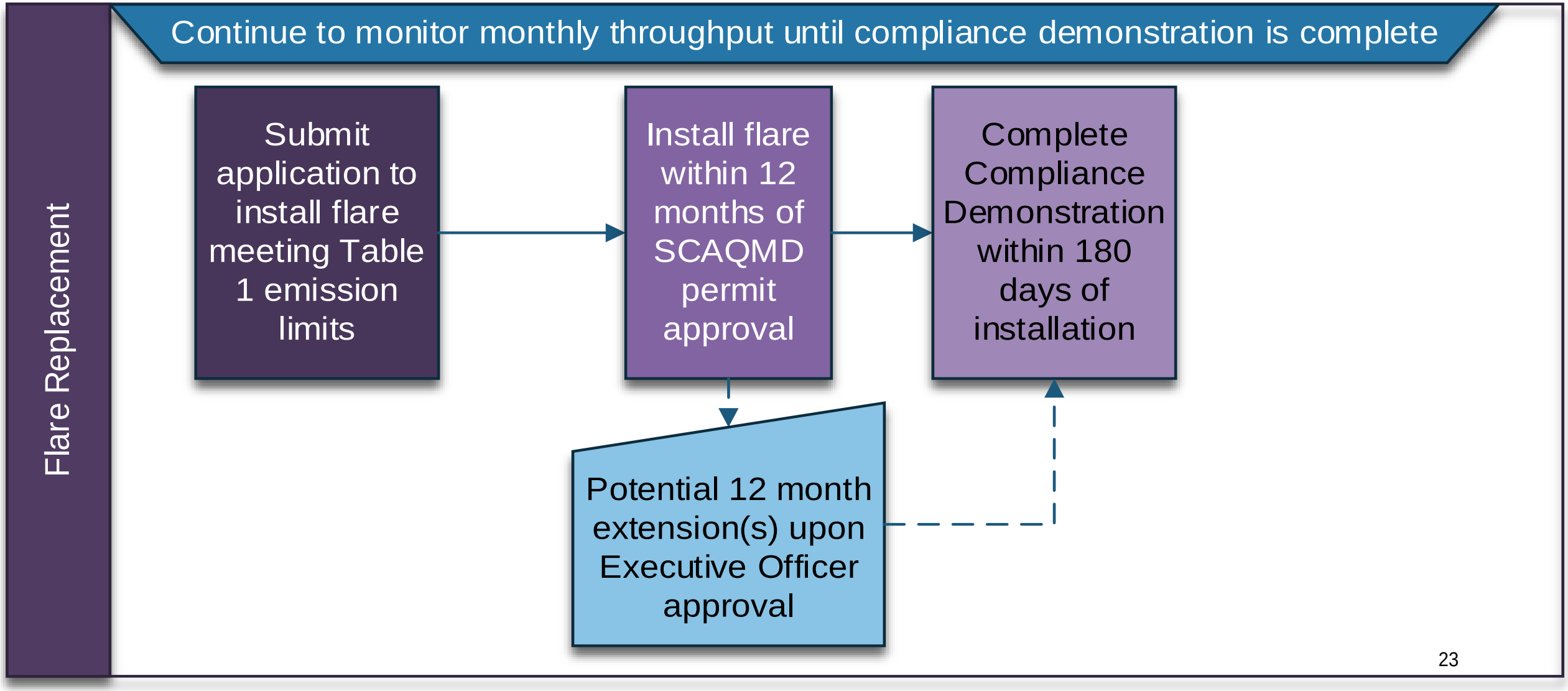
Proposed Compliance Schedule



Proposed Compliance Schedule (cont'd)



Proposed Compliance Schedule (cont'd)



Source Testing and Monitoring, Recordkeeping, and Reporting (MRR)

- Sections were expanded and clarified
- MRR includes
  - Formula for calculating percent capacity based on either MMscf or MMBtu
  - Formula for calculating NOx emissions per month
  - Reporting requirements within 30 days if capacity threshold is exceeded

Exemption Section

- Exemptions included for flares:
  - Subject to 1118
  - At landfills that cease accepting waste and generate less than 2,000 MMscf
    - Increased exemption from 1,000 to 2,000 MMscf after revising landfill data
  - Permitted as various location flares that operate for no longer than 12 months at the same location
    - Portable flares can be used for digester start up or oil exploration before gas is produced in sufficient quality or quantity

Exemption Section (cont.)

- Exempt low-use (<200 hours) and low-emitting flares (<30 lbs. of NOx/month)
- Exempt open flares from source test requirements
- Exempt time, heat input, emissions, and volume generated during source testing when calculating percent capacity or the low-use/low-emitting exemption

Next Steps for Rule Development

- Continue to meet with stakeholders
- Revise rule language based on stakeholder comments
  - Comments received by September 11th will be considered for preliminary draft rule language
- Release preliminary draft staff report
- Schedule Public Workshop
- CEQA and Socioeconomic assessments

Contact Information

Steve Tsumura
Air Quality Specialist
909-396-2549
stsumura@aqmd.gov