SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 2011 PROTOCOL - APPENDIX A

Proposed Amended Rule 2011 - Protocol for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO_X) Emissions

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Attachment D - List of Acronyms and Abbreviations

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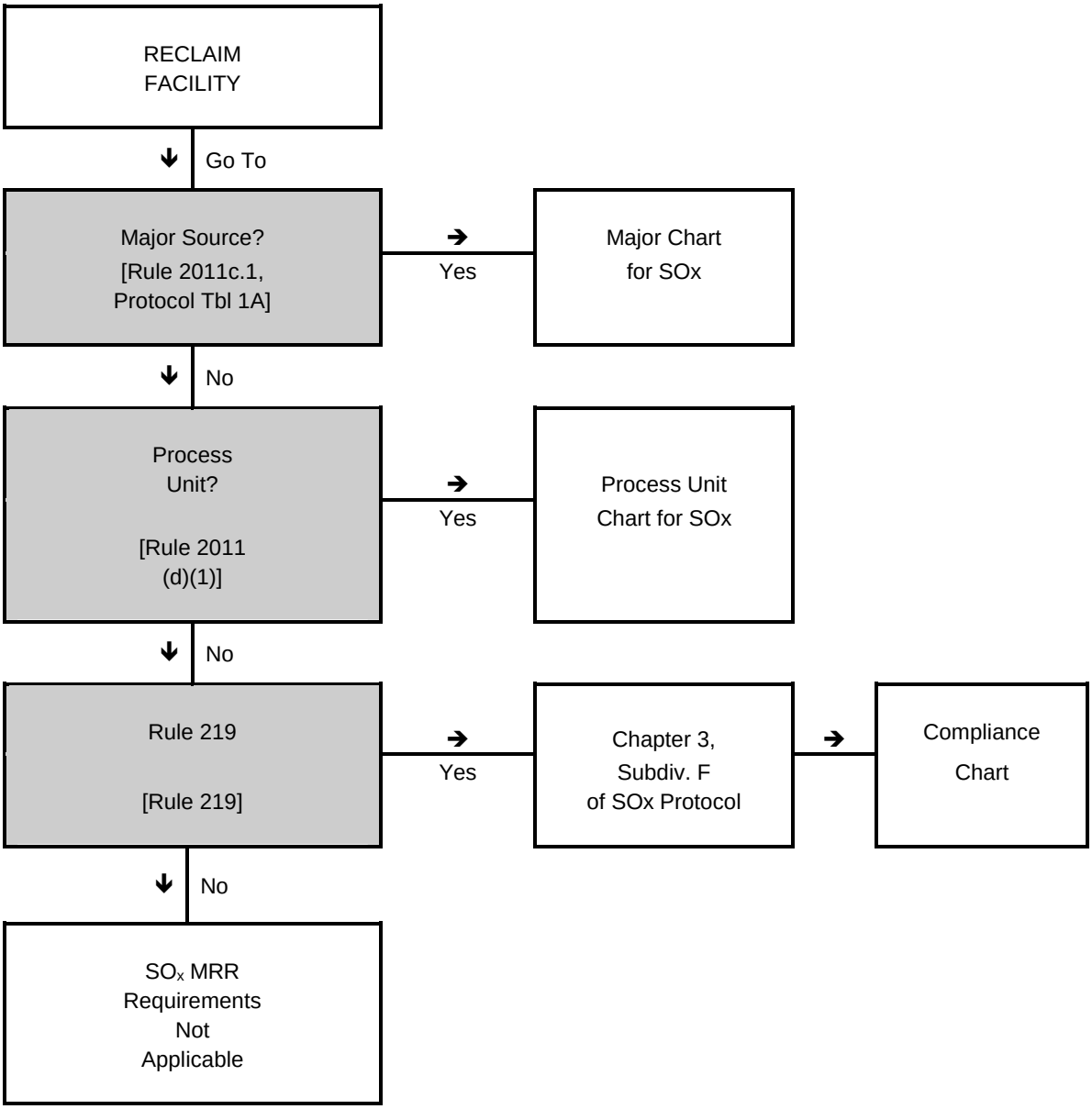
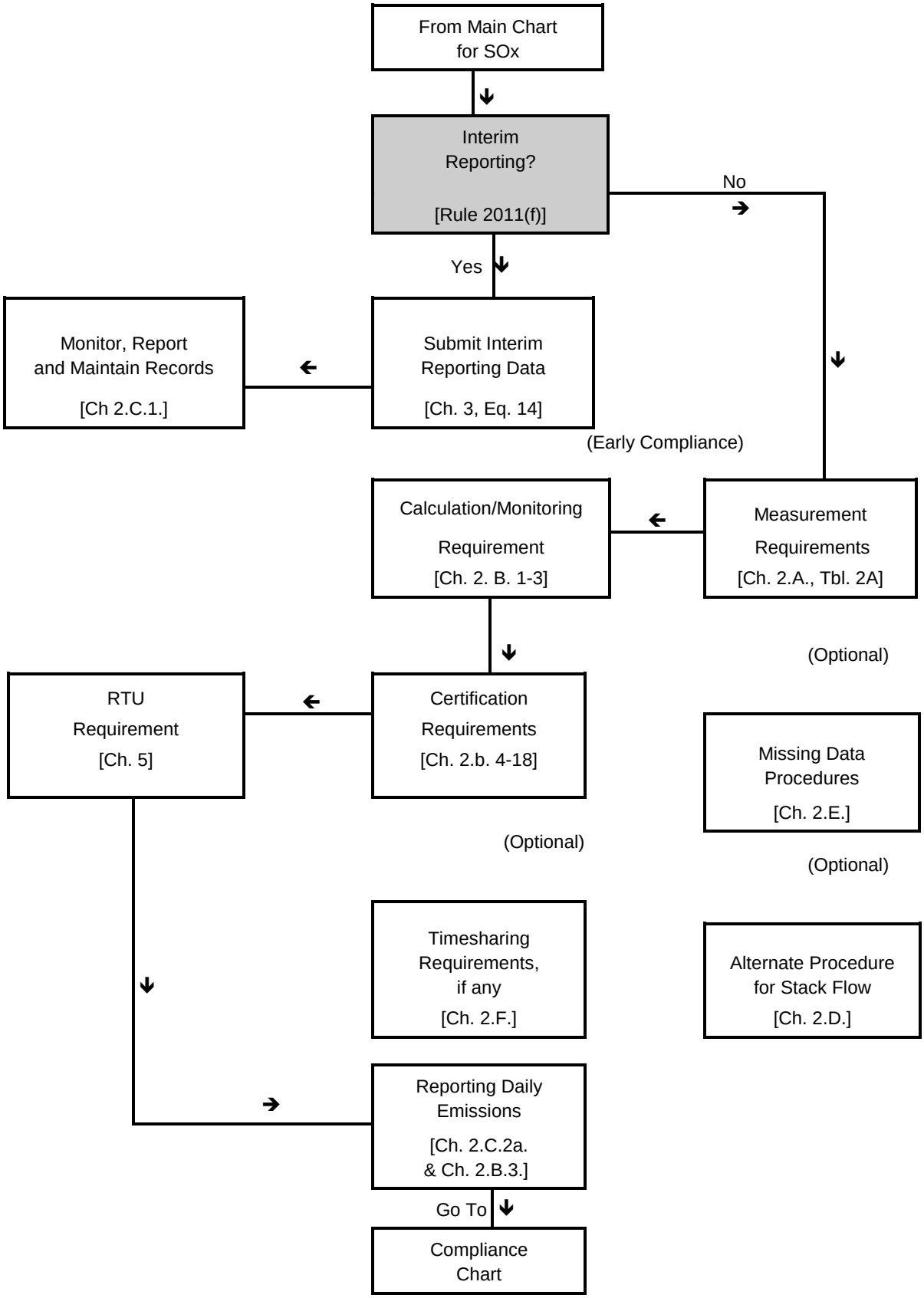
Attachment F - Supplemental and Alternative CEMS Performance Requirements for Low SOx Concentrations

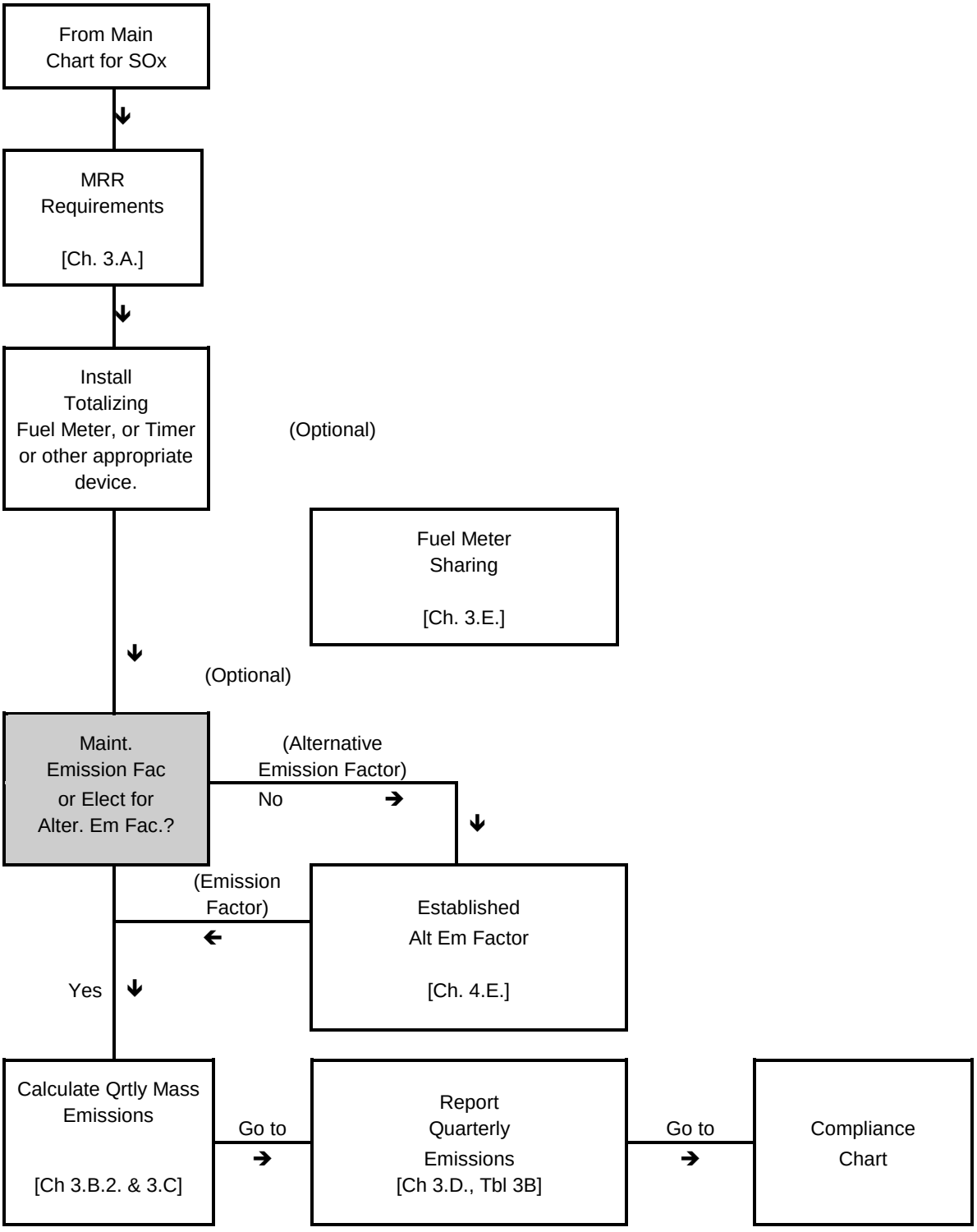
Main Chart for SOx



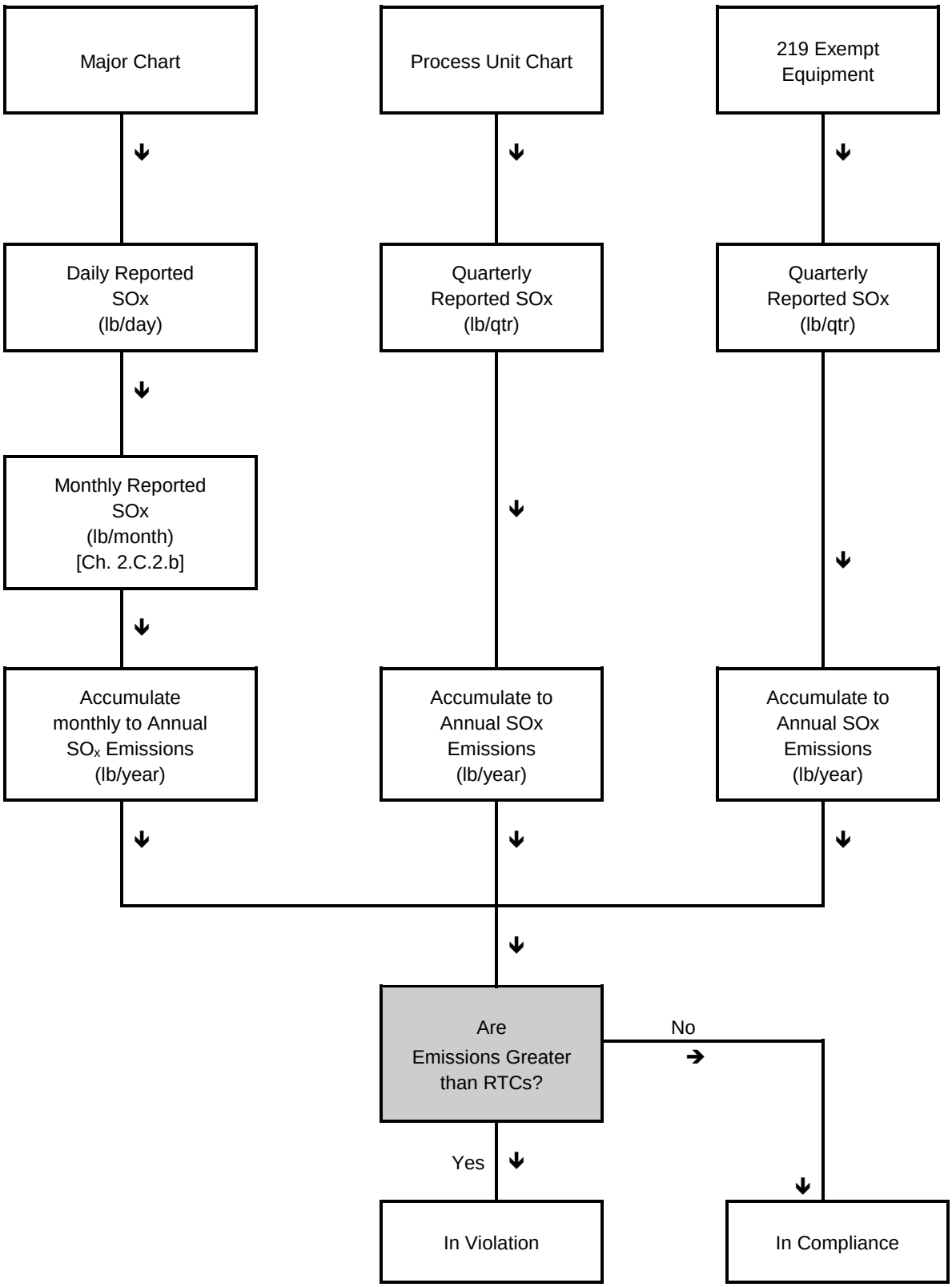
Major Chart for SOx



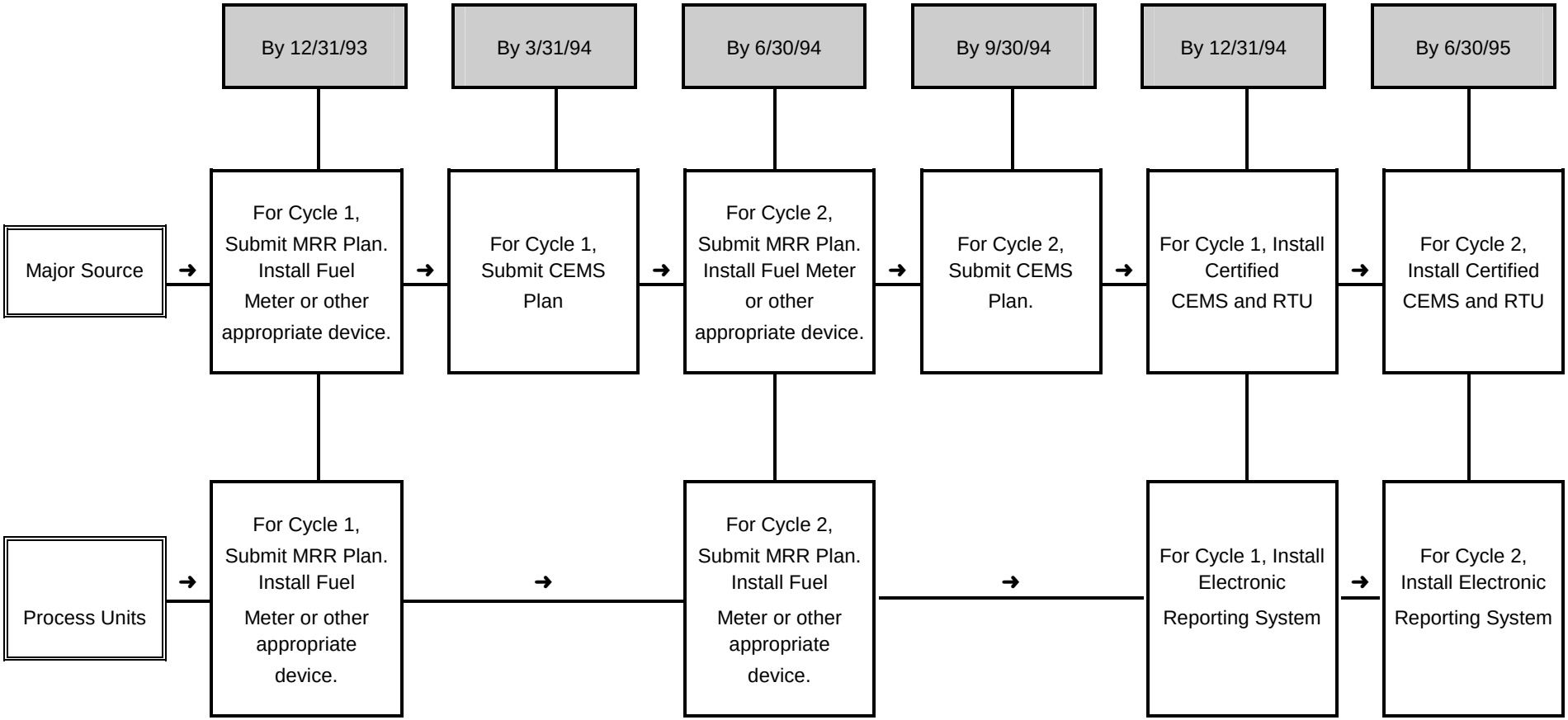
Process Chart For SOx



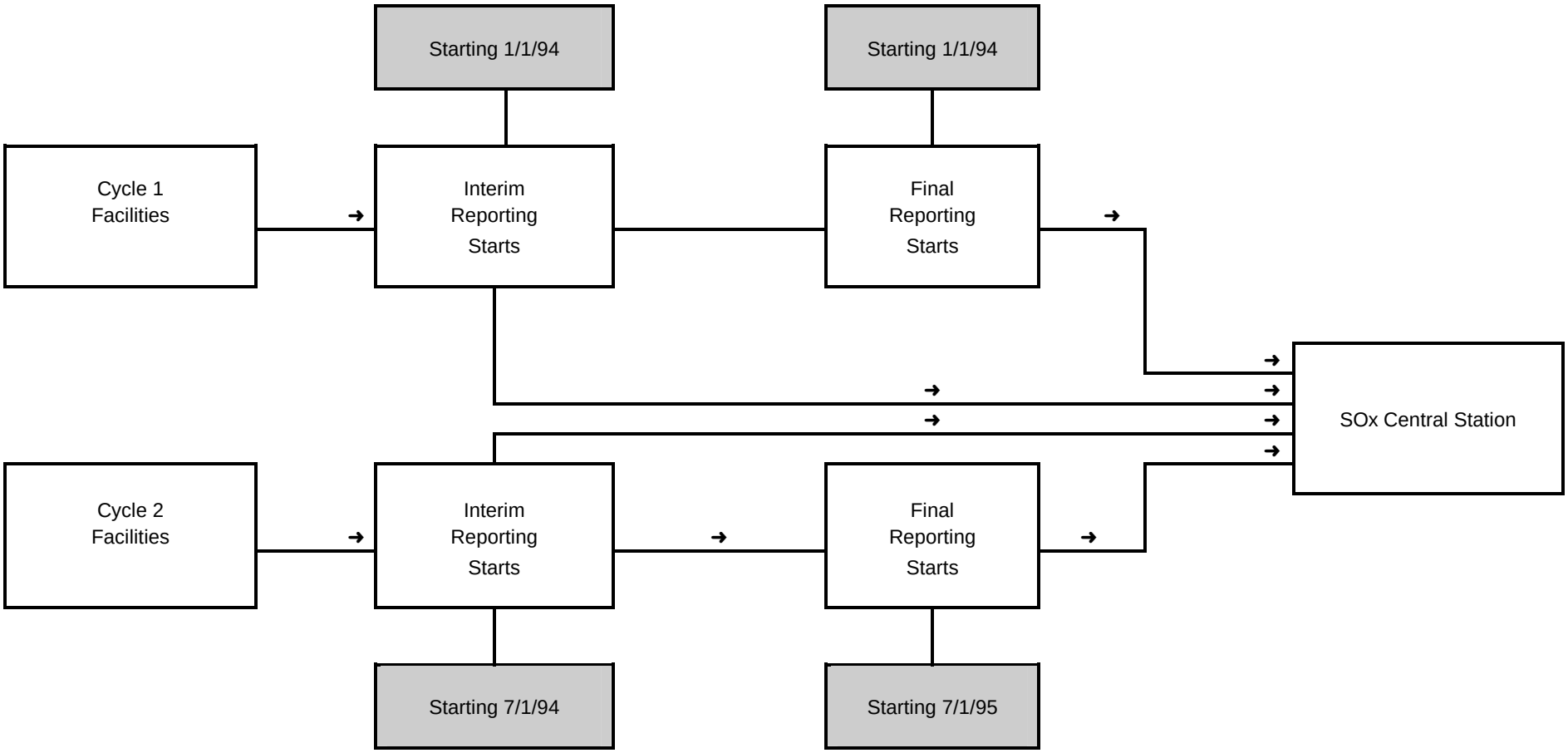
Compliance Chart For SOx



SOx Timeline Chart For Plan, Certification And Installation



Timeline for SO_x Emission Reporting



Note 1: The Facility Permit Holder shall submit a variance to the hearing board, if any of the deadlines are not met.
Note 2: Refer to Chapter 6 of SOx Protocol for remedial actions required when the loss of categorization status occurs.

PROPOSED AMENDED RULE 2011 PROTOCOL- CHAPTER 1

OVERVIEW

This document provides the technical specifications for normally operated RECLAIM sources subject to District Rule 2011 "Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO_X) Emissions". District Rule 2011 divides sources into three categories - major sources, SO_X process units and Rule 219 - "Equipment Not Requiring a Written Permit Pursuant to Regulation II" sources. The one difference in requirements between these source categories is the monitoring approach. A major source shall be monitored by a continuous emissions monitoring system (CEMS) or alternative monitoring system, while a SO_X process unit has the option to be monitored manually based on fuel usage and emission factor.

Oxides of sulfur (SOx) emissions shall be composed of sulfur dioxide (SO_2) emissions. No later than June 30, 1994 the Executive Officer will determine the feasibility for estimating sulfur trioxide (SO_3) emissions as a function of SO_2 emissions for a petroleum refinery fluid catalytic cracking unit. If the Executive Officer determines that the surrogate approach is feasible then a unit-specific protocol will be developed by the Executive Officer by August 31, 1994. The Facility Permit holder of a petroleum refinery fluid catalytic cracking unit shall apply the protocol prospectively to determine SOx emissions on both SO_2 and SO_3 emissions. If the Executive Officer determines that the surrogate approach is not feasible then SOx emissions shall continue to be based only on SO_2 emissions.

These SO_X source categories also differ in the way in which they transmit data to the District's Central Station and the reporting frequency. Major sources shall electronically transmit the data via an RTU on a daily basis. In addition, aggregated SO_X emissions from all major sources must be submitted in a Monthly Emissions Report. SO_X process units have the option to report SO_X emissions as part of the Quarterly Certification of Emissions required by Rule 2004 - Requirements.

The criteria for determining the major source applicability is presented in Table 1-A. A SO_X process unit is one or more piece(s) of equipment which is not a major source, provided that each equipment in a process unit is subject to an identical emission factor specified in subdivision (d) of Rule 2011.

The Facility Permit will limit mass emissions in accordance with the following relationship:

$$\sum E_{CEMS} + \sum E_{EF} + \sum E_{219} \leq RTCs$$

where:

$\sum E_{CEMS}$	=	sum of facility emissions monitored by CEMS or alternative monitoring system
$\sum E_{EF}$	=	sum of facility emissions from process units subject to emission factors $(EF)_{pu}$
$\sum E_{219}$	=	sum of facility emissions from equipment exempt under Rule 219, subject to emission factor $(EF)_{219}$.
RTC	=	RECLAIM Trading Credit held by the Facility Permit holder

The fuel usage for any process unit or equipment exempt under Rule 219 shall not exceed the value determined in accordance with the following relationship:

$$\sum (FxEF)_{pu} + \sum (FxEF)_{219} < RTC - \sum E_{CEMS}$$

where:

F = Fuel usage for the process unit or equipment exempt under Rule 219

The Facility Permit holder shall document the duration of operating time of any rental equipment or equipment operated by a contractor at the RECLAIM facility. Emissions generated at the RECLAIM facility by either rental equipment or equipment not listed or required to be listed under the Facility Permit and operated by a contractor, which exceeds 72 hours of operation in a quarter, shall be determined and reported by the Facility Permit holder according to the applicable methodology specified for each major source or process unit or Rule 219 exempt equipment.

The duration of operating time and emissions from equipment operated by contractors need not be monitored or reported if the equipment is exclusively used for the following purposes that do not contribute to the manufacturing process:

- Landscaping and grounds maintenance;
- Maintenance and repair of structure, equipment, and their appurtenances;
- Construction and demolition; or
- Environmental investigation, testing, and remediation.

Emissions resulting from equipment during breakdowns shall be quantified in a manner specified by the Executive Officer in accordance with the following criteria:

1. When emissions are within the valid monitoring range of the monitor, the emissions shall be calculated based on the methodology pursuant to Chapters 2 and 3.
2. When emissions exceed the valid monitoring range of the monitor, the emissions may be calculated based on any one or more of the following:
    - Source test data
    - Fuel flow or throughput
    - Sulfur content of fuel during the breakdown period
    - Emission factor
    - Control efficiencies
    - Any other relevant data that may be used to determine emissions during breakdown.

This document has been divided into chapters addressing the various compliance aspects of Rule 2011. A summary of each chapter follows:

CHAPTER 2: MAJOR SOURCES - CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)

Chapter 2 describes the methodologies for measuring and reporting SO_X emissions from major sources. If a major source category is applicable, then the Facility Permit holder shall be required to comply with the performance standards associated with a CEMS or an equivalent monitoring device.

For major sources, measurement and reporting requirements apply to variables used to calculate the SO_X emissions as well as the variables used to track the operation of basic, control, and monitoring equipment.

Unless specifically exempted by Rule 2011, the Facility Permit holder shall measure and record all applicable variables as specified in Table 2-A.

Several important aspects of Chapter 2 include:

- equations describing the method used to calculate SO_X emissions,
- operational requirements,
- obtaining valid data points,
- alternative data acquisition methods,
- accuracy requirements,
- quality assurance procedures,
- missing data procedures,
- final and interim reporting procedures, and
- timesharing

CHAPTER 3: PROCESS UNITS - PERIODIC REPORTING AND RULE 219 EQUIPMENT

Chapter 3 describes the measuring and reporting requirements for the SO_X process unit category and equipment exempt from permit under Rule 219. SO_X process units which comprise of one or more pieces of equipment in accordance with Rule 2011 shall base emission calculations primarily on fuel consumption or operating time in conjunction with the emission factor. The requirements and procedures for an emission factor and election conditions for an alternative emission factor shall apply to process units. These SO_X process units may include equipment that are lumped together only if the units have the same emission factor.

Important aspects of Chapters 3 include equations describing the method used to calculate SO_X emissions and reporting procedures for process units as well as determining SO_X emissions from equipment exempt under Rule 219.

CHAPTER 4: PROCESS UNITS - SOURCE TESTING

This Chapter presents a brief description of the required test methods for determining alternative emission factors for process units .

CHAPTER 5: REMOTE TERMINAL UNITS - ELECTRONIC REPORTING

Once the variables for determining emissions and equipment operations have been measured, the measured data would be stored at the facility. In addition, selected measured and calculated data would be transmitted to the District's Central Station Computer. This storing and transmitting of data for major sources shall be performed by the remote terminal unit (RTU).

Chapter 5 specifies tasks and characteristics required of the RTU as well as a guide for providing the required software/hardware for the RTU. In addition, this chapter serves as a:

- functional guideline for operating requirements of the RTU, and
- information source concerning RTU hardware/software procurement, configuration, installation, maintenance, and compatibility with the CEMS and the District's Central Station.

TABLE 1-A
Criteria for Determining Major SO_X Source Category

- Any petroleum refinery fluid catalytic cracking units;
- Any tail gas unit;
- Any sulfuric acid production unit;
- Any equipment that burns refinery, landfill, and sewage digester gaseous fuels, except gas flare;
- Any existing equipment using SO_X CEMS, or equivalent monitoring device, or required to install such monitoring device under District rules to be implemented as of October 15, 1993
- Any SO_X source or process unit elected by the Facility Permit holder or required to be monitored with a CEMS, or equivalent monitoring device; and
- Any SO_X source or process unit for which SO_X emissions reported pursuant to Rule 301 were equal to or greater than 10 tons/yr for any calendar year from 1987 to 1991, inclusive, excluding any SO_X source or process unit which has reduced SO_X emissions to below 10 tons per year to January 1, 1994.