

Prevention through People

Control Room Management Workshop



Control Room Practices and Change Management

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INGAA

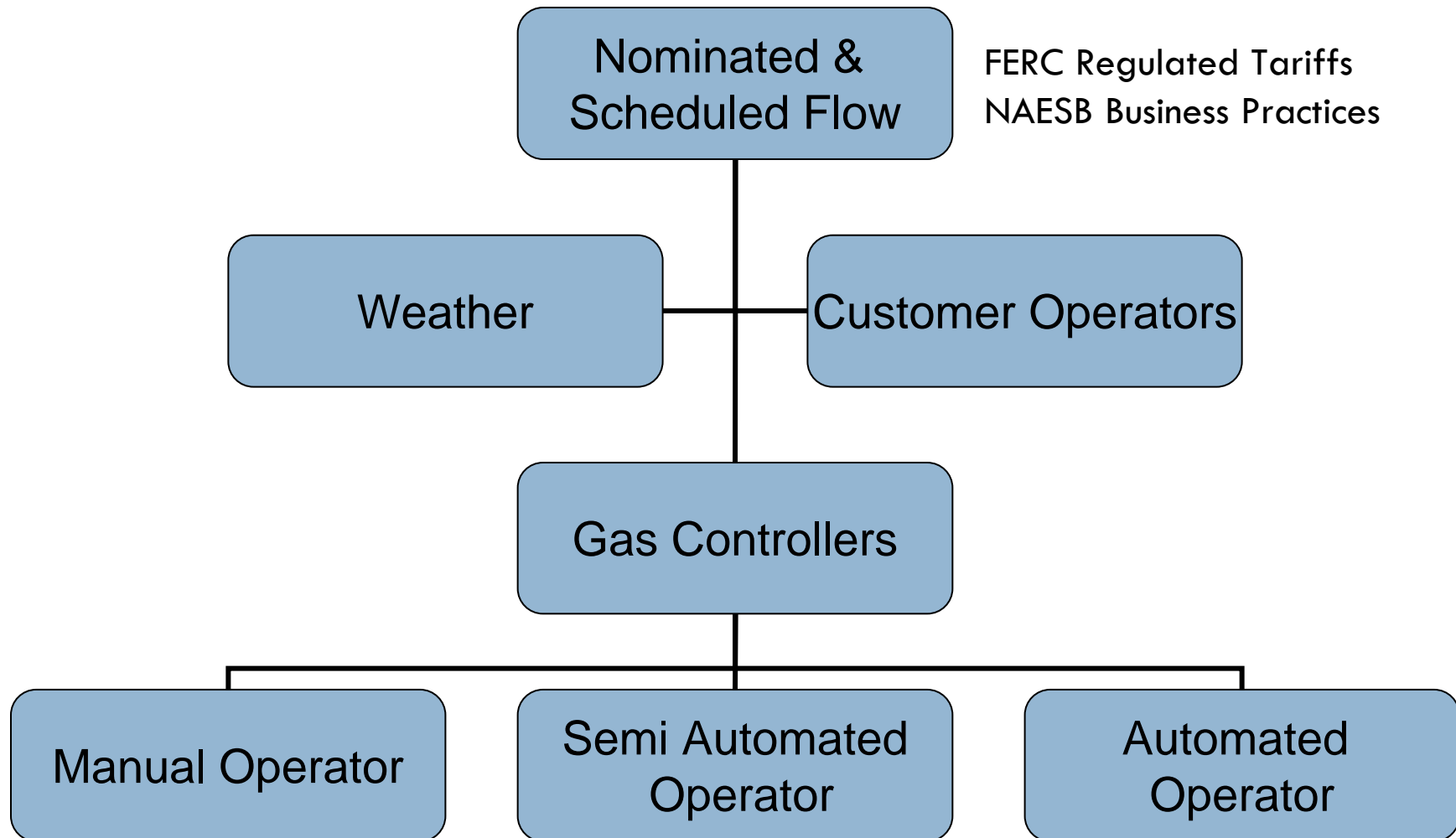
Sr. VP Environment Safety
and Operations

Natural Gas Pipeline Safety

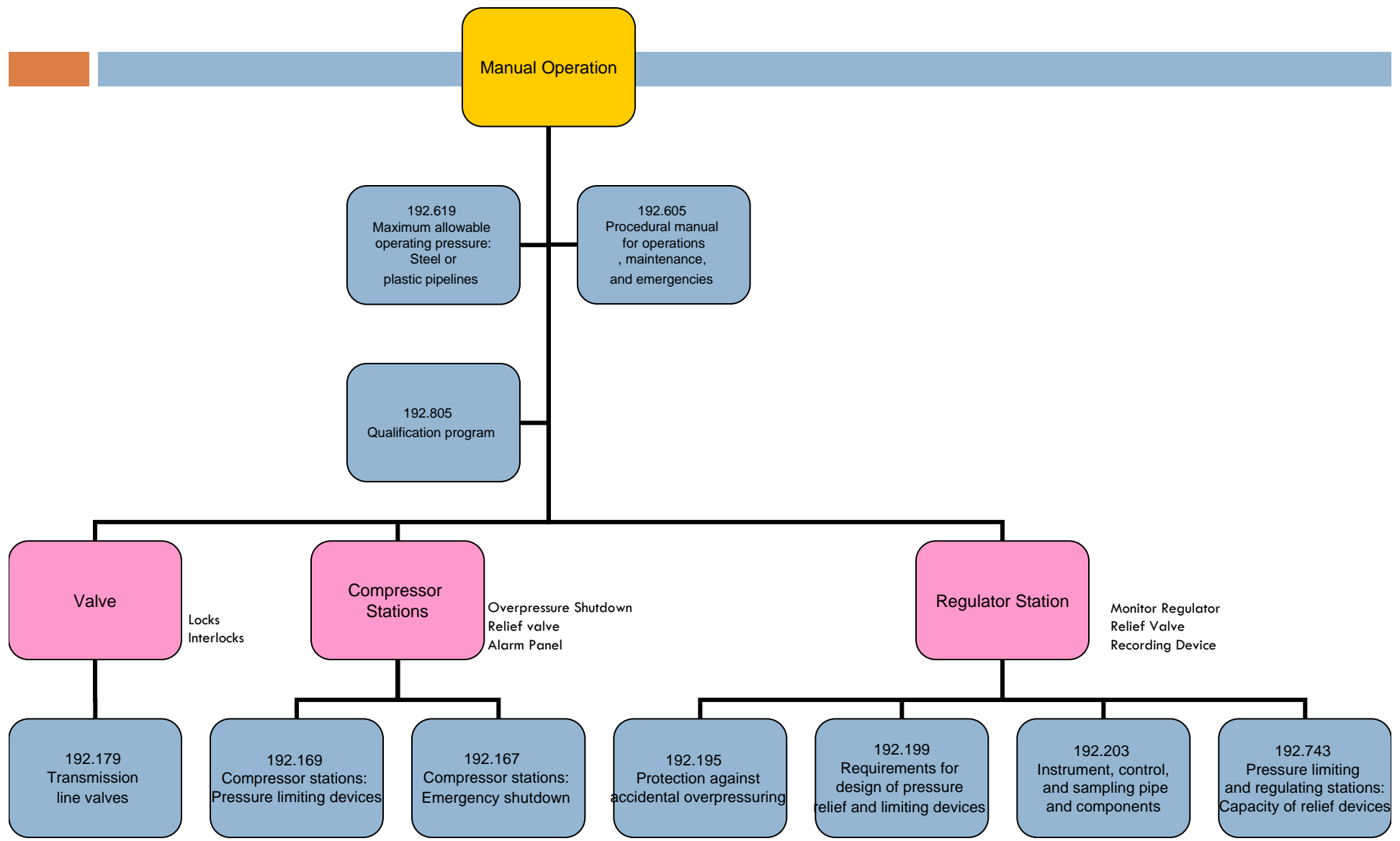
Incident means any of the following events:

1. An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility and
 - i. A death, or personal injury necessitating in-patient hospitalization; or
 - ii. Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.
2. An event that results in an emergency shutdown of an LNG facility.
3. An event that is significant, in the judgement of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

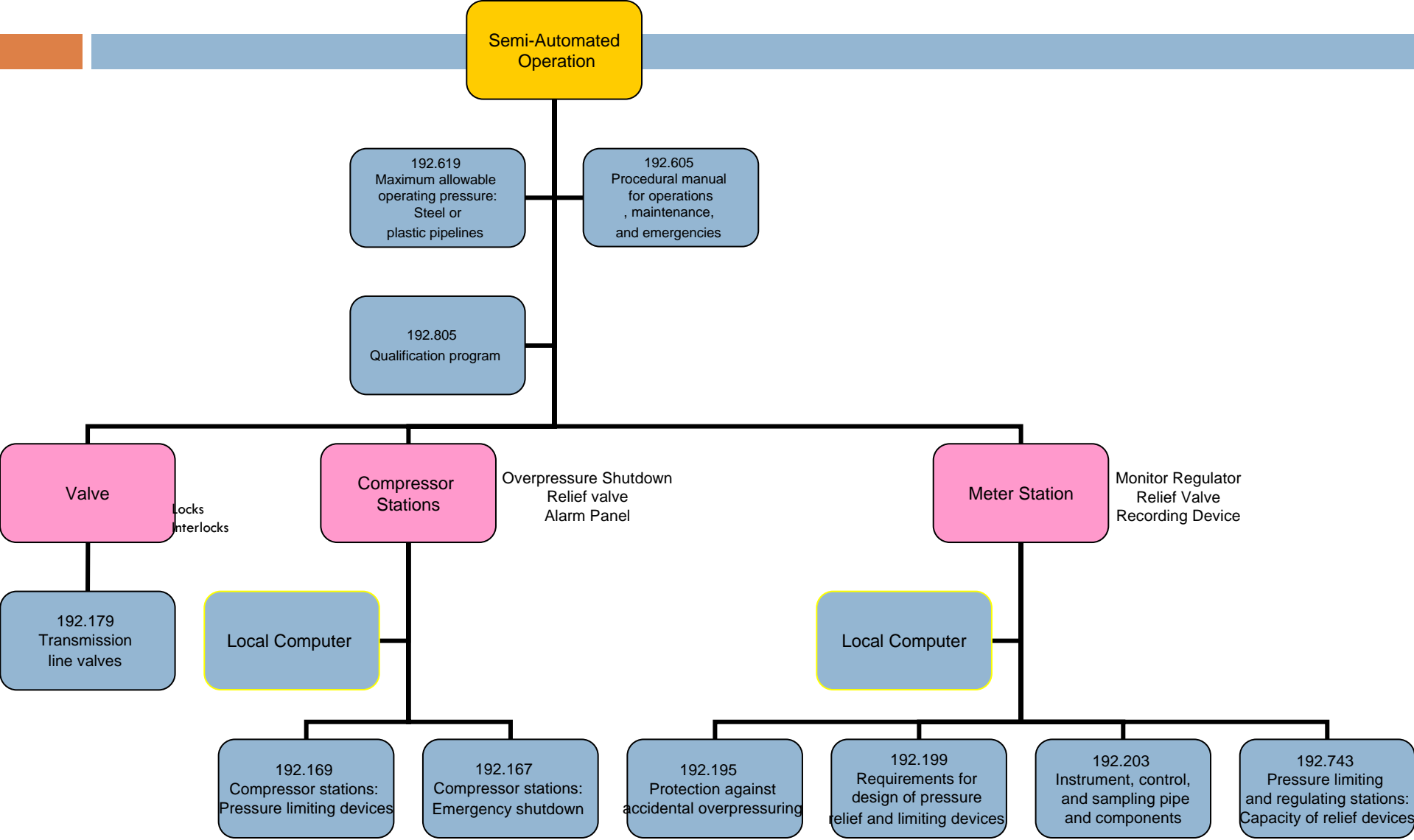
Interstate Natural Gas Pipeline Gas Control Business Structure



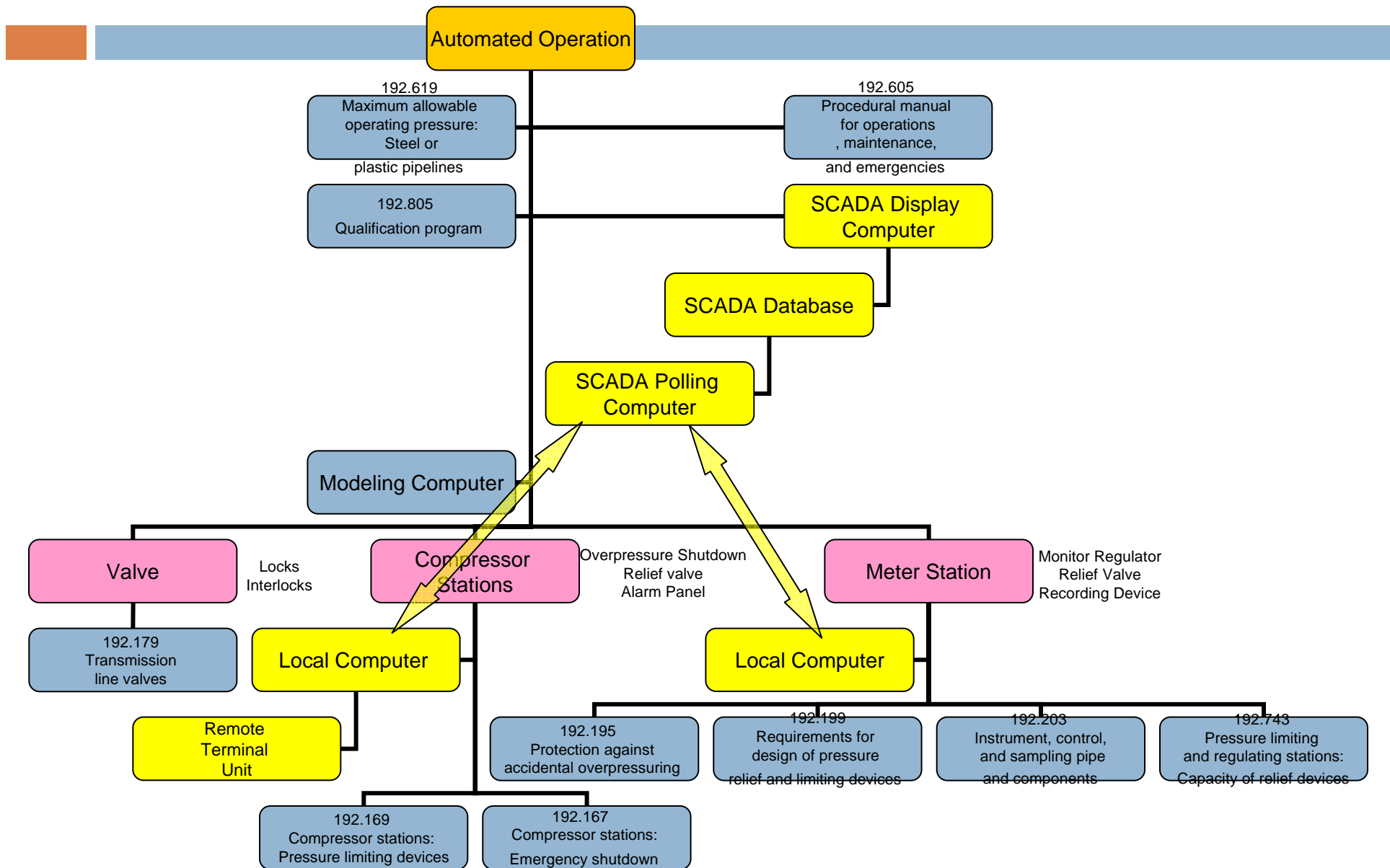
Manual Operation Interstate Natural Gas Pipelines



Semi - Automated Operation Interstate Natural Gas Pipelines



Automated Operation Interstate Natural Gas Pipelines



Roles and Responsibilities of Interstate Natural Gas Pipeline Controllers

□ **Business Needs**

- Responsibility to schedule compression units and storage to achieve the confirmed nominations.
- Responsibility to reallocate compression units and storage to adjust for unforeseen outages to achieve confirmed nominations
- Responsibility to reallocate compression units and storage to adjust for planned maintenance outages to achieve confirmed nominations
- Responsibility to provide advice on the availability of pipeline segment for service based on potential nominations

Roles and Responsibilities of Interstate Natural Gas Pipeline Controllers

□ **Pipeline Safety Needs**

- *Responsibility to monitor alarms and outside communications that may indicate an incident that could result in pipeline safety concerns.*
- *Responsibility to communicate with outside parties to obtain specific information on a potential pipeline safety concern.*
- *Responsibility to communicate with pipeline company personnel and make them aware of a potential pipeline safety situation.*
- *Responsibility to coordinate with SCADA and Operation personnel on SCADA functional system changes and temporary changes to SCADA pipeline operation (e.g. maintenance lock out / tag out; MAOP reductions).*

Shift Turn-over Information and Procedures



□ **Business Needs**

- Provide documentation of the compression units and storage to achieve the confirmed nominations.
- Provide documentation of the compression units, storage and pipeline segments that are out of service.
- Provide documentation of confirmed nominations
- Provide documentation of forecasted customer takes.

Shift Turn-over Information and Procedures

□ **Pipeline Safety Needs**

- *Be able to communicate present alarms and outside communications that may indicate an incident that could result in pipeline safety concerns.*
- *Be able to communicate present communications with pipeline company personnel concerning a potential pipeline safety situation*
- *Be able to communicate temporary changes to MAOP operating setpoints (i.e. lower setpoints)*
- *Be able to communicate Lock out / Tag out information*

Controller Qualification and Performance Metrics



□ **Business Needs**

- Have skills to schedule individual compression and storage service to meet customer nominations
- Have skills to predict impacts of out of service facilities on potential customer nominations

Controller Qualification and Performance Metrics

□ **Pipeline Safety Needs**

- *Have skills necessary to detect and respond to alarms and outside communications that may indicate an incident that could result in public safety concerns.*
- *Have skills necessary to communicate with outside parties to obtain specific information on a potential public safety concern.*
- *Have skills necessary to communicate with pipeline company personnel and make them aware of a potential public safety situation*
- *Have skills necessary to understand the process of functional system changes and temporary changes to SCADA pipeline operation*

Management of Change in procedures and operating practices



□ **Business Needs**

- Processes should be in place that depict the change in customer nominations for controllers
- Processes should be in place that depict the changes in the availability of pipeline segments, compression and storage for controllers

Management of Change in procedures and operating practices

□ **Pipeline Safety Needs**

- *Pipeline companies should have a process in place to involve and educate controllers on changes to the SCADA system that affect pipeline safety*
- *Pipeline companies should have a process in place to educate controllers on changes and additions to the pipeline system*
- *Pipeline companies should have a process in place to educate controllers on changes to communication systems for internal communication and outside communication that will be used in the identification of a potential pipeline safety situation or will provide ongoing communication during an incident*
- *Pipeline companies should have a process to identify internal personnel on duty that could be involved in responding to a potential pipeline safety situations.*