

Although PHMSA does not have revenue data for the individual small pipeline operators, based on the most recent published operator revenue data, the estimated costs are significantly less than one percent of revenues for most firms and there is not likely to be a significant impact on a substantial small number of operators.⁸

Therefore, based on this information showing that the economic impact of this rule on small entities will be minor, I certify under section 605 of the Regulatory Flexibility Act that these regulations will not have a significant impact on a substantial number of small entities. The final Regulatory Flexibility Analysis is available in the docket.

D. Executive Order 13175

PHMSA has analyzed this rulemaking action according to Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments." Because this rulemaking action would not significantly or uniquely affect the communities of the Indian tribal governments or impose substantial direct compliance costs, the funding and consultation requirements of Executive Order 13175 do not apply.

E. Paperwork Reduction Act

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), DOT will submit all necessary documents to request the Office of Management and Budget (OMB) grant approval for a new information collection. A copy of the analysis document will also be entered in the docket. The RIA contains detailed information on how PHMSA arrived at the cost and time estimates noted below.

This final rule contains information collection requirements that affect hazardous liquid and gas pipeline systems. The rule requires hazardous liquid and gas pipeline operators to keep records on the following sections: Control room management procedures; roles and responsibilities of pipeline controllers; information on SCADAs, fatigue mitigation; alarm management; change management; operating experience; training; compliance validation; and deviations. PHMSA estimates that it would take pipeline operators approximately 127,328 hours per year to comply with the rule's recordkeeping and record retention requirements. PHMSA estimates that the

total costs are approximately between \$4.3 million and \$5.9 million the first-year and approximately between \$4.2 million and \$5.8 million in successive years. The RIA has the details on the estimates used in this analysis.

F. Unfunded Mandates Reform Act of 1995

This rulemaking action does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of \$141.3 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of this rulemaking action.

G. National Environmental Policy Act

PHMSA has analyzed this rulemaking action for the purposes of the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*). The agency has determined that implementation of this rule will not have any significant impact on the quality of the human environment. The environmental assessment is available for review in the docket.

H. Executive Order 13132

PHMSA has analyzed this rulemaking action according to Executive Order 13132 ("Federalism"). The rulemaking action does not have a substantial direct effect on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. This rulemaking action does not impose substantial direct compliance costs on State and local governments. Further, no consultation is needed to discuss the preemptive effect of the proposed rule. The pipeline safety laws, specifically 49 U.S.C. 60104(c), prohibits State safety regulation of interstate pipelines. Under the pipeline safety law, States have the ability to augment pipeline safety requirements for intrastate pipelines regulated by PHMSA, but may not approve safety requirements less stringent than those required by Federal law. A State may also regulate an intrastate pipeline facility PHMSA does not regulate. It is these statutory provisions, not the rule, that govern preemption of State law. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

I. Executive Order 13211

Transporting gas and hazardous liquids impacts the nation's available energy supply. However, this rulemaking action is not a "significant

energy action" under Executive Order 13211 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, the Administrator of the Office of Information and Regulatory Affairs has not identified this rulemaking action as a significant energy action.

J. Privacy Act Statement

You may search the electronic form of comments received in response to any of our dockets by the name of the individual submitting the comment (or signing the comment if submitted for an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477).

List of Subjects

49 CFR Part 192

Incorporation by reference, Gas, Natural gas, Pipeline safety, Reporting and recordkeeping requirements.

49 CFR Part 195

Anhydrous ammonia, Carbon dioxide, Incorporation by reference, Petroleum, Pipeline safety, Reporting and recordkeeping requirements.

■ For the reasons set forth in the preamble, the Pipeline and Hazardous Materials Safety Administration is amending 49 CFR Chapter I as follows:

PART 192—TRANSPORTATION OF NATURAL GAS AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS

■ 1. The authority citation for part 192 is revised to read as follows:

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60110, 60113, 60116, 60118, and 60137; and 49 CFR 1.53.

■ 2. In § 192.3, definitions for "alarm," "control room," "controller," and "Supervisory Control and Data Acquisition (SCADA) system" are added in appropriate alphabetical order as follows:

§ 192.3 Definitions.

* * * * *

Alarm means an audible or visible means of indicating to the controller that equipment or processes are outside operator-defined, safety-related parameters.

Control room means an operations center staffed by personnel charged with the responsibility for remotely monitoring and controlling a pipeline facility.

Controller means a qualified individual who remotely monitors and

⁸ See: <http://www.ibisworld.com/industry/retail.aspx?indid=1179&chid=1>; <http://www.ibisworld.com/industry/retail.aspx?indid=1184&chid=1>; <http://www.ibisworld.com/industry/retail.aspx?indid=1181&chid=1>; http://www.bts.gov/publications/national_transportation_statistics/html/table_03_18.html.

controls the safety-related operations of a pipeline facility via a SCADA system from a control room, and who has operational authority and accountability for the remote operational functions of the pipeline facility.

* * * * *

Supervisory Control and Data Acquisition (SCADA) system means a

computer-based system or systems used by a controller in a control room that collects and displays information about a pipeline facility and may have the ability to send commands back to the pipeline facility.

* * * * *

■ 3. Amend § 192.7 as follows:

- a. In paragraph (b) add “202–366–4595” after “20590–001;”
- b. In the table in paragraph (c)(2), item B.(7) is added to read as follows:

§ 192.7 What documents are incorporated by reference partly or wholly in this part?

- * * * * *
- (c) * * *
- (2) * * *

Source and name of referenced material

49 CFR reference

Source and name of referenced material	49 CFR reference
B. * * * (7) API Recommended Practice 1165 “Recommended Practice for Pipeline SCADA Displays,” (API RP 1165) First edition (January 2007).	§ 192.631(c)(1).

* * * * *

■ 4. In § 192.605, paragraph (b)(12) is added to read as follows:

§ 192.605 Procedural manual for operations, maintenance, and emergencies.

* * * * *

(b) * * *
(12) Implementing the applicable control room management procedures required by § 192.631.

* * * * *

■ 5. In § 192.615, paragraph (a)(11) is added to read as follows:

§ 192.615 Emergency plans.

(a) * * *
(11) Actions required to be taken by a controller during an emergency in accordance with § 192.631.

* * * * *

■ 6. Section 192.631 is added to Subpart L to read as follows:

§ 192.631 Control room management.

(a) *General.*
(1) This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section, except that for each control room where an operator’s activities are limited to either or both of:
(i) Distribution with less than 250,000 services, or
(ii) Transmission without a compressor station, the operator must have and follow written procedures that implement only paragraphs (d) (regarding fatigue), (i) (regarding compliance validation), and (j) (regarding compliance and deviations) of this section.

(2) The procedures required by this section must be integrated, as appropriate, with operating and emergency procedures required by §§ 192.605 and 192.615. An operator must develop the procedures no later than August 1, 2011 and implement the procedures no later than February 1, 2012.

(b) *Roles and responsibilities.* Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller’s prompt and appropriate response to operating conditions, an operator must define each of the following:

- (1) A controller’s authority and responsibility to make decisions and take actions during normal operations;
- (2) A controller’s role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller’s responsibility to take specific actions and to communicate with others;
- (3) A controller’s role during an emergency, even if the controller is not the first to detect the emergency, including the controller’s responsibility to take specific actions and to communicate with others;
- (4) A method of recording controller shift-changes and any hand-over of responsibility between controllers.

(c) *Provide adequate information.* Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:

- (1) Implement sections 1, 4, 8, 9, 11.1, and 11.3 of API RP 1165 (incorporated by reference, see § 192.7) whenever a SCADA system is added, expanded or

replaced, unless the operator demonstrates that certain provisions of sections 1, 4, 8, 9, 11.1, and 11.3 of API RP 1165 are not practical for the SCADA system used;

(2) Conduct a point-to-point verification between SCADA displays and related field equipment when field equipment is added or moved and when other changes that affect pipeline safety are made to field equipment or SCADA displays;

(3) Test and verify an internal communication plan to provide adequate means for manual operation of the pipeline safely, at least once each calendar year, but at intervals not to exceed 15 months;

(4) Test any backup SCADA systems at least once each calendar year, but at intervals not to exceed 15 months; and

(5) Establish and implement procedures for when a different controller assumes responsibility, including the content of information to be exchanged.

(d) *Fatigue mitigation.* Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller’s ability to carry out the roles and responsibilities the operator has defined:

- (1) Establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve eight hours of continuous sleep;
- (2) Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue;
- (3) Train controllers and supervisors to recognize the effects of fatigue; and
- (4) Establish a maximum limit on controller hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

(e) *Alarm management.* Each operator using a SCADA system must have a written alarm management plan to provide for effective controller response to alarms. An operator's plan must include provisions to:

(1) Review SCADA safety-related alarm operations using a process that ensures alarms are accurate and support safe pipeline operations;

(2) Identify at least once each calendar month points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities;

(3) Verify the correct safety-related alarm set-point values and alarm descriptions at least once each calendar year, but at intervals not to exceed 15 months;

(4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan;

(5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not to exceed 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and

(6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section.

(f) *Change management.* Each operator must assure that changes that could affect control room operations are coordinated with the control room personnel by performing each of the following:

(1) Establish communications between control room representatives, operator's management, and associated field personnel when planning and implementing physical changes to pipeline equipment or configuration;

(2) Require its field personnel to contact the control room when emergency conditions exist and when making field changes that affect control room operations; and

(3) Seek control room or control room management participation in planning prior to implementation of significant pipeline hydraulic or configuration changes.

(g) *Operating experience.* Each operator must assure that lessons

learned from its operating experience are incorporated, as appropriate, into its control room management procedures by performing each of the following:

(1) Review incidents that must be reported pursuant to 49 CFR part 191 to determine if control room actions contributed to the event and, if so, correct, where necessary, deficiencies related to:

- (i) Controller fatigue;
- (ii) Field equipment;
- (iii) The operation of any relief device;
- (iv) Procedures;
- (v) SCADA system configuration; and
- (vi) SCADA system performance.

(2) Include lessons learned from the operator's experience in the training program required by this section.

(h) *Training.* Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:

(1) Responding to abnormal operating conditions likely to occur simultaneously or in sequence;

(2) Use of a computerized simulator or non-computerized (tabletop) method for training controllers to recognize abnormal operating conditions;

(3) Training controllers on their responsibilities for communication under the operator's emergency response procedures;

(4) Training that will provide a controller a working knowledge of the pipeline system, especially during the development of abnormal operating conditions; and

(5) For pipeline operating setups that are periodically, but infrequently used, providing an opportunity for controllers to review relevant procedures in advance of their application.

(i) *Compliance validation.* Upon request, operators must submit their procedures to PHMSA or, in the case of an intrastate pipeline facility regulated by a State, to the appropriate State agency.

(j) *Compliance and deviations.* An operator must maintain for review during inspection:

(1) Records that demonstrate compliance with the requirements of this section; and

(2) Documentation to demonstrate that any deviation from the procedures required by this section was necessary for the safe operation of a pipeline facility.

PART 195—TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE

■ 7. The authority citation for part 195 is amended to read as follows:

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60116, 60118, and 60137; and 49 CFR 1.53.

■ 8. In § 195.2, definitions for "alarm," "control room," "controller," and "Supervisory Control and Data Acquisition (SCADA) system" are added in appropriate alphabetical order as follows:

§ 195.2 Definitions.

* * * * *

Alarm means an audible or visible means of indicating to the controller that equipment or processes are outside operator-defined, safety-related parameters.

* * * * *

Control room means an operations center staffed by personnel charged with the responsibility for remotely monitoring and controlling a pipeline facility.

Controller means a qualified individual who remotely monitors and controls the safety-related operations of a pipeline facility via a SCADA system from a control room, and who has operational authority and accountability for the remote operational functions of the pipeline facility.

* * * * *

Supervisory Control and Data Acquisition (SCADA) system means a computer-based system or systems used by a controller in a control room that collects and displays information about a pipeline facility and may have the ability to send commands back to the pipeline facility.

* * * * *

■ 9. Amend 195.3 as follows:

■ a. In paragraph (b) add "202-366-4595" after "20590-001";

■ b. In the table in paragraph (c) items B.(18) and B.(19) are added to read as follows:

§ 195.3 Incorporation by reference.

* * * * *

(c) * * *

Source and name of referenced material

49 CFR reference

- B. * * *
- (18) API Recommended Practice 1165 "Recommended Practice for Pipeline SCADA Displays," (API RP 1165) First Edition (January 2007). § 195.446(c)(1).
- (19) API Recommended Practice 1168 "Pipeline Control Room Management," (API RP 1168) First Edition (September 2008). § 195.446(c)(5).

■ 10. In § 195.402, paragraph (c)(15) and (e)(10) are added to read as follows:

§ 195.402 Procedural manual for operations, maintenance, and emergencies.

* * * * *

(c) * * *

(15) Implementing the applicable control room management procedures required by § 195.446.

* * * * *

(e) * * *

(10) Actions required to be taken by a controller during an emergency, in accordance with § 195.446.

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■ 11. Section 195.446 is added to read as follows:

§ 195.446 Control room management.

(a) *General.* This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. The procedures required by this section must be integrated, as appropriate, with the operator's written procedures required by § 195.402. An operator must develop the procedures no later than August 1, 2011 and implement the procedures no later than February 1, 2012.

(b) *Roles and responsibilities.* Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1) A controller's authority and responsibility to make decisions and take actions during normal operations;

(2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others;

(3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others; and

(4) A method of recording controller shift-changes and any hand-over of responsibility between controllers.

(c) *Provide adequate information.*

Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:

(1) Implement API RP 1165 (incorporated by reference, *see* § 195.3) whenever a SCADA system is added, expanded or replaced, unless the operator demonstrates that certain provisions of API RP 1165 are not practical for the SCADA system used;

(2) Conduct a point-to-point verification between SCADA displays and related field equipment when field equipment is added or moved and when other changes that affect pipeline safety are made to field equipment or SCADA displays;

(3) Test and verify an internal communication plan to provide adequate means for manual operation of the pipeline safely, at least once each calendar year, but at intervals not to exceed 15 months;

(4) Test any backup SCADA systems at least once each calendar year, but at intervals not to exceed 15 months; and

(5) Implement section 5 of API RP 1168 (incorporated by reference, *see* § 195.3) to establish procedures for when a different controller assumes responsibility, including the content of information to be exchanged.

(d) *Fatigue mitigation.* Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:

(1) Establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve eight hours of continuous sleep;

(2) Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue;

(3) Train controllers and supervisors to recognize the effects of fatigue; and

(4) Establish a maximum limit on controller hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

(e) *Alarm management.* Each operator using a SCADA system must have a written alarm management plan to provide for effective controller response to alarms. An operator's plan must include provisions to:

(1) Review SCADA safety-related alarm operations using a process that ensures alarms are accurate and support safe pipeline operations;

(2) Identify at least once each calendar month points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities;

(3) Verify the correct safety-related alarm set-point values and alarm descriptions when associated field instruments are calibrated or changed and at least once each calendar year, but at intervals not to exceed 15 months;

(4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan;

(5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not exceeding 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and

(6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section.

(f) *Change management.* Each operator must assure that changes that could affect control room operations are coordinated with the control room

personnel by performing each of the following:

(1) Implement section 7 of API RP 1168 (incorporated by reference, see § 195.3) for control room management change and require coordination between control room representatives, operator's management, and associated field personnel when planning and implementing physical changes to pipeline equipment or configuration; and

(2) Require its field personnel to contact the control room when emergency conditions exist and when making field changes that affect control room operations.

(g) *Operating experience.* Each operator must assure that lessons learned from its operating experience are incorporated, as appropriate, into its control room management procedures by performing each of the following:

(1) Review accidents that must be reported pursuant to § 195.50 and 195.52 to determine if control room actions contributed to the event and, if so, correct, where necessary, deficiencies related to:

- (i) Controller fatigue;
- (ii) Field equipment;
- (iii) The operation of any relief device;

- (iv) Procedures;
- (v) SCADA system configuration; and
- (vi) SCADA system performance.

(2) Include lessons learned from the operator's experience in the training program required by this section.

(h) *Training.* Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:

- (1) Responding to abnormal operating conditions likely to occur simultaneously or in sequence;
- (2) Use of a computerized simulator or non-computerized (tabletop) method for training controllers to recognize abnormal operating conditions;
- (3) Training controllers on their responsibilities for communication under the operator's emergency response procedures;
- (4) Training that will provide a controller a working knowledge of the pipeline system, especially during the

development of abnormal operating conditions; and

(5) For pipeline operating setups that are periodically, but infrequently used, providing an opportunity for controllers to review relevant procedures in advance of their application.

(i) *Compliance validation.* Upon request, operators must submit their procedures to PHMSA or, in the case of an intrastate pipeline facility regulated by a State, to the appropriate State agency.

(j) *Compliance and deviations.* An operator must maintain for review during inspection:

- (1) Records that demonstrate compliance with the requirements of this section; and
- (2) Documentation to demonstrate that any deviation from the procedures required by this section was necessary for the safe operation of the pipeline facility.

Issued in Washington, DC, on November 20, 2009 under authority delegated in 49 CFR part 1.

Cynthia L. Quarterman,
Administrator.

[FR Doc. E9-28469 Filed 12-2-09; 8:45 am]

BILLING CODE 4910-60-P