

The Critical Role of Voluntary Standards and Certification in the Hydraulic Fracturing Framework*

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Abstract

Multiple organizations have adopted various versions of best practices in the area of shale gas extraction and production. The experience of the Center for Sustainable Shale Development (“CSSD”) is instructive of the challenges such an initiative faces as well as the potential for impact. CSSD is a non-profit organization formed in 2011 to respond to the growing need for responsible approaches to the prospect of shale gas development in the Appalachian Basin, including the Marcellus and Utica Plays. It has brought together industry and environmental organizations with a goal of ensuring the highest level of environmental and community responsibility when a decision is made to develop and extract shale gas. CSSD's fifteen standards address risks to air and water and define a level of performance intended to reflect best practices and exceed conventional regulatory requirements. In addition, CSSD manages a certification program, identifying producers who meet those standards. In an era when there has been no significant new environmental legislation for decades, and any environmental regulation almost inevitably faces a gauntlet of challenges, the role of a voluntary standards and certification organization becomes more critical and, arguably, more necessary.

CENTER FOR SUSTAINABLE SHALE DEVELOPMENT

*THE CRITICAL ROLE OF VOLUNTARY
STANDARDS AND CERTIFICATION IN THE
HYDRAULIC FRACTURING FRAMEWORK*

EASTERN SECTION MEETING OF THE
AMERICAN ASSOCIATION OF PETROLEUM
GEOLOGISTS

Indianapolis, Indiana

Matt Mahoney
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SHALE IN THE LOWER 48 STATES





WHAT DO WE DO AND WHY?



U.S. SHALE GAS SUBCOMMITTEE RECOMMENDATIONS INCLUDED:

1. Improve public information
2. Improve communication among federal and state regulators
3. Reduce emissions of air pollutants
4. Enlist a group of producers in different basins to collect air pollution data
5. Start a federal effort to acquire data re greenhouse gas footprint
6. Encourage companies and regulators to reduce air emissions using proven technologies and practices
7. Study methane migration
8. Disclose fracturing fluid composition
9. Eliminate use of diesel fuel
10. Need for 'Centers of Excellence'



SHALE GAS ROUNDTABLE

Group of Southwestern Pennsylvania leaders from government, foundations, industry, environmental and civic groups issued a report based on “constructive dialogue” informed by “sound research” with recommendations



ABOUT CSSD



HISTORY

Working group (2011)

- Conceptually aligned, balanced and collaborative group forms CSSD as a “regional center of excellence” seeking to drive innovative practices in shale gas development

Standards Definition (2012-2013)

- Seeks to go “above and beyond”
- Specific to Ohio, Pennsylvania and West Virginia, but transferable
- 15 standards focused on water protection and air emissions
- Must be adopted unanimously by Board

Certification (2014)

- Independent, Third Party Auditor
- Two year certification period
- First company certified September 2014



MISSION

The Center for Sustainable Shale Development brings together environmental, industry and community organizations committed to ensuring the highest level of environmental and community responsibility when a decision is made to develop and extract shale gas. We define and periodically update environmental performance standards to ensure continuous improvement and best practice, and certify and monitor responsible operations that meet those standards.



VISION

- Through advancing environmental excellence where shale gas development occurs, we can improve the net social benefit of energy.
- The best interests of society are advanced by collaboration and leadership among interested parties representing diverse points of view.
- Industry demonstrates leadership by practicing the highest level of environmental performance; environmental and community organizations demonstrate leadership by insisting on it.
- Aggressive standards and demonstration of their results will raise performance expectations throughout the industry and society.
- Independent, third-party certification programs for responsible operators allow shale gas developers the opportunity to earn public trust and support, and to differentiate themselves by their superior environmental attributes.



EXAMPLES OF VOLUNTARY INDUSTRY INITIATIVES

- **Forest Stewardship Council** – multi-stakeholder organization that promotes “environmentally sound, socially beneficial and economically prosperous management of the world’s forests”
- **U.S. Green Building Council Leadership in Energy And Environmental Design (LEED) Certification** – best-in-class building strategies and practices.
- **Marine Stewardship Council** – fisheries certification for sustainable practices



CSSD'S PARTICIPATING ORGANIZATIONS

- Chevron
- Clean Air Task Force
- CONSOL Energy
- Environmental Defense Fund
- EQT Corporation
- Group Against Smog and Pollution (GASP)
- Citizens for Pennsylvania's Future (PennFuture)
- Pennsylvania Environmental Council
- Shell



BOARD OF DIRECTORS

Environment

- **Armond Cohen**
Executive Director
Clean Air Task Force
- **Davitt Woodwell**
President
Pennsylvania
Environmental Council
- **Fred Krupp**
President
Environmental Defense
Fund

Non-Aligned

- **Dr. Jared Cohon (Chair)**
President Emeritus
Carnegie Mellon University
- **Dr. Jane Long**
Principal Associate
Director/Fellow
Lawrence Livermore National
Laboratory (retired)
- **Paul O'Neill**
72nd Secretary of the
U.S. Treasury Department
and former CEO of Alcoa
- **Christine Todd Whitman**
Former Administrator of the
U.S. Environmental Protection
Agency and former Governor
of New Jersey

Industry

- **Nicholas Deluliis**
President
CONSOL Energy
- **Michael De Witt**
General Manager,
Shell Appalachia
- **Nigel Hearne**
President
Chevron Appalachia
- **David Porges**
President and CEO
EQT Corporation

HOW DO WE OPERATE?



COMMITTEES

Standards Committee

- Comprised of representatives from CSSD's participating organizations and other subject matter experts, the Standards Committee evaluates where new or revised standards are necessary and recommends changes to the Board of Directors.

Certification Decision Committee

- A five (5) member committee of non-aligned representatives responsible for reviewing and making the final determination for operator certification.



VOLUNTARY PERFORMANCE STANDARDS AND THIRD-PARTY CERTIFICATION



WATER PROTECTION STANDARDS

- Zero discharge of wastewater- effective 12/2014 discharge allowed from CWTs utilizing BAT
- Wastewater recycling – > 90%.
- Closed loop containment of drilling fluids.
- Double-lined impoundments with leak detection.
- Pad specific Area of Review and risk analysis.
- Groundwater monitoring– pre and post operation.
- Casing and cement standards.
- Disclosure of well stimulation fluids.
- Well pad design –minimizing risk to water sources.
- Spill response and public notification plans.



REGIONAL AIR AND GHG STANDARDS

- Removal of hydrocarbons from flowback and produced water before storage.
- Reduced Emissions Completions – with exceptions.
- Flaring requirements – 98% destruction efficiency.
- Emissions standards for:
 - diesel drilling rig engines
 - frac pump engines
 - compressor engines
 - on-road truck engines
- Condensate tank emissions control.
- Reciprocating compressor and pneumatic controller emissions reductions.



THIRD-PARTY CERTIFICATION

- Auditor Guidance
 - Identifies documentation an operator must provide as evidence of conformity to each Performance Standard.
- Audit Verification Protocol
 - Sets out the frequency and intensity of the field and office audits both at the time of application, and throughout the two year certification period.
- CSSD Certification of Operational Excellence
 - Technical and administrative review of audit report
 - Certification Decision Committee with the power to veto
 - Publicly available summary audit report
 - 2-Year Certification period with interim evaluations
 - Open to all operators in Appalachian Basin



RECOGNITION OF CSSD AND ITS MODEL

- **National Governor's Association** – “State Practices to Protect Drinking Water While Developing Shale Energy” ¹
- **As You Sow, Boston Common Asset Management, LLC, Green Century Capital Management, Inc. and The Investor Environmental Health Network** -- recommended independent third-party auditing of a company's environmental management practices and directly referenced CSSD's approach. ²
- **Boston Consulting Group/Harvard Business School** - America's Unconventional Energy Opportunity: “A win-win plan for the economy, the environment and a lower-carbon, cleaner-energy future.” ³

1: Disclosing the Facts 2014: Transparency and Risk in Hydraulic Fracturing Operations

<http://www.nga.org/files/live/sites/NGA/files/pdf/2015/1507DrinkingWaterShaleEnergy.pdf>

2: <http://disclosingthefacts.org/report/>

3: <http://www.hbs.edu/competitiveness/Documents/america-unconventional-energy-opportunity.pdf>



QUESTIONS?

CSSD invites environmental and industry participants who share our vision of informed collaboration and responsible leadership, continuous improvement and sustainability to work with us and advance our mutual goals.



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