Appendix D

Aera's System of Operating Excellence

Memorandum

DATE: February 24, 2017

TO: Santa Barbara County Planning Department

FROM: Susan Perrell

SUBJECT: Response to Questions

Question:
Please provide a more detailed description of Aera Energy's System of Operating Excellence (SOE).

System of Operating Excellence

 This is Aera's key management system for every facet of our business from operating profitably to protecting human health and the environment. SOE was formally adopted in 2001. It is our company's way of ensuring our results are consistent with our values.

Aera's Basic Principles:
The system starts by setting some very high goals. These are the guiding principles of our company:

Purpose
Our energy achieves what others cannot and creates success for those we touch.

Vision
- Inspired people of common purpose
- Protecting people and the environment
- Unsurpassed value creation
- World-class process performance
- Renowned and respected for excellence
- Respected community member

Values
- Being part of something special
- Founded upon honesty, integrity and respect
- Passion for learning and improving
- Being accountable to each other
- Bias for action
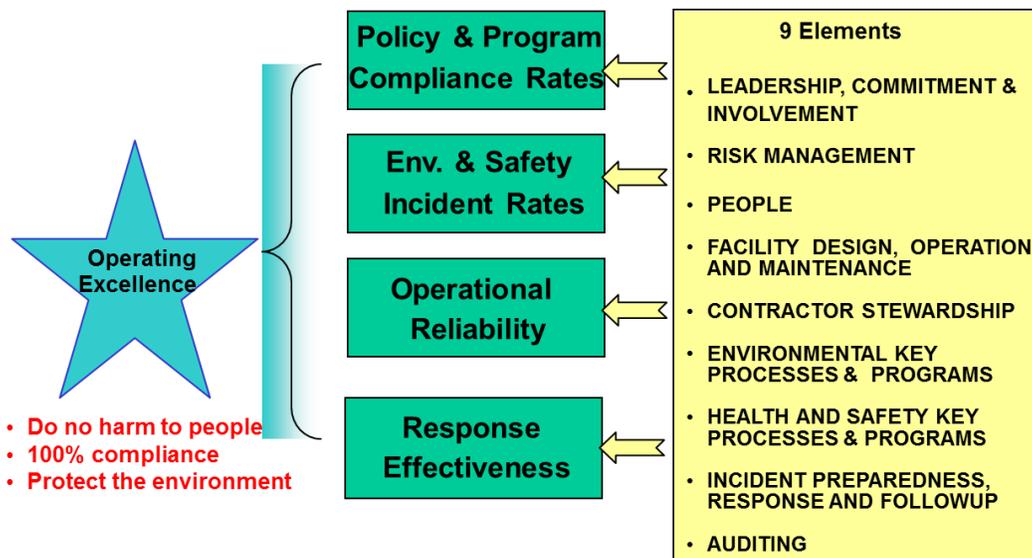
The SOE Framework:
The System of Operating Excellence establishes a set of nine elements to specifically define our strategy for running our business consistent with these principles. It's a very detailed roadmap for ensuring that our vision of working safely, continuous compliance with government and company standards, protecting human health and the environment and earning "life cycle" profitability are achieved.

There are nine Elements that define the strategic areas addressed by the framework:
1. Leadership, Commitment and Involvement
2. Risk Management
3. People
4. Process Design and Equipment Operation & Maintenance
5. Contractor Stewardship
6. Environmental Key Processes and Programs
7. Health and Safety Key Processes and Programs
8. Incident Preparedness, Response and Follow-up
9. Auditing

SOE Elements

Aera's System of Operating Excellence (SOE)

Operating Excellence

- Do no harm to people
- 100% compliance
- Protect the environment

Policy & Program Compliance Rates

Env. & Safety Incident Rates

Operational Reliability

Response Effectiveness

9 Elements

- LEADERSHIP, COMMITMENT & INVOLVEMENT
- RISK MANAGEMENT
- PEOPLE
- FACILITY DESIGN, OPERATION AND MAINTENANCE
- CONTRACTOR STEWARDSHIP
- ENVIRONMENTAL KEY PROCESSES & PROGRAMS
- HEALTH AND SAFETY KEY PROCESSES & PROGRAMS
- INCIDENT PREPAREDNESS, RESPONSE AND FOLLOWUP
- AUDITING

Element 1: Leadership, Commitment and Involvement
Intent: Management provides the vision, sets the expectations and provides the resources to implement and improve the system. Success can only be achieved if all employees are involved and committed.

Expectations:	System Guide:
1.1 A process is in place to involve employees in the development, implementation and continuous improvement of this System of Operating Excellence (including a written governance plan). This includes review and communication of goals and objectives, best practice sharing and benchmarking of the SOE processes.	System Guide 1.1
1.2 A process is in place to influence SOE leadership behaviors.	System Guide 1.2
1.3 A process is in place for consequence management pertaining to SOE performance.	System Guide 1.3
1.4 Processes are in place to communicate, demonstrate, and assess Aera's commitment to being a respected community member.	System Guide 1.4

Element 2: Risk Management
Intent: Comprehensive risk assessment and management ensures that our resources (both human and financial) are expended to best meet our business and operational objectives.

Expectations:	System Guide:
2.1 A process is in place to recognize, assess and prioritize operational risks, and to provide the resources to appropriately reduce, mitigate or eliminate those risks. Risk assessment and management should cover the following activities: Acquisition and divestiture New ventures and processes Design and construction Ongoing operations, including abandonment	System Guide 2.1
2.2 A process is in place for managing facilities deemed to have elevated risk.	System Guide 2.2

Element 3: **People**
Intent: Aera will hire, assign, and develop employees in a manner consistent with Aera's Purpose Vision and Values, and business needs.

Expectations:	System Guide:
3.1 A process is in place to identify and match skills, experience and qualifications when hiring or reassigning workers.	System Guide 3.1
3.2 A process is in place to coach and assess employees.	System Guide 3.2
3.3 A process is in place to identify training requirements and to provide training.	System Guide 3.3
3.4 A process is in place to assure that operating procedures are developed, kept current and followed.	System Guide 3.4

Element 4: Process Design and Equipment Operation & Maintenance
Intent: TPR and EHS requirements are integrated such that activities are seamless and ensure environmental, health and safety performance is optimized.

Expectations:	System Guide:
4.1 A process is in place for Project Management to manage design and construction, quality control and start-up activities in compliance with company, standards, legal, regulatory and permit requirements. A process is in place to manage changes in equipment and procedures.	System Guide 4.1
4.2 A process is in place for Total Process Reliability (TPR). A process is in place to manage changes in equipment and procedures.	System Guide 4.2
4.3 A process is in place to have equipment files and drawings for appropriate equipment and facilities readily available to employees.	System Guide 4.3

Element 5: Contractor Stewardship
Intent: Contractors working in Aera locations have effective programs and processes to protect all employees, assets, and the environment.

Expectations:	System Guide:

5.1 A process is in place for evaluation and selection of contractor services, which includes an assessment of the contractor's capabilities to perform work in a safe and environmentally sound manner.

System Guide 5.1

5.2 A process is in place to provide EHS orientation, including hazards of the work environment, for contractor personnel.

System Guide 5.2

5.3 A process is in place to monitor and assess contractor day-to-day performance, provide feedback, and ensure follow-up.

System Guide 5.3

Element 6: Environmental Key Processes and Programs
Intent: Development, communications and maintenance of programs and processes to assure that environmental hazards and impacts are either eliminated or controlled as necessary to meet our commitment to remain in compliance and to measure and minimize our environmental footprint.

Expectations: **System Guide:**

6.1 A process is in place to monitor, prioritize, influence and communicate the impact of new and emerging compliance requirements that will effect our operations.

System Guide 6.1

6.2 A process is in place for development and communication of environmental policies, programs and guidance documents.

System Guide 6.2

6.3 A process is in place to develop and track environmental compliance tasks, ensuring that appropriate records are gathered, retained and available, along with the documentation of follow-up.

System Guide 6.3

6.4 A process is in place to monitor emissions, releases and waste generation and assess reduction / elimination opportunities.

System Guide 6.4

One strategy to ensure Aera is meeting its SOE objectives is the morning meeting that takes place at all operating facilities. Below is the agenda from one of these meetings.

Key SOE processes review built into the Morning Meeting Agenda

Aera - Coastal
Morning Meeting Agenda - SOE Processes

Safety Discussion/ Safety Manual Review — Element 8
- Discuss pertinent safety subjects or review sections of the Aera safety manual.
- Pre-Job Work Plans? Energy Control?

Hazards/Near Hits/Incidents — Element 8
- Review any new incidents, Near Hits or reported Hazards, including housekeeping issues, that the group needs to be aware of ?

MOC Review – Permanent or Temporary — Element 3
- Review any new MOC that impacts the work team, including reviewing any temporary defeated safety devices.

Title V & Other Environmental Issues — Element 7
- Review any planned activities that may have a conflict with the PTO or need regulatory clarification.

SOE Review — Element 1
- Review an expectation from the SOE framework. Discuss how team members impact, influence, participate or are affected by a particular expectation. Identify gaps and plans to fill gaps.

Today's Work Schedule — Element 5
- Review work planned for today (Aera employees and contractors). Discuss potential hazards associated with work.

Restricted Access — Element 6
- Site Orientations needed? Transient Workers?

CAPP/Planned Observations — Element 8
- Discuss CAPP metrics and planned activities that should be observed.

RCFA Review of Root Cause & Follow-up — Element 9
- Following incident investigations, review the approved Executive Summary including CAP's

ISEA — Element 10
- Discuss ISEA metrics and planned activities that could be audited.

Training *(weekly)* — Element 4
- Worker Qualification, Adaptability Matrix progress?
- Training this week? Upcoming backfill requirements?

Risk Management — Element 2
- Are there any new or unresolved operational risks that need to be elevated?

Element 7: Health and Safety Key Processes and Programs

Intent: To meet our commitment to do no harm to people, development, communication, and maintenance of Health and Safety programs and processes are necessary to assure that hazards are either eliminated or controlled.

Expectations:	System Guide:
7.1 A process is in place to monitor, prioritize, influence and communicate the impact of new and emerging compliance requirements that will effect our operations.	System Guide 7.1
7.2 A process is in place for development and communication of Health and Safety policies, programs and guidance documents.	System Guide 7.2
7.3 A process is in place to develop and track Health and Safety compliance tasks, ensuring that appropriate records	System Guide 7.3

are gathered, retained and available, along with the documentation of follow-up.

7.4 A process is in place to identify, assess and manage industrial health risks.	System Guide 7.4
7.5 A Behavior Based Safety Management process is in place at all field locations as part of a complete safety program.	System Guide 7.5

Element 8: Incident Preparedness, Response, and Follow-up
Intent: Operational and security preparedness are essential to ensure that all necessary preparedness and response actions are taken. Effective incident response, reporting, investigation, and follow-up are necessary to achieve operational excellence. Effective incident analysis provides the opportunity to learn from reported incidents and to use the information to take appropriate corrective action.

Expectations:	**System Guide:**
8.1 A process is in place to identify credible and significant incidents and scenarios and their impact, upon which preparedness and response plans are based and drills are conducted. Response plans are documented, accessible, and clearly communicated. Plans should include roles and responsibilities of Aera employees, contractors and public response agencies. The plans should also identify equipment and trained personnel to respond to incidents.	System Guide 8.1
8.2 A process is in place for internal and external reporting and investigation of EHS incidents as appropriate. The process should be documented, accessible and clearly communicated. Corrective actions should be identified and tracked to completion.	System Guide 8.2
8.3 A process is in place to ensure the security of people, assets and information.	System Guide 8.3

Element 9: Auditing
Intent: Auditing is used by the organization to measure the level of compliance and system maturity, assess areas of concern and provide protocols to improve performance.

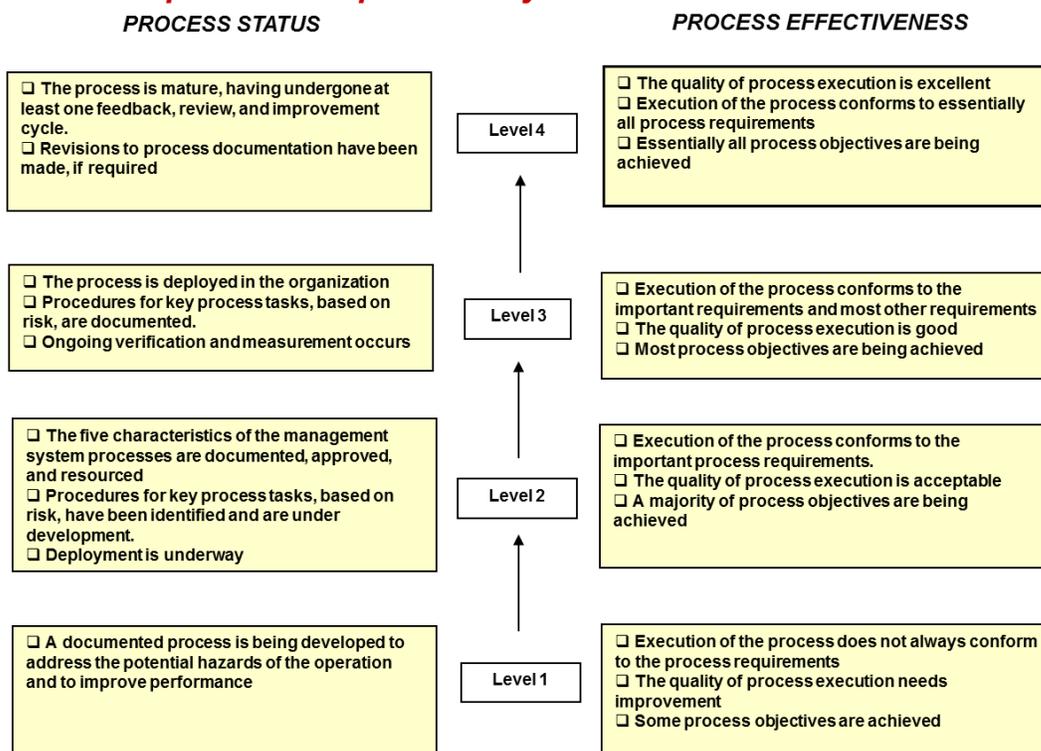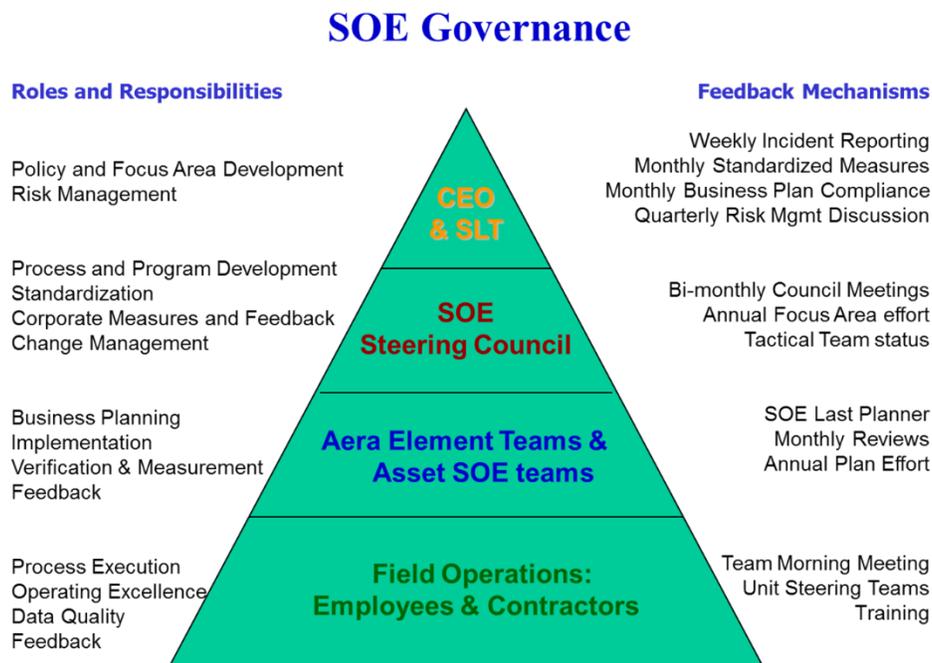| **Expectations:**	**System Guide**
9.1 An operational EHS self-assessment process is in place, using risk management techniques to determine priorities and frequencies.	System Guide 9.1
9.2 A process is in place to perform internal audits of SOE performance, using risk management techniques to determine priorities and frequencies.	System Guide 9.2
9.3 A process is in place to provide Aera's Board of Managers with external audits of SOE performance, using risk management techniques to determine priorities and frequencies.	System Guide 9.3
9.4 A process is in place for all levels of auditing to provide for management review of audit findings and the development and completion of corrective action plans.	System Guide 9.4

Each SOE expectation is periodically audited.

PROCESS STATUS   PROCESS EFFECTIVENESS

❑ The process is mature, having undergone at least one feedback, review, and improvement cycle.
❑ Revisions to process documentation have been made, if required

Level 4

❑ The quality of process execution is excellent
❑ Execution of the process conforms to essentially all process requirements
❑ Essentially all process objectives are being achieved

❑ The process is deployed in the organization
❑ Procedures for key process tasks, based on risk, are documented.
❑ Ongoing verification and measurement occurs

Level 3

❑ Execution of the process conforms to the important requirements and most other requirements
❑ The quality of process execution is good
❑ Most process objectives are being achieved

❑ The five characteristics of the management system processes are documented, approved, and resourced
❑ Procedures for key process tasks, based on risk, have been identified and are under development.
❑ Deployment is underway

Level 2

❑ Execution of the process conforms to the important process requirements.
❑ The quality of process execution is acceptable
❑ A majority of process objectives are being achieved

❑ A documented process is being developed to address the potential hazards of the operation and to improve performance

Level 1

❑ Execution of the process does not always conform to the process requirements
❑ The quality of process execution needs improvement
❑ Some process objectives are achieved

Governing the SOE process

The SOE effort is governed by an SOE Steering Council and nine Element Teams. The Council is responsible for setting the direction and pace of overall improvement to the SOE. The nine Element Teams are the engines that provide the needed gap analysis and resulting annual plans to ensure that the SOE remains effective. Employees in the operating assets, as well as process groups (such as EHS and CPE), have the responsibility to implement the annual plans.

The Steering Council membership includes Vice Presidents from operations, engineering, EHS and Business Resources. Other representatives from EHS and the Center for Process Excellence attend council meetings as needed. The Council approves the annual plans of the nine Elements, as well as the annual assessment plan to check the status and effectiveness of the SOE.

SOE Governance

Roles and Responsibilities		Feedback Mechanisms
Policy and Focus Area Development Risk Management	**CEO & SLT**	Weekly Incident Reporting Monthly Standardized Measures Monthly Business Plan Compliance Quarterly Risk Mgmt Discussion
Process and Program Development Standardization Corporate Measures and Feedback Change Management	**SOE Steering Council**	Bi-monthly Council Meetings Annual Focus Area effort Tactical Team status
Business Planning Implementation Verification & Measurement Feedback	**Aera Element Teams & Asset SOE teams**	SOE Last Planner Monthly Reviews Annual Plan Effort
Process Execution Operating Excellence Data Quality Feedback	**Field Operations: Employees & Contractors**	Team Morning Meeting Unit Steering Teams Training

Assessing the status and effectiveness of the SOE

Each year Aera measures the status and effectiveness of the SOE. The complexity of the assessment will vary year by year. In some years, to ensure an outside view, Aera will use assessors from the Parent Companies. In some years, since the people who know the system best are those that work it day to day, Aera will use assessors that are Aera employees. In either case, the key is that the assessment will be annual, and that the Steering Council will be looking for the best opportunities to improve the overall effectiveness of the system.

In assessing the SOE, the quality of the system documentation will be reviewed, along with how well workers understand that documentation. (This is the "Status' of the system). How well workers implement the system in day-to-day activities will be observed to

determine the effectiveness of the system (as measured against the SOE Intents and Expectations).

SOE Results:

The System of Operating Excellence helps every Aera employee from managers to drillers understand what is expected of them, the tools and training to do their jobs in a way that's safe and productive, and continuously measures how we're all doing. It has proven to be a very valuable tool to drive continuous improvements in process and practice in all areas of the business.

Safety: Aera Energy's safety record is eight times better than the national manufacturing sector and eighteen times better than California state and local governments. And we continue to improve every year.

Aera Combined TRIR
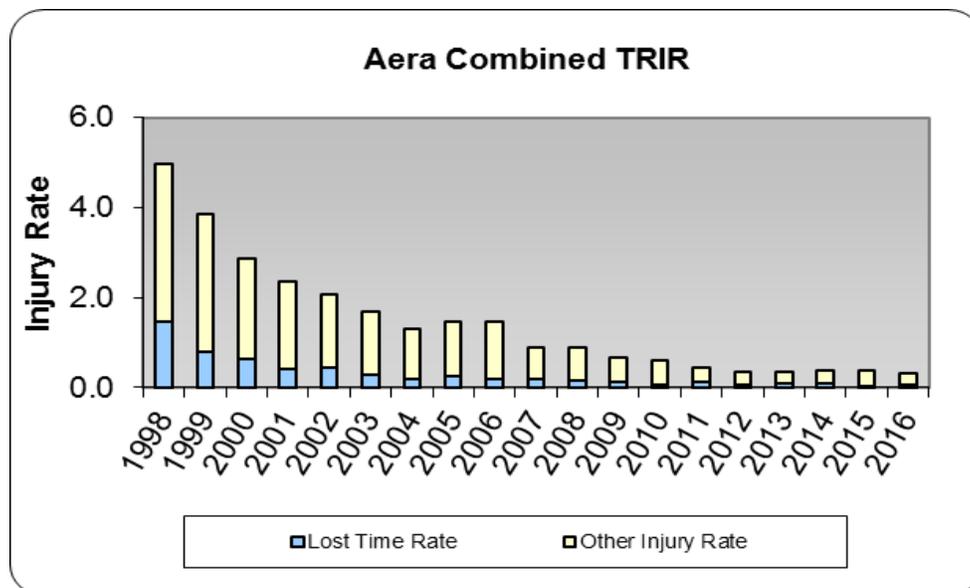
Compliance: Our Environmental Health and Safety Task Compliance Record has been 100% for the last 16 years.

EHS Task Compliance
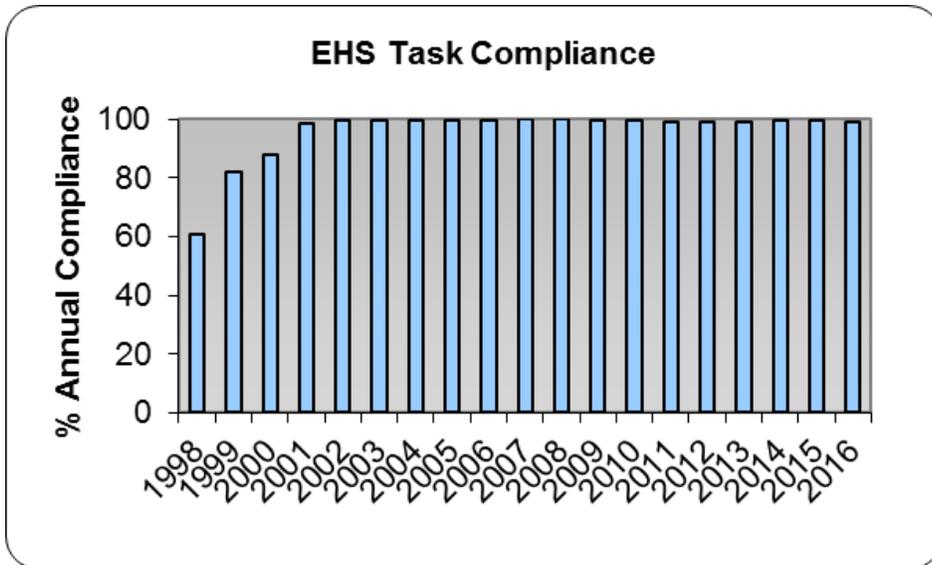
Oil Spills Near Zero: One specific area in which the company has improved is reducing the number and volume of oil spills. With the help of SOE, the company's spill incidents have been reduced by 90% to near zero.

Oil Spills
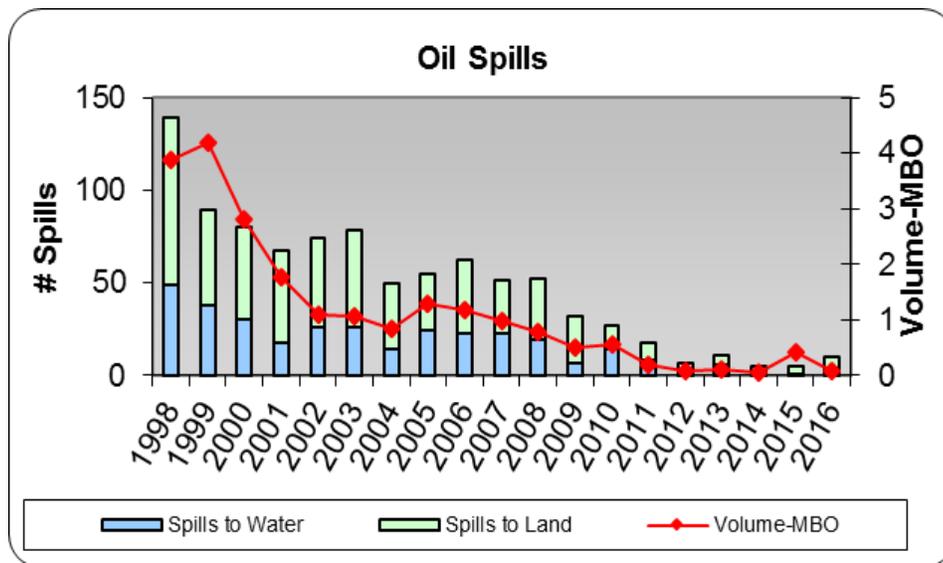
And finally, air emission Notices of Violations have decreased by more than 70% in the past ten years. With the help of SOE, NOVs have decreased significantly. This is due in large part to the focus on strict compliance by Aera employees which has developed through the SOE process. In fact, in recent years most of these notices are actually self-reported by Aera rather than being detected by agency inspectors.