

"Continuous Regulatory Improvement: The
TOPCORP National Training Program"
presented by Hilary Clement Olson, UT
Austin



**Continuous Regulatory Improvement:
The TOPCORP National Training Program**

Hilary Clement Olson
The University of Texas at Austin

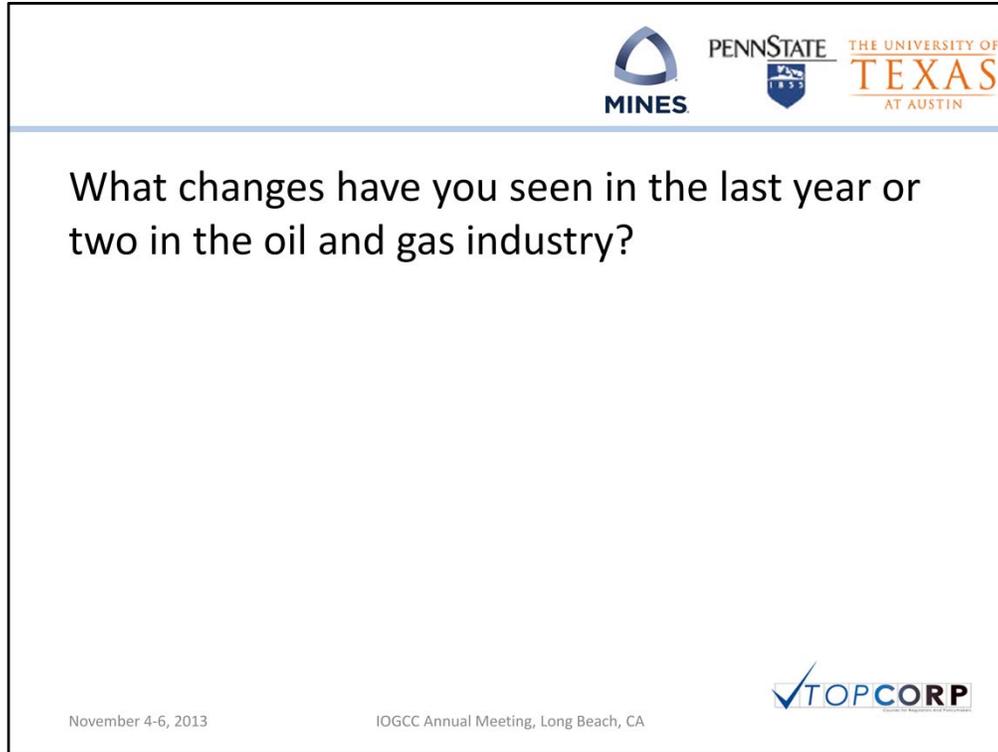
Jim Ladlee
The Pennsylvania State University

Azra Tutuncu
Colorado School of Mines



Good afternoon. I am Hilary Olson from The University of Texas at Austin and I'm going to talk to you on behalf of myself and colleagues at Penn State, Jim Ladlee, and Colorado School of Mines, Azra Tutuncu, about a new nationwide program, TOPCORP, to address continuous regulatory improvement.

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The slide features a header with three logos: MINES (a blue circular logo with a white triangle), PENNSTATE (the text "PENNSYLVANIA STATE UNIVERSITY" above a blue shield with "1855"), and THE UNIVERSITY OF TEXAS AT AUSTIN (the text "THE UNIVERSITY OF TEXAS" above "AT AUSTIN" in orange). Below the logos is a blue horizontal line. The main text of the slide is "What changes have you seen in the last year or two in the oil and gas industry?". At the bottom left, it says "November 4-6, 2013". At the bottom center, it says "IOGCC Annual Meeting, Long Beach, CA". At the bottom right is the TOPCORP logo, which includes a blue checkmark and the text "TOPCORP".

To start off my presentation I'd like to ask you to think of conversations you have had recently with colleagues where you've been talking about newer technologies and practices used in the oil and gas industry. If I were to ask you: "What changes have you seen in the last two years in the oil and gas industry?" what would you say?

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- Connection between wastewater injection and earthquakes
- Water recycling
- Greater public attention on oil and gas activities

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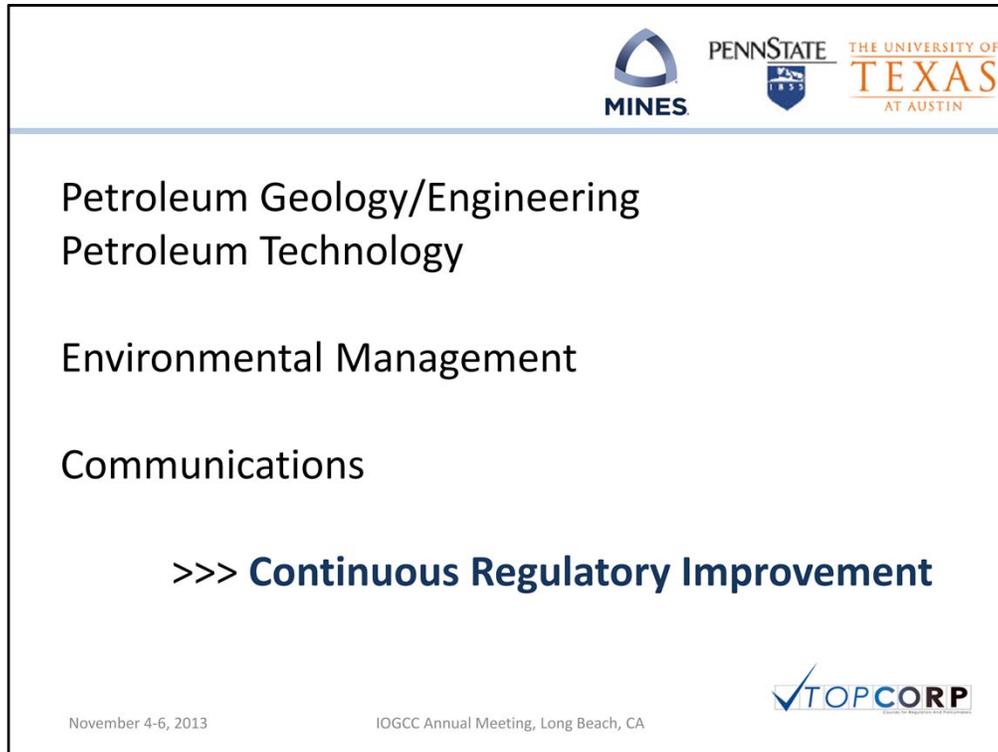
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I have been asking this question of people at the IOGCC meeting this week and three answers that have stood out to me are:

Connection between wastewater injection and earthquakes
Water recycling
Greater public attention on oil and gas activities

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These responses highlight the rapid changes that are occurring in the areas of (1) geology and petroleum technology, (2) environmental management and (3) communications. With any kind of industry, like the oil and gas industry, where rapid changes are occurring, continuous improvement is what distinguishes those who are at the 'TOP' of their game, and those who aren't.

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Nationwide, free training program for regulators

Expertise: education, science and technology
Academic freedom: independence
(not regulatory enforcement)

Three universities

IOGCC's States First Initiative:
certification through a 3rd party

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What I'd like to talk to you about today is how three universities are responding to the need for continuous regulatory improvement through our TOPCORP nationwide, free, training program specifically targeted to inspectors.

Because as universities we have expertise in education, science and technology, and we have the academic freedom to operate independently from industry, we were approached to help respond to this need for continuous regulatory improvement. In this capacity, I want to clarify, that our contribution is to provide training in oil and gas operations and technology, not how to create or enforce regulations. That job belongs to policymakers and regulatory agencies.

The three universities involved in designing and delivering the training are: The University of Texas at Austin, Penn State, and Colorado School of Mines. In a complementary fashion, we are working closely with IOGCC as they bring back a certification process in concert with our offering. This will allow regulators to participate in our TOPCORP national training program and be certified through an independent 3rd party, the IOGCC.



Because “PhDs don’t know what they don’t know...”

- (1) Nationwide survey of inspectors and supervisors
- (2) Went out in the field with inspectors



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Because our strength is education and technological research, and not regulations, we knew that we needed to find out what the regulators and their supervisors thought they needed to know, what their preferred modes of training were, and what kinds of constraints they had on their ability to take training.

To answer these questions, we undertook two activities: (1) we initiated a nationwide survey of regulators and their supervisors where we gathered over 400 responses and (2) we went out into the field with regulators in three different states so we could get our boots dirty alongside the regulators to find out how best to respond to this need for continuous regulatory improvement. Through both of these activities, we worked closely with Gerry Baker at the IOGCC to encourage completion of the survey and to connect with local regulatory offices to accompany them in the field.



What we learned... how we responded

- Very limited opportunities for training
- Obstacles exist to training: cost and time
- Range of backgrounds for regulators
- Preferred mode of learning is 'in the field'
- Preferred source of information is people: mentors and experts
- Four themes of important content

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I want to summarize a few of the insights we received from these two sources of investigation:

1. There are limited opportunities for training.
2. Several obstacles exist to training, but two of the most important are cost and time away from the office.
3. There is a wide range of backgrounds for regulators (ranging from previous experience in the oil and gas industry to those entering the job with a liberal arts degree)
4. The preferred mode of learning was 'in the field'.
5. The preferred source of information was from people: mentors and experts
6. The regulators told us what they viewed as the most relevant and important content.

We took the content the regulators stressed and packaged it into four modules: Geology and Petroleum Engineering; Petroleum Technology; Environmental Management; and Communications. Based on what the regulators told us, we decided that field training was very important and should be central to each module, but it was also clear that because of the variety of educational and experience backgrounds, we needed to be sure the regulators showed up at the field courses with a baseline of knowledge. Respecting the fact that time out of the office was a concern, we made the decision to structure the training with an 'onsite'

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online component for each of our four modules, that would then be followed by an 'offsite' field component. Following a mentorship model, we have constructed the training to use a variety of instructors, each teaching their specific expertise.

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Pilot for Modules 1 and 2– summer 2013
30 state and federal inspectors

Video overview – things to look for



Although the training is being planned to have an online and a field component, we wanted to make sure that we were gearing our curriculum appropriately to our target audience before investing money into the online process. For this reason we held a pilot offering this past summer with an in-class segment (to test our online curriculum) and a field component in Colorado.

We had thirty state and federal regulators come from across the country for 5 days of training (3 in-class, followed by 2 in the field) to test our curriculum for Module 1 on Geology and Petroleum Engineering, and Module 2 on Petroleum Technology.

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MINES PENNSTATE THE UNIVERSITY OF TEXAS AT AUSTIN

Video shown from summer 2013 workshop in Golden, Colorado.
View at: www.topenergytraining.com

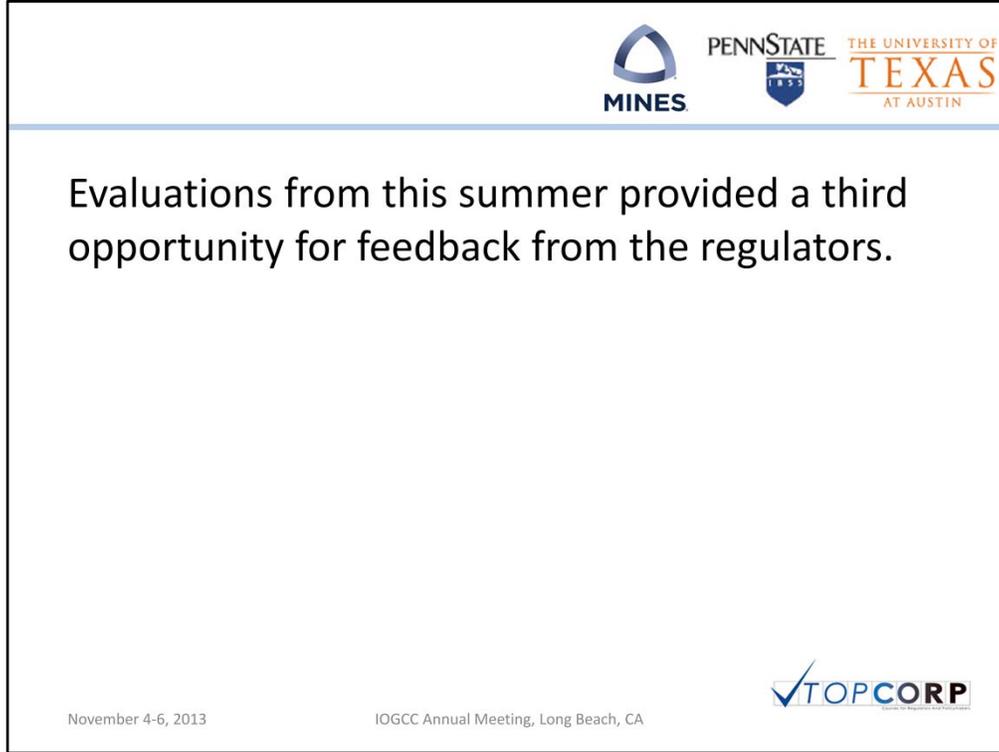
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I'm going to show you a short video to give you some impressions of the workshop.

A couple of things you might want to look for:

1. You will notice a variety of instructors participating in the workshop: To deliver the best content and mentoring of the regulators, we reached out to numerous experts within the three universities;
2. You will see the opportunities for interaction and collaboration between the regulators: Teamwork and camaraderie was built between EPA divisions, between states, and even between state and federal. What we saw and heard from our participants was that because they now knew who these individuals were in the different agencies, they felt it would be a far more positive experience when they did have to work with each other on big issues.

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Evaluations from this summer provided a third opportunity for feedback from the regulators.

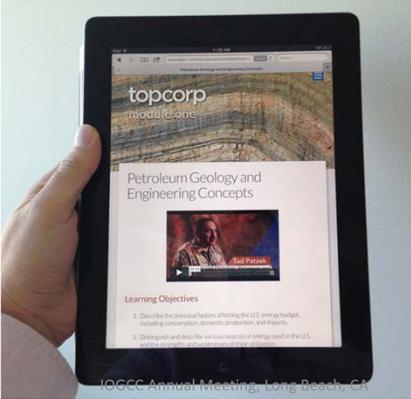
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Conducting a pilot training like this gave us a third point of contact with our audience and helped us in refining the online and field components curriculum. So in addition to our national survey and site visits with the regulators, we now could incorporate feedback from the offering this summer.

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Online Modules 1 and 2
Petroleum Geology and Petroleum Engineering
Petroleum Technology



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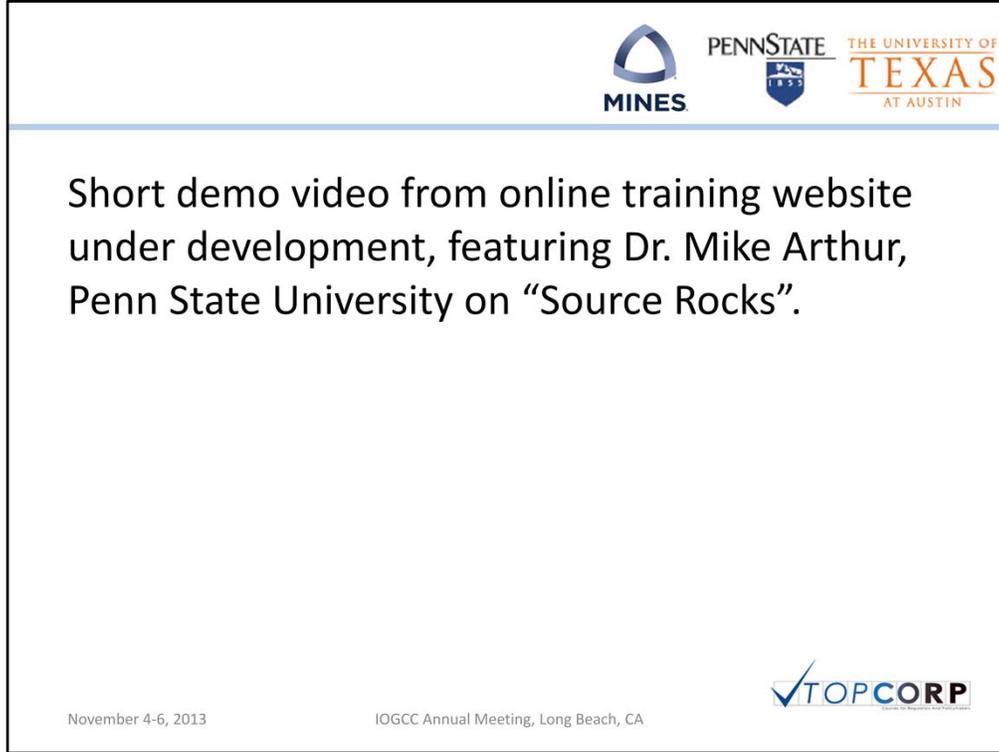
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Video clip example:
"Where is the right
spot to drill for oil
and gas?"



As part of this first phase, we are currently working on the online content, set to be completed in the spring of 2014. We are combining the latest online teaching tools with renowned instructors and their content. The information is presented to maximize engagement and provide interactive experiences. What I want to show you now is a short clip of how we can combine graphical animations to augment the instructional content an expert wishes to convey.

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Short demo video from online training website
under development, featuring Dr. Mike Arthur,
Penn State University on "Source Rocks".

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Here you are going to see a geologist, Mike Arthur, one of our geology experts from Penn State, respond to a question from the course host, which is "Where is the right spot to drill for oil and gas?" For any of you wishing to see other examples of content, I have them on my tablet.

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Next phase of development:

Modules 3 and 4
Environmental Management
Communications

Pilot offerings

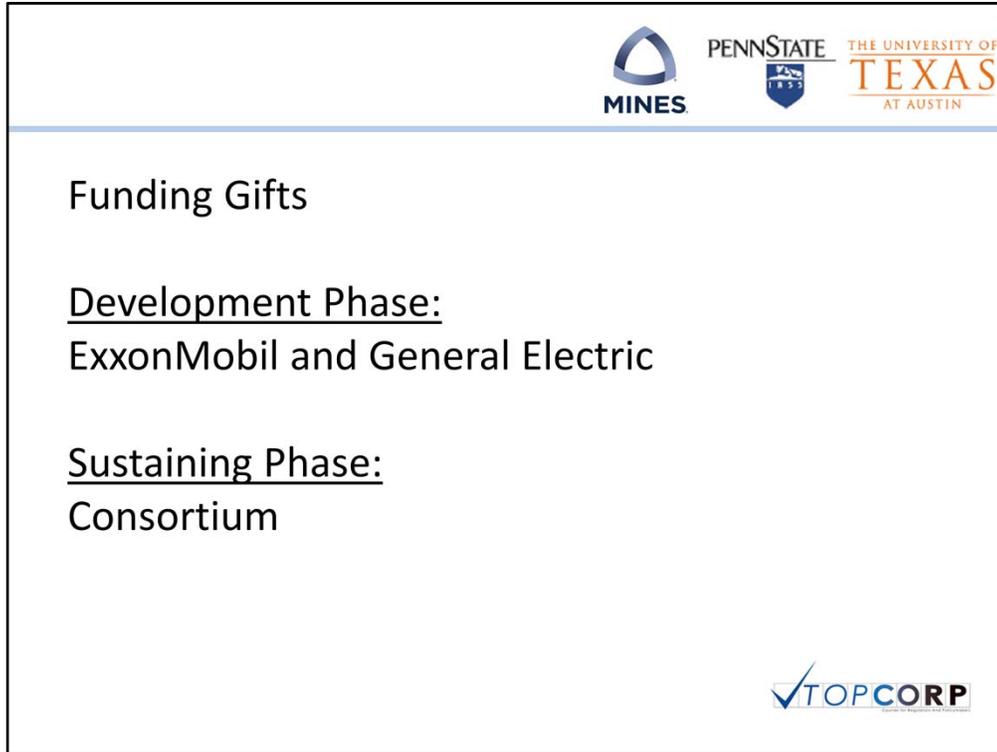
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So where are we going after completion of the first two modules? We have already started with our next phase, where we are developing content for hosting pilot programs in 2014 for Modules 3 and 4 - as a reminder those are the environmental and communications modules. And we are looking for additional regulators to participate in the pilot programs. We will then roll out those final two modules online for completion in the first half of 2015.

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Funding Gifts

Development Phase:
ExxonMobil and General Electric

Sustaining Phase:
Consortium

TOPCORP

I want to say a word about funding here, because it is only natural to be curious where the money came from for this project.

The money for the development of the program, is coming from ExxonMobil and General Electric in the form of 'gifts' to the university. And here is where it is important to understand what a 'gift' means for the three universities. Once the money is gifted to the university, there are no strings attached. We could use the money however we wanted, with no oversight or deliverables for the companies. What this means for our TOPCORP program is that the curriculum content, design, instructors and method of delivery is totally at the discretion of the three universities. We realize that some in the public will question the source of the funding, because they don't know what a gift means to a university. Therefore, one of our priorities was to solicit and incorporate comments from those typically viewed as 'on the other side' from oil and gas companies. For example, we reached out to the Environmental Defense Fund, and had numerous conversations with Scott Anderson about the program and our curriculum.

The reason that ExxonMobil and GE are continuing to fund development of our training program is they were pleased with our work because of the response of the regulators: the regulators said they are benefiting from the TOPCORP training.

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In order to make this a sustainable effort for the long haul, we are forming a consortium to reach out to a broader group of companies who would like to invest in this program, enabling us to continue offering the courses and to keep them current with changes in the industry. I work for a state agency, as do many of you; we all appreciate that to sustain a program of this scale and caliber, and keep it free for regulators, we need a broad group of forward-thinking financial supporters, because we know that this has to continue to be free for you.

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“When you bring together academic experts,
regulators with their boots on the ground,
multiple stakeholder perspectives, and industry
support, you have a powerful formula for
success.” – Gerry Baker

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I ask you to get with me after this talk if you have regulators who could participate in this program or if you or a company you know would view making a gift to this consortium as a good investment.

I'd like to close by paraphrasing Gerry Baker: “When you bring together academic experts, regulators with their boots on the ground, multiple stakeholder perspectives, and industry support, you have a powerful formula for success.” The three universities are committed to creating a TOP-notch national training program for regulators that will meet their unique needs. And we ask those of you who can, to partner with us to make it a success.