

ROUGHLY EDITED TRANSCRIPT

BUREAU OF LAND MANAGEMENT OUTREACH
VENTING AND FLARING OF OIL AND GAS OPERATIONS ON PUBLIC LANDS
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>> MICHAEL NEDD: As you are moving forward, we will get ready to start our session. Again, I'm Mike Nedd, I'm the assistant director for energy, minerals and realty management. We are so glad to have you out here today. We also have individuals who are coming in during our web stream live. Again, this is our fourth session since we started this outreach here. We've had one in Denver, Colorado. We've had one in Albuquerque, New Mexico. We had one in Dickinson, North Dakota, Albuquerque and Dickinson last week. And this is our fourth and final, for now.

We are glad to have you here as we consider options for venting and flaring and some of the considerations today that we will talk about.

In a minute or so, Linda Lance, our deputy director for programs and policies will be up here to give you some opening remarks and then you will hear from Tim Spisak who is one of our subject matter experts and one of the senior advisors here in the BLM and Tim will walk you through our presentation.

Again, many of you, we asked that you signed in when you came in and if you wanted to make comments or wanted to speak, we ask you to indicate that in the back.

As Tim goes through his session, again, he will say, but we will ask you to get through those sessions except for those sections where you will ask questions. There's time for general questions or general comments or remarks.

So, thank you all for being here and with that, with, that I would like to invite Linda to come up and offer whatever remarks she sees fit.

>> LINDA LANCE: Hey. I wanted to welcome you all as well. Thank you for coming. I will just give you a little sense of where we are on all of this. We are beginning to work hard on the issues of venting and flaring in oil and gas production. We do not have a proposed rule yet. These outreach sessions are intended to give you an idea of what our current menu of options and potential ways of approaching this issue are. It is not intended in any way to be cast in stone or complete. We hope that we will get other ideas as we go through these outreach sessions and they have been very useful to us already.

Why are we doing this? Our rule on this issue is about 30 years old. So it's probably time to take another look at it. Technology has advanced significantly, both in the way that wells are drilled and in the technology that can be used to capture some of this waste gas.

For us, we have a statutory mandate to prevent waste and to ensure a fair return for the taxpayer and being sure that we control venting and flaring as much as possible is an important component of that. The ancillary benefits, of course, is that this will capture methane, which is a significant greenhouse gas. We think there's a fair amount of potential here, general Government Accountability Office told us back in 2010 that they believe 40% of the waste gas on federal onshore leases could be captured with technology current as of 2010.

So we think that there's a lot of good work to be done here. We appreciate you all being a part of that.

So what Tim is going to show you is what our menu is today and he will go through it -- what we tried to do was identify the areas that are -- where there's the most potential for being able to capture some of this waste gas. So he will go through those one by one. What's worked well in the past is if you have a comment or a question on the specific area that he's talking about, for example, emission from storage tanks, he will stop between each one of those and ask for any comments. What we would like to do. I know a lot of people have more general comments about the operations, about what we ought to be doing in this area. We would like to leave those to the end so we can ensure that Tim's presentation is between 10 and 15 minutes if he runs straight forward. We want to make sure that he runs through it relatively quickly so everyone can hear the whole presentation, and not hear all the questions and comments.

We found it helpful to stop at each particular place. I think it helps the discussion to be more rich as we go forward but if you have a more general comment or a remark, then please leave that to the end and we will have plenty of time for that.

And because we are live streaming, please use the mic that's in the aisle, because then the camera will pick you up as well as the audio.

So, again, thank you for working with us on this. We think it's important work and we are really glad you are being a part of it. Where we expect to go from here, we have not made any final decisions. We expect to potentially be looking at a proposed rule, and, of course, that will generate other opportunities for comment. So this is not the last time we will be able to hear from you, but hearing from you early on is very, very helpful.

So thanks again. Tim?

>> TIM SPISAK: Thanks, Linda and Mike for the opening comments and hopefully I won't be too redundant on some of the slides going forward. We wish to welcome you all to our final for this go around of public outreach session on venting and flaring. We did a similar type event, a process for our onshore oil and gas orders 3, 4 and 5, last April 2013 and we got a lot of good feedback on the live streaming event and getting -- being able to get a bigger audience and comments. And we wanted to use a similar process with this going forward.

I also wish to welcome the folks that are online. I understand there's about a 10 to 30 second delay from when we are saying the words and to where you actually hear them. So as I mentioned, NTL-4A, that's notice to leasees 4A is about 30 years old. It certainly doesn't reflect some of the current and the best management practices that have -- and the technology that's developed over that period of time. As Linda had noted, our office of inspector general, our Government Accountability Office has a lot of concerns and issues with the lack of clear direction to our field staff to be able to properly capture and minimize venting and flaring on federally managed land.

And also we wanted to recognize early on that EPA do their New Source Performance Standards, require various actions to minimize venting and flaring. It's not our intention to gang up or overlap, but to try to work together with those types of processes that are already out there. I'm going to try to point out and as I'm going through, where EPA does have current rules and how they might interplay with what we are considering.

Again, we are trying to start this dialogue. We feel like it's in our interest to get going in a more correct direction early on than to come out with proposed and find out that maybe we have gone off in an unproductive direction. So this early outreach, we're hoping will help inform our discussions internally and with our other regulatory agencies in coming up with any rules if we go that direction in a manner that will be the most effective way to meet our objectives.

As has been mentioned, we had a number of public sessions already, and I wanted to also point out that we will be considering state and other tribal rules also in this discussion, as well as the industry best practices.

This is the time we would like hear about those industry best practices during this comment period.

The first pie chart I wanted to show, this is -- this is one of the methane inventories that's been published by EPA. It's a little dated, 2011. It's illustrative a little bit of some of the emission sources. I wanted to point out this is not the only source that we are using, but I thought it was useful to be able to demonstrate some of the areas.

Working from 12:00, going clockwise, the first 25% of emissions from onshore production, and this is not limited to federal leases, but was tied to those completion and work-over activities. The inventory indicates that another 25% is associated with pneumatic devices. Just between those two areas, that's 50% of the emissions associated with those two areas.

A couple of other notable areas, were 17% associated with emissions coming off of storage tanks on lease. And then another 10% associated with gas compressors. That's whether on lease or off. So those are areas that obviously have some fairly large amounts but, again, there's other information that does show some little bit differences but we'll be considering all of those things.

The major topics that we're going to cover during our discussion is well completions, production tests, well purging from liquid unloading operations, casing heads and associated gases, and we'll talk a little bit about the gas conservation plans, emissions from storage tanks and vessels, pneumatic devices and leak detection and repair program.

Again, I mentioned -- we mentioned the purpose, we are trying to get some -- solicit some of your views on how we might address these major topics. This is not intended to be a complete list of all the topics that we might eventually consider, and it may not be all of these. We may find through comments and further discussion that some of these ideas may be unrealistic given the current level of technology. We certainly welcome your input and we'll follow up at the end with a slide, but we do have an email address set up for this and we are looking to have comments by May 30th, that will help inform our discussions going forward before the next step.

Now, as we go through, as Linda had mentioned, there will be two or three slides for each topic. I will talk a little bit about what the topic is, what our current BLM policy is, if there is any, and then the potential ideas that we're considering. At that point, I will stop at each one and ask for any questions or any clarifying comments.

The first being well completions. This is generally any types of activities associated

with emissions, venting and flaring and such, prior to a permanent well head installed for production. So any of those tests associated prior to a permanent well head installation.

Our current BLM policy, right now for vented or flared gas associated before -- before the wellhead is installed, there's no royalty obligation incurred, but it's -- not any -- there's no royalty obligation accrued from any produced gas as the current policy.

Some potential options. Maybe we wouldn't require any new requirements on well completions. This is before the EPA through the NSPS do have some rules for hydraulically fractionated gas wells. EPA is requiring a gas capture, reinjection and use on site or as a fuel or combustion. So potentially we wouldn't venture into this area because it might be determined that EPA has this covered or we could extend those types of -- that type of coverage to other wells, other than the hydraulically fractured gas wells, for instance.

Any questions or comments or clarifications on well completions? Please go ahead to the mic and, please, if you would state your name and affiliation, if any, and then your question or comment.

>> AUDIENCE MEMBER: I appreciate the opportunity to be here. I think this is maybe I could have saved this for more of the general comments towards the end, just about this process and how this will evolve, but a lot of these slides, at least from my memories of my role at API has worked primarily with the EPA on the Quad O regulations. I have a committee who provided feedback to the EPA and the development of that rule and a lot of these sources throughout the presentation have been considered by the agency, and I was just curious and maybe we can save this for later but just sort of the coordination with the EPA and, you know, there's the new effort even with the development of these white papers on a number of the sources that aren't regulated now but could be regulated possibly or some voluntary effort. I was just curious. You know, our members have questions on each of these sources and how you guys might proceed with potentially changing the regulations if you require further controls. I'm curious, should the EPA really inform and be allowed to play out before BLM. Are.

>> TIM SPISAK: You are right it's a general question. We intend to work with the EPA, as Linda has said. We haven't made a commitment to move forward with anything yet. That's part of what this public outreach is. We also talked about not willing to overlap with what other regulatory agencies may do.

EPA -- I don't want to paint them with a broad brush, their authorities generally surround air emotion. Ours deal mainly with conservation of resource and royalty and such. They are a little bit different, but some of the things we could do may have the -- may be the same types of things. So that's what we are exploring now.

Any other questions or comments specifically on well completion?

Okay. Moving on to the next one. Production tests. It's generally defined as test on an oil or gas well that's used to determine if slow characteristics or capacities specific to the reservoir, they could be initial tests or tests that occur during the life of the well.

Current BLM policy is that they are limited to the initial production tests. Generally authorized up to 30 days or 50 million cubic feet. That can be done without a royalty charge. And generally, the test is not expected to exceed more than 24 hours.

Some potential options that we could consider. Extending the well completion rules to the production tests, for instance, if you had, like, the EPA with the hydraulically fractured wells, the green completion, sending them into the production test world possibly.

Maybe using different limits to gas wells or oil wells, in an oil well circumstance, you would expect that there would be -- excuse me, in a gas well circumstance, would you expect that there would be a pipeline gathering system associated with it. One might think you would be able to test and not have to flare as much gas if you've got an infrastructure there which may not be this on an oil well, for instance.

A consideration, requiring the operator to be on site during all tests and then maybe limiting the test just to the time needed to -- to complete the -- validate the performance.

Any questions, comments or clarifications on production tests?

Let me check if we have any emails on -- there is one from Julie McNamay. And that looks like it's a general question. So I will hold that until the end.

Liquids unloading, well purging -- yes, sir?

>> AUDIENCE MEMBER: I'm Roger Kelly with Domestic Energy Producers Alliance. You have an evaluation test and you've got -- you mentioned other tests, but is that evaluation test, what is that? Is that evaluation of the production?

>> TIM SPISAK: It could be a test associated on the well with evaluating production, and it may be associated with a reservoir test. Any type of test that would result in venting or flaring from the well.

>> AUDIENCE MEMBER: Well, my comment would be depending on the type of test that you are talking about, if it's a production test, 24 hours would not anywhere come close to being sufficient time to evaluate the well. You might want to look at that.

>> TIM SPISAK: Okay.

>> AUDIENCE MEMBER: Thank you.

>> TIM SPISAK: Thank you.

Liquids unloading. Process of opening a well bore to the atmosphere and allowing the reservoir pressure to lift the liquid out of the well bore and into the atmosphere.

These typically occur in older wells but not necessarily so. The current BLM policy limits these events to 24 hours but we don't have any type of limits, daily, monthly, anything like that at this point.

Potential options could be that the operator must first attempt to unload those liquids without venting, some other process, gas lifts or some other process that might be out there. Requiring the operator be on site during the treatment, require that the cause, the day, time, duration and event be recorded. And that the opening to the atmosphere is only a last resort.

These four are similar to what Colorado has just passed and primarily because of that, we included them in here. Another one could be for new wells. If you are in an area where you know later on in the life of that well, that you are going to have to use some kind of liquids unloading technique or well -- blowing the well to the atmosphere to keep the well productive, if you know that going in, then there would be a requirement -- a condition of approval on an application for permits to drill, for instance, that would require that the equipment or infrastructure needed would be installed from the start. So at such point in the future, when that liquid loading, if it becomes necessary, that equipment will already be there to help with that process. That's a potential idea.

Another one might be to establish a lower cumulative, durations than what we have now.

Questions or comments on liquid unloading.

Okay, moving on.

Casing head and associated gases. This is generally the natural gas produced from an oil well. Hopefully it's either sold, reinjected, used for production purpose, hopefully vented rarely or flared, and truly dependent on whether there's a gas gathering line connected to the system.

Current policy requires the operator to receive approval to flare the casinghead gas. And right now, the BLM considers the total leasehold production, that's both oil and gas, when determining -- when determining the economics on the field-wide plan.

Now, we have identified a weakness in our implementation of this. It's not real clear how the economics are calculated and so basically, we are finding that it's kind of whatever the engineer might come up with, or whatever the company might come up with, and so there's some inconsistency in how this might be applied.

Some potential options would be to establish some kind of clear economic test that may include a number of factors, maybe it might specify a rate of return or a discount rate. Maybe in combination with some type of payout criteria, a timeline. Maybe ensure that it be clear that we're talking about a field-wide economics of gas capture, regardless of the operator or the transporter, looking at it from a large perspective.

The thought would be we may come up with a couple of different economic examples or templates that would be used as a guide to illustrate the types of things that we would wish to have included in an economic analysis.

Another potential idea would be to consider some kind of a combustion efficiency standard. We have heard in comments and other locations of some of the flares, not completely combusting the gas and some of the emissions associated with it. So this might be an area that we would consider.

I have another page on this.

If gas conservation is not economic, we would expect the flare would operate only a flare with an approved application to flare. Consider whether the approval should be valid for a fixed period of time or consider whether there should be some limitations to the approval term.

So if the operator knows within a date certain, they have a certain amount of time before the gas might become royalty-bearing, for instance.

If it is for a fixed period of time, then subsequent applications of flare would then be required to have a revised economic analysis that reflects any change to the conditions. Maybe it's changes in prices. Maybe it's changes in infrastructure, including, you know, plant processing, that sort of thing.

Maybe it would be including whatever new wells are added, that the whole field economics would be reevaluated.

Any questions or comments or clarifications on casinghead and associated gas?

Yes.

>> AUDIENCE MEMBER: Thank you. David McCabe with the Clean Air Task Force. With such an economic analysis consider other options for the utilization of gas? I'm saying. Stripping out natural gas liquid from gas, potentially trucking it, trucking compressed natural gas for power generation, both on site?

>> TIM SPISAK: It would seem that those types of things you are talking about would probably be fair game, costs associated with the on-lease type activities would make

sense to include in something like that.

Yes.

Any other questions on casinghead gas or associated gas.

While you were going up there, I looked and I saw there's a question on production tests. The question is from one of our folks watching it on stream. Where do production tests fall on the pie chart, please.

Okay. Let's see if we can do that real quick.

Those look like they would be in the pink slice, the 11.2 Bcf, 7%.

Okay, it's good we have confirmed that we have people watching online. That's good.

Next item, gas conservation plan. They are defined as an action plan that eliminates or minimizes venting or flaring of gas from oil wells. Current policy, and action plan is expected to eliminate venting and flaring within one year of date of application. That's the purpose of entering into one of those. That allows the operator to flare the gas in between royalty-free during the implementation of that man.

The potential options around this, with an operator's commitment to install gas gathering infrastructure, then we would -- we could potentially authorize flaring during the construction time. So it could go on if we are able to see that the construction time is longer, or for a period of time, then we would authorize 'king during that time.

Another potential option could be restricting the number of options allowed for flaring. So, again, there might be an expectation of one or two or whatever, and then after that it would be deemed that you had enough time to get the infrastructure in place and then it goes forward from there.

Next item, the next idea is gas conservation is economic and the infrastructure is not in place, and then requiring that the operator only flare under an approved gas conservation plan.

Another potential item, where it's clearly gas recovery is -- gas recovery is clearly economic in a case where you have a lot of head gas, refine definition of unavoidably lost gas to a fixed time period. That means the flared gas would have a royalty put on it. That's what we are talking about there.

Another potential item is if you are in an area where -- where you know that there's good recovery, then you potentially, conditionally approving the application for permit to drill, that -- that it won't be approved unless the infrastructure is ready soon, and we have soon in quotes. Is that 90 days? 180 days? At what period of time might that make

sense so that the APD -- they wouldn't be allowed to drill the well, in effect, until you got close where the infrastructure would be ready to take any flared gas. That's what we are talking about there.

Any questions, comments or clarification on gas conservation plan?

Storage vessel,/tank emissions. Gas vapors lost from storage tanks on lease.

Right now the current BLM policy is gas vapors released from storage tanks is unavoidably lost and not royalty bearing, unless the authorized officer requires recovery.

Some potential options here, on new wells, potentially requiring the capture of combustion of gas vapors from certain tanks. If I recall, EPA has some guidance on this already. And EPA's and NSPS requires combustion or capture vapors from tanks greater than 6 tons per year of volatile organic compounds. So the thought would be we wouldn't come out with the regulation saying the same thing it's already covered, but maybe the existing wells may be doing a similar thing, or installing combustors or some type of equivalent device for devices on existing wells.

Maybe a greater potential or a greater number of tons per year. We are looking to see, is another threshold appropriate or some kind of other throughput equivalent might work better. Is there some kind of safety-related threshold? We have gotten comments in some of the other public outreach meetings that if we go this way, they would much -- the comment was they prefer to have it be consistent with the EPA and not come out with a different standard and have some other metric to have to -- to meet.

I think that makes sense and we heard it, but we're still looking to find out some thoughts on that.

Any questions or comments or concerns on storage vessel tank emissions?

Let me check online.

A general question. We'll come back to that.

Pneumatic devices. These are devices that are powered by pressurized natural gas, such things as regulators, valve controllers, liquid level controllers. Right now, current BLM policy is that the gas used for pneumatic controllers, regardless of how much is used by that, is considered used on lease and is not royalty bearing.

Here looking at potential options, this is another one where EPA's NSPS controls are in place. They have -- they generally require that new pneumatic devices be low bleed for newer replacement devices and new pneumatics at processing plants would be zero bleed. That's generally off lease.

The potential require replacement when considering a number of economic factors. For instance, one could go in and determine what the reduction in bleed rate might be if you put a newer, different piece of equipment in there, you consider the cost of the equipment, the cost of the installation, the price of the natural gas.

If you go through that calculation, if you found out that it would take, for instance, 20 years to pay that off, it wouldn't make sense to replace that equipment, but if it were, say, within one year, then maybe it would make sense to replace that equipment. That's something that you might be considering and how might that be administered.

Any thoughts, questions or concerns on pneumatic devices?

>> AUDIENCE MEMBER: Miles Carbonelle. I was wondering measures that would affect pneumatic pumps like chemical injection pumps.

>> TIM SPISAK: I believe they would fall within the pneumatic devices part when we look at it. Thank you.

Any other questions or comments?

Okay. Leak detection and repair. These are generally programs designed to identify and repair leaks to reduce less gas loss from lease operations. Right now BLM doesn't have any leak detection or monitoring standard BLM-wide.

Potential options, maybe requiring a periodic inspection of facilities to identify leaks and make repairs. This could be something that could be tied to maybe the size of the installation, it could be the throughput, how much volume is going through. Maybe it's the number of facilities or potential leak points, whatever that might be, looking for your thoughts on how something like this might work.

We note that several states are starting to go in this direction too, and we'll be looking to see what -- what ideas they may be coming up with.

Any questions, comments or clarifications on leak detection and repair?

Let's look on the net and see if we have any comments on that.

As I mentioned, we are taking comments from these sessions through May 30th. There's the email address, it's BLM_wo_og_comments@BLM.gov. We had the three sessions. We expect to have a transcript from this session and the sessions last week will be posted on the web.

The place to find that under the BLM website, there's the energy or oil and gas tabs. Within the tabs, there's a line there, public events on oil and gas. Within that location, we have all the materials, the agendas, the presentations which are essentially the

same and the transcripts and we'll have a video link to YouTube on the March meeting and we'll have a video link to this session once we get that turned around.

At this point, we are open to your general comments and questions and I see a hand. Just move your way to the mic and say your name, affiliation and go from there.

>> AUDIENCE MEMBER: Hi, Tim, Dave Albertsworth with the Wilderness Society. Can you give us a sense after May 30th, what your time frame for making decisions, whether to go forward or not, and if so, what the time frame might be for a draft and a final action?

>> TIM SPISAK: I know there's a lot of interest in this particular area with methane emissions and such. And it -- well, hydraulic fracturing is our number one priority right now. This is close behind it. We don't have any firm timelines at this time, but we are spending a lot of time on it. We'll go back and forth, sir.

>> AUDIENCE MEMBER: I'm Rod Torres with Hispanics Enjoying camping, Hunting and Outdoors.

The US census numbers show that the Latino population is 47% in New Mexico. Colorado's is 21%. And those states are already heavily impacted by oil and gas development and there are prospects for increased development there. We believe that it's possible to have oil and gas development as well as protect the familiar trails and favorite fishing holes that Latinos hold dear in those areas, but it has to be done smartly and managed in a balanced way.

As we have seen more and more oil and gas wells floor our favorite outdoor sites, those of us who spend countless hours out there are -- are starting to see the changes. We can see changes in night skies. The western US has some of the darkest night skies in the continental United States and they are a valuable resource for astronomy and for tourism and for people to just go out there and enjoy. And as is famously known now, Bakken oil fields can be seen as brightly as Chicago from outer space and we don't want that to occur in New Mexico and Colorado.

So putting controls that are available on gas flaring is -- makes common sense to us.

Many Latino families have historical ties to those lands in the west and we hunt, we fish, we have traditional cultural uses of the land and we are concerned that oil and gas development could adversely affect not only our enjoyment, but our health. Our sportsmen and our communities expect, clean, healthy air. Flaring can trigger hazardous ozone spikes, haze and smog, it endangers children, the elderly and people with respiratory problems. So as far as the health of our land goes, we also would like to see some of these controls put in place and taken very seriously.

Moreover, it makes economic sense. Since 2009, New Mexico and Colorado alone

have lost \$78 million in potential oil and gas royalties that could better serve our communities than to be burned or released into thin air. That recoverable oil and gas are being wasted on such a scale is unthinkable.

So, once again, we're encouraged, actually to see BLM approaching this question and taking it seriously and moving forward with it.

When I was a kid, and I was learning to hunt and fish, and later in adulthood when I heard I had family ties to Curanderos and I was learning about gathering Herbs and also when I started learning to collect materials for art, it was taught that -- or the ethics that was taught was always to use what you take and take only what you can use.

And I think that's a good ethic to guide us in oil and gas development in the west.

So from here out, I really hope that we can see us moving forward, applying new technologies to collecting the gas and recovering the gas so that it can be used and also so that our communities and landscapes can be healthy.

>> TIM SPISAK: Thank you.

Let me get one of these questions online here. It's from Julie McNamay. Can you elaborate on the EPA responsibilities versus BLM responsibilities in regulating and controlling venting and flaring issues? BLM focuses on conserving resources does air quality fall into that category. Unclear on what BLM expects and what is EPA's responsibility to regulate versus BLM.

We talked a little bit about this. Generally EPA, through the Clean Air Act and I'm certainly not an expert on this, works with the states on the air quality and that sort of thing and BLM does, as I mentioned early, the royalty and the conservation of resource. There's some intersect in that the vented gas has an impact on air quality and it also has an impact on royalties associated with it. So that's part of our dialogue working with EPA as we go forward and trying to minimize or eliminate overlap, but then also working with the states like we started with on the hydraulic fracturing front. Work early with the states and what they are doing and work forward with that.

Okay. Next.

>> AUDIENCE MEMBER: Thank you. I'm with the Natural Resource Defense Council. I will keep my comments brief. I and NRDC appreciate and are encouraged by BLM's efforts now to investigate and take action on methane leakage. Clearly, methane leakage and venting methane represents a waste of a resource and clearly BLM has a responsibility and the authority to reduce such waste through its work.

Fortunately, there are technologies that are available today that are cost effective, they are proven and that can reduce leakage from pretty much across the supply chain of

natural gas production to transportation to distribution. So NRDC believes strongly that BLM has the opportunity now to take strong action under its authority to set standards, to, you know, reduce leakage from all kinds of wells, oil and gas, from all types of sources across the supply chain, not from wells to production, processing and even parts of the transportation system that may lie on BLM lands and also perhaps most importantly address existing sources of methane that are already out there in the field and producing gas.

And finally, we think that that BLM -- I almost see this as a an opportunity for BLM to take a leadership role in the space. Yes, EPA may be considering through its white papers as a first step, a further action on methane but this could be a good way for the two agencies to work together and take appropriate and appropriately strong standards in coordination with each other.

And finally also, I noticed that there were other levers that BLM can engage, such as royalty payments that could continue to supplement any actions that may come from EPA in the future. So I think it's a great -- it's great timing and I encourage -- and we are encouraged by your efforts in this space.

Thank you.

>> TIM SPISAK: I thank you. Sir?

>> AUDIENCE MEMBER: My name is Bill Midcap and I'm here representing the Rocky Mountain Farmers. We have about 33,000 members in New Mexico, Wyoming and Colorado. Our members are your partners. So, you know, we are small farmers and it truly is a grass roots organization, where the member get together every fall and we talk about policy and then they send me here.

What you talk about as federal lands is also our backyard and with your help and your cooperation, farmers and ranchers manage them. I don't understand this wasteful practice.

It seems like we are talking out of both sides of our mouths when we talk about this road to energy independence but yet we choose to flare and vent these gases. This week, I attended the EPA Region 8 field hearing on WOTUS, the oil and gas boom has put a great deal of pressure on the EPA plate with the Clean Water Act and ozone levels. You mentioned Colorado earlier in your talk, but certainly the University of Colorado, NOAA recently released a study that has shown levels methane emission from oil and gas at three times their previous estimates.

Methane, we all know what methane, is it's 20 times more dangerous to our atmosphere than carbon dioxide. We are wasting time, and money by not address this issue.

I saw some numbers of this. State of Colorado which passed the regulations that you

talked about earlier, that are really more stricter than most states in the West. It's a boom in California. The Niobrara is a boom to our state. But we have lost money from venting and flaring and it's enough gas to serve several cities in our state.

The fifth largest state in the union and you heard from the New Mexico representative last \$43 million in the same time period. That's enough gas to serve approximately half the homes in New Mexico.

Wyoming has lost over \$88 million in the last five years and stuff gas to serve more than three and a half homes in the whole state. So BLM should be a model for energy efficiency and as we all try to conserve our way to energy independence. Let's stop the waste and practice what we preach. Thanks.

>> TIM SPISAK: Thank you. Sir?

>> AUDIENCE MEMBER: Yes, Don Moss with the Independent Petroleum Association of America. We appreciate the opportunity to participate. We submitted official comments and I will spare you all of those. I want to make a couple of points. First of all, our concern, our members' concern is the materials presented indicate BLM is considering adopting requirements that would go well beyond resource conservation and royalty stewardship concerns. Our members are concerned that this effort by BLM is entering into the realm of air quality regulation that would create unnecessary and overlapping air quality issues.

The Clean Air Act, assigns it to the EPA and the state's responsibility for regulating clean air. Again, the concern is that this is stepping far beyond that and BLM needs to be concerned about that.

BLM may have a case specific basis for compliance of Clean Air Act requirements and imposed by state but we don't believe BLM has the right it have its own nationwide emission standards. Again, it's a very significant concern from our members of how the scope and the breadth of what's going on here.

Again, also, it was raised a number of time I know our members have. This presentation, these forums are important and we appreciate the opportunity to provide feedback. The BLM is going to need to recognize this step in the public process has significant limitations and we would strongly encourage a formal public comment review process complete with federal register notices and it's essential for BLM to proceed with a new policy and rule.

Finally this' a lot of talk about federal land and multiple use. That's one of the key charges of BLM and our members are concerned that the potential mitigation options presented today and across the country would have the unintended consequences of restricting resource development on federal lands which is a significant concern for our members and despite the recent boom in American production in oil and natural gas, the

vast majority of that has happened on state and private lands. And there's a very real reason for that, that our members are facing.

So, again, we would urge BLM instead of implementing restricts on development based on the economics of recovery of associated gas, that the agency's goals could be better achieved by streamlining the process and reducing wait times on pipeline and gathering systems and construction permits. Again, thanks for the time.

>> TIM SPISAK: Thanks and I do want to respond on one item. You know, each time we do these, we say them a little bit differently and I know in the prior workshops we had mentioned that this outreach was not intended to replace the standard procedure with, you know, proposed rule comments and all of that. This is kind of a front-loaded -- a pre-step so that our proposed rulemaking would be more targeted as we go forward. So thank you.

>> AUDIENCE MEMBER: Thank you.

>> TIM SPISAK: Ma'am?

>> AUDIENCE MEMBER: My name is Linda Johnson. I represent Breeze, Utah and I also serve on the health department, environmental quality council in Utah. Most Utahns I speak to strongly support your effort to stop most flaring and venting of VOCs during oil and gas drilling.

It adds to our non-EPA compliant air quality problems, and it costs us millions of dollars every year in the wasted money.

Colorado's new regulations, if they pass will remove 90,000 tons of VOCs from their air a year. That's equal to all the vehicle emissions in the state. I think that's a lot. If they can do it, you can do it. We need much more stringent fee scales and much more vigorous program. Methane is the most valuable fuel that is discounted because it is pretty stable and isn't a terrible, bad, VOC, but it's a very good fuel. It burns very clean. Don't waste it.

Most of the air we have in Utah doesn't meet EPA standards. I don't think we can afford for you to make it worse. I think that you need stronger inspections, higher fees, and some real teeth in your rules. With higher fines, inspection will pay for itself. Inspection seems to be one of the major problems in Utah with the leakages.

The oil and gas industry is a good industry, and I appreciate the money that they bring us and I appreciate heating my house, but when they over produce and prices and profits drop, they vent and the venting spiked when it happened in 2009 and we don't really want that to happen anymore.

We had a similar issue with the Wasatch front basin refineries in our population centers.

We who worked on our newest EPA CIP strongly recommended stopping the refinery's flaring. They said they couldn't do it. For many in the community, the flaring was a visible sign of waste and pollution, way beyond anything we could get, any citizens to fix by quitting our bad habits.

The gas flares in North Dakota are the brightest spot on the planet from the satellites at night. We decided in Utah to tell them that they had to stop the flaring in the refineries and they -- we didn't even get to make a rule. They just did it. They knew that they would have to leave, that they would be forced out of those plants and forced to locate elsewhere if they didn't fix it, and so they fixed it all by themselves. And it can be done and the industry can do it, and I can tell you who to talk to.

The health effects of the lack of emissions controls are very high. We don't have any way to control the emissions coming from the major drilling in the Uinta Basin. You are the only ones to control it because it's on the Indian lands. You can control it if you make the right rules. The health effect is that the closure you drill -- you live to a drilling site and the more drill heads under the area, the more damaging the effects are.

Research is underway, but very recent analysis of large population numbers is holding true to earlier small samples. Clear evidence points to specific damage. They had cardiovascular problems at all ages, breathing problems and specific heart, circulatory and neuro defects in babies, in populations breathing hydrocarbon pollution over time.

Inspection and control is a far better way to do this, fix it, than just sitting back waiting for the scientific tests to prove a lot of people have died from it. We don't think you need to wait.

And do protect the communities, particularly in the native person reservations because we can't do that in Utah. we can't always do it in Utah. I figure if you have to bring a militia to Utah anyway, you should bring a militia of regulators.

Thank you.

>> TIM SPISAK: Thank you. Let me go to the web here.

Okay. We've got a question from Eric Schlinker-Goodrich what is the basis for BLM only avoiding royalties on avoidably lost gas. Not imposing royalty creates problems for conservation and prevention of waste.

The term avoidable and unavoidable and again, I'm not a lawyer. If I get too far off, I can talk to our solicitor sitting here in the chair.

Avoidably lost gas is gas that presumably by the term, they could have done something to keep it from being lost. And so it's a matter of definitions of what the technology and contracts allow, and the regulations that have been promulgated NTL-4A, for instance

and the case law behind it as to what's considered avoidable and unavoidable. Part of this effort could be to explore the boundaries of those lines and within our authorities, but it's not just something we can wave the hand and decide ourselves, BLM, that everything is avoidably lost. But it is a process that we will be going through.

Jeff, do you want to add anything?

Okay. Please, sir.

>> AUDIENCE MEMBER: Hi, I'm Ross Lind from Bozeman, Montana. We have an accountability group based there with also an office in Denver.

There's a lot of talk about royalties and so I won't repeat what we have heard already, but I just wanted to let folks know we released a report this morning looking at venting and flaring and we based our calculations off a 2010 GAO and EPA estimate report that shows about between 4.2 and 4.5% of all gas produced on just federal land is either vented or flared. So what would that equal in 2013? Well, there was -- that would be about between 111 and 133 million Mcf of gas that would have been vented or flared. That's enough gas to supply homes in the cities the size of Los Angeles or Chicago for an entire year.

That also means about 54 to \$64 million in lost royalty payments and as all of you know, the royalty payments are split 50/50. So, you know, \$30 million to the feds is not a big deal, but I guarantee \$30 million is a big deal to the states. My home state of Montana, we constantly make decisions of whether or not we can fund certain programs, build critical infrastructure, to supply regions like the Bakken in eastern Montana and western North Dakota. So that's a big deal.

You know, last winter -- excuse me, just a few weeks ago, actually, in DC this was a hearing on propane shortages that occurred this past winter. You know, I think it's sad that there was a woman who died of hypothermia in her own home because she couldn't afford to heat it because of, you know, skyrocketing prices of propane but maybe just 200 miles away in the Bakken, there was propane rich natural gas going up to \$200,000 a month.

I will close by saying that certainly industry has a right to make a profit off public lands and that's part of the BLM charter and ensuring a fair return for taxpayers also includes the fee. But it also means a fair return for everyone. I can't walk into Walmart or Target and pick up a T-shirt and light it on fire and then walk out without paying for it and that's essentially what is paying here. I would urge BLM that this is an important rule. It's an important fairness piece for taxpayers.

Thanks a lot.

>> TIM SPISAK: Thank you.

>> AUDIENCE MEMBER: Yes, hello, Matt Haney with API. And first off, I just want to reiterate the thanks from others for having this session and giving us this opportunity to give comments. We intend to submit much more detailed comments before the May 30th deadline but we wanted to touch on some of the broad issues that are concerning our members.

First off, the initial point, I want to say that operators are leading efforts to reduce flaring because capturing more natural gas helps companies to deliver more energy to consumers. That incentive is built in. Furthermore, BLM has long standing rules in place for efficient operations that prevent unnecessary venting and flaring. And new regulatory controls that are already underway in states and at EPA.

BLM should focus its intention on fixing permitting, infrastructure and pipeline delays. It slows our members' abilities to capture more natural gas and get it to consumers.

To touch on a few areas that are important to our members, one is as many people have said today and I think that you have addressed today that BLM must act within its existing regulatory authority. BLM has authority under the releasing act to ensure that conservation of oil and gas resources prevent waste and obtain a fair return to the government, but BLM does not have broader authority to regulate in any way that it chooses. Specifically, regulation of air quality is squarely within the purview of the EPA and the state programs granted by Congress and the Clean Air Act.

The subject matter expertise of EPA and the state agencies with authority, delegated under the Clean Air Act puts those agencies to regulate oil and gas and other operations to achieve the Clean Air Act objectives.

Furthermore, new BLM venting and flaring requirements could very well duplicate, and as you have mentioned, might even conflict with existing EPA rules and state requirements. Specifically, the MLA prohibits BLM from developing law that conflict with laws and states where they are situated.

And there's limits on what BLM can consider to be quote/unquote waste. For example, the MLA does not contemplate that all loss is avoidable as you have referenced. Instead it requires oil and gas leasees to use all reasonable -- emphasis on reasonable precautions to prevent waste of oil and gas developed in the land.

Another large topic that our members are concerned about is that we think that BLM needs to provide greater detail concerning what the shortcomings of NTL-4A are because we haven't seen exactly what those shortcomings are. The requirements at NTL-4A already achieve venting and flaring by identifying situations when venting and flaring are permissible and having several other requirements that in our view address many of the concerns that appear to be at issue here.

In the in any event that NTL-4A is determined to be inadequate, we think that BLM should put it in the NTL as duplicative and unnecessary.

Our members are concerned that BLM should not take action when the EPA and states are pursuing emission controls on the oil and gas industry. I won't go too much into that because I know several people have mentioned that, but, of course the new source standard provisions and so far Quad O were done in July of 2012. Efforts to revise that regulation, we expect it to continue until 2015 and there's substantial resources and expertise going into that process and BLM should recognize that.

And, of course, methane reductions are co-benefits of the VOC reductions that come from regulations like Quad O.

Further more states, as you have mentioned, are also implementing or considering emission controls and, again, it's very important to our members that BLM take into account and work with the states as you have mentioned.

And another topic, BLM must consider that with respect to requirements for existing production operations, agency actions may not deprive operators of valid existing lease rights. There are several restrictions on what BLM has authority to do, with respect to the rights of the leaseholders that already exist. There's agency guidance that directs the land managers to act in a plan manner. There's statutory directors in which they delegate the authorities to exercise. Oil and gas leases are contracts with the individuals who hold the leases, and the rights and obligations under those leases can't be violated without affecting a breach of contract. They are taking issues under the constitution in the event that the leases are deemed to be noneconomic to a significant extent and their equity principles that are established and can come into play. And BLM should take into account each of those issues when it's decides how to move forward with this rule.

And finally, we ask that BLM should also consider the effect of delays on approvals for pipelines. There are permitting delays for pipelines that can delay pipeline hookups as a royalty owner. It's -- BLM's proposals seem to assume that it's as simple as laying a pipe and selling a small compressor in order to move that gas out to market, and that simply is not the case. Collection and treatment of methane generally involves midstream companies and that's another implication, and there are various factors that determine the ability to move that gas to market, including operating pressure, pressure from the gas stores, the quality of the gas, et cetera.

And finally, to the extent that existing gas plants and gathering systems in legacy areas are near or at capacity, the completion of the distribution may be necessary in order to move that gas to market from the wells. We appreciate this opportunity to make these comments and we will be submitting more detailed comments.

>> TIM SPISAK: Thank you.

>> Senior attorney. EDF is a nonprofit, nonpartisan organization that combines law, policy, science and economics to find solutions for the most pressing environmental problems on behalf of EDF and the members nationwide, I would like to express our appreciation for the BLM outreach on the venting, flaring and unavoidable waste and natural gas. Reducing waste and natural gas on federal lands will reduce methane emissions and we urge BLM to take swift action.

Venting flaring and leaks from oil and gas on federal lands not only contributes to climate change and threatens public health. Available data on natural gas losses on federal lands points to serious problems. As we know the GAO found in 2010 that between 4.2 and 5% of all natural gas on federal lands was vented, flares or unavoidably loss. Of this total gas loss, a significant portion of the gas can be vented to reach the atmosphere and as a form of waste that causes greatest harm to our climate and the public health. According to the EIA, the onshore oil production and 14% of onshore gas production comes from federal lands and based on current emission inventories suggests that over half a million metrics tons of methane or 36 million cubic feet of gas is lost each year, if we assume the amount of natural gas venting is in proportion to the amount of production.

More over, recent studies suggest that methane productions can be much higher than these inventories suggest. The NOAA study was mentioned earlier and found high in the Denver, Julesburg operation. It's 2.6 and 5.6% of gas produced in that basin is lot to the atmosphere and it's using data from official inventories. These are consistent with prior top down studies with the Denver Julesburg study. These emissions are causing immediate climate and health harms. 80% of natural gas include methane.

The national climate assessment reported that climate change is already causing a host of adverse effects across the United States, and including longer droughts and heat waves, more frequent and extreme weather events, larger wildfires and at the same time, that is now believed to be a more potent contributor to climate change than we thought. One-third of today's human cause comes from climate change and due to methane. And the most recent reports also found that a ton of methane is about 84 to 86 more times more potent than carbon dioxide and more potent than the first 100 years after his emitted.

In addition to methane, upstream oil and gas have coke blooms which we already heard about, including VOCs but also carcinogens such as benzene and there's ground level ozone information that is responsible for a range of human health problems such as respiratory disease and the developmental disorders in children at least for the carcinogens associated with VOCs.

We know that there's common sense ways to reduce this and many of these technologies would save the industry money over time. The scope of this opportunity recently brought into a report we commissioned from the independent consulting firm

ICF. According to ICF's report, about 40% of methane emissions from the nation's oil and gas sector could be eliminated by 2018 at a total cost of just one penny per cubic feet of gas. And GOA's report found that a similar proportion of natural gas losses could be cost effective.

Many of methane reducing measures highlighted in the ICF report could be applied to the thousands of well sites and compressor stations and other facilities on federal leases and rights-of-way subject to BLM jurisdiction. BLM has the responsibility and ensures that critical protections minimize the venting or flaring implemented on federal lands. The mineral leasing act requires holders of federal, gas to use all reasonable precautions to prevent waste and in the interest of conservation and service resources.

And broadly authorizes lease provisions for the protection of the interest of the United States, and for the safeguarding to the public welfare. BLM is further authorized under the MLA to do any and all things necessary to carry out these functions. The BLM has commentary responsibilities and authorities under the federal lands policy and management act of 1976, which requires BLM to take any action necessary, to prevent unnecessary or undue degradation of the land and issue all regulations for the management, use and protection of the public land including property located thereon.

Are it also requires that the BLM manage federal lands in a manner that protects the quality of resources specifically air and atmospheric resources and through these legal mandates BLM is charged with the responsibility to identify field-wide one of the most significant emissions of methane. We plan to provide written comments before the May 30th deadline. We thought we would set forth a few principles here that have been guiding our thinking on how BLM should go about this proposed rule.

First, we do strongly support the broadly applicable regulations requiring the use of common sense waste minimization measures and it's important that BLM consider as part of this proposed rule all of the legal pools at its disposal, including not just much needed revisions to NTL-4A but also direct regulations used as BLM's extensive land planning authorities and other measures.

Second, we think it's critical that BLM take actions no minimize waste of gas for the abilities and the operations that are already in existence. ICF's report in particular found that even four years from now, the resources would be responsible for about 90% of total methane emissions from this sector.

Third, BLM, we urge them to look at other BLM lands, gathering and transmission facilities, for example, are identified as a major source of natural gases in the ICF report and to the extent that facility lose like this are located on the federal rights-of-way they are within BLM's authority to regulate.

Fourth, we note in the materials presented in the previous public forums BLM has suggested that some mitigation measures may not be required. We think there are

numerous social benefits associated with reducing loss of natural gas from federal lands and in addition BLM has the overriding legal mandates that I described. Accordingly, we think BLM should consider waste minimization measures that are cost effective from the societal or regulatory point of view and also reflect with rigorous economic analysis and leading policies and practices have already demonstrated to be cost effective.

And if BLM does decide to propose some sort of threshold, it should be rigorous and recognize the benefits associated with preventing loss of natural gas.

Lastly, we are encouraged to see that BLM has identified what we think are some of the most important sources of waste and natural gas in the power point presentation that we just saw. As BLM crafts the proposed rule, we urge it to place a high priority on five measures in particular that we have identified as major opportunities. Those include comprehensive and frequent leak detection and repair at the facilities in the production gathering, processing and transmission segments. The replace. Of pneumatic controllers with low bleed models and recovery systems on wet field compressors and regular replacement of the reciprocating rod factors and the control of emissions from oil wells including mitigation of associated gas venting and oil well completion emissions and lastly the control of liquids and unloading emissions.

BLM should not wait for other agencies and jurisdictions to take action before proposing its own rules we encourage BLM to work closely with EPA and states developing expertise. In February of this year, Colorado established the first set of rules to directly regulate the methane emissions and in addition, to several other proper control, it includes the strongest in leak detection and repair program. Ohio has followed suit and issued a rigorous program from hydraulically fractured wells.

And Wyoming which is the state producing the most oil and gas on federal lands has new production facilities in September of 2013.

In conclusion, we welcome BLM's work on this issue and we are pleased to see continued progress fulfilling this important part of the White House methane strategy. We have think strong action is urgently needed in order to fulfill BLM's fundamental responsibility to steward and preserve our nation's resources.

Thanks very much and we appreciate the opportunity to share.

>> TIM SPISAK: Thank you. Sir.

>> AUDIENCE MEMBER: David McNabb with the clean air task force. We're a small environmental organization focused on reducing atmospheric pollution with research, efficacy and private sector collaboration. And so thank you for having these forums so we have the opportunity to have this discussion. Clean air task force believes that it's very important that BLM move forward in this process and I will illustrate that with two points. One is about the importance of the planning process for -- specifically for

prevention of flaring. And these are just some data points from North Dakota for 2013, based on our analysis of state data.

About 14% of the gas produced in North Dakota in 2013 was flared from wells that were not hooked up to pipeline and that number might seem low because about 18% of the gas produced in North Dakota was flared from wells at least during a month when that well was hooked up to a pipeline.

So more gas is flared from pipes that are on gas than not. Those figures are driven privately and not by wells on federal or tribal land. So I think that illustrates that the critical importance of a planning process to ensure that infrastructure are in place, for productive use of associated gas before the well is completed. And we believe that is an important role for BLM.

A second way to illustrate this is with some analysis of a data set that we urge BLM to consider in the process moving forward, which is EPA's greenhouse gas reporting program. This allows us to look at industry reports of methane emissions from various processes on a well pad in various basins. So we took a look at emissions from eight basins in the western US that are largely public land. These basins produce about 19% of the US gas. 62% of liquids unloading emissions reported to EPA occur in those eight basins that produce 19% of US gas. 34% of pneumatic controller positions under those eight basins and 31% of pneumatic pump emissions.

Clearly, there's some issues into these basins that need oil and we need to make sure that the agency which, you know, has the jurisdiction over that gas, before it comes out of the ground is making sure that the practices are essentially up to snuff on those lands.

So, again, we thank you for giving us this opportunity and we look forward to written comments and further discussions.

>> TIM SPISAK: Very good. Thank you. Sir?

>> AUDIENCE MEMBER: Good afternoon. Dan with Chevron. I would like to thank you for the effort that you have put out, asking for public workshops around the country. I know that hasn't been an easy thing to schedule and to hold.

The first point, just as you consider the benefits of any further actions, I have noticed that NTL-4A does exist in the context of many other activities going on, both industry improvements and practice, the states rules that have been noticed here, EPA's Quad O, and evolving efforts that are going on. So the baselines, while it's illustratively the word of notice, the baseline out this in the field is all of these other activities have been adding value to control these resources.

Second, is just the fact that the natural gas life cycle emissions are not fully understood at this point in time. There are currently efforts to improve the reporting of those

activities, and there's efforts to better understand the emission factors that go into these calculations and the pie charts that have been shown and the extrapolation is and evolving topic of where there's a lot of work by industry and agencies to better understand and that needs to be factored in and not all of that will meet your immediate reporting deadlines and we will be coming out over time. We are committed to get that work to you as fast as it's available.

The industry has not been sitting on its heels for 30 years either. There's a lot of innovation going on about practice and controlling these emissions. There's also been a lot of new technologies developed, in fact, voluntary activities by the industry with EPA and the Star program, we have actually developed some of these technologies that we are using today or considering.

One thing I would like to emphasize here is a lot of context of the comments have been on waste. I believe the appropriate context is efficient production of the natural resources to begin with and understanding waste in that context, because it's by providing the resource to the public, and royalties that come to BLM, that there's a great benefit to DC, not just viewed as waste.

I want to emphasize that the complexity of this issue is driven by the economic character of the oil and gas fields in each of these areas. So sort of extrapolation of one size fits all in these characterizations command a greater rigor to understand and to effectively develop any solutions.

We would also like to support the comments made by others in the industry about focus for BLM on its mission and not to become overlapping to the states or the EPA jurisdiction, which we don't get a duplicative set of requirements to regulate by.

Finally, we are working with the industry and the stays and BLM to provide the information and looking forward to comment on an ongoing dialogue. Thank you.

>> TIM SPISAK: Thank you. Ma'am?

>> AUDIENCE MEMBER: My name is Deb Thomas, I work for Powder River Basin Resource Council in Wyoming and I come here representing people who have been living with this industry for a long time, and I am one of those people.

And I think I want to leave you with one message and that is that we have heard a lot about the resources that should be protected and the rights of industry to protect their resource, which is the availability to make many, but the one resource that I encourage you to protect is the health of the people who are living with this industry now, who have been living with it for a long, long time, and the people who are going to -- the numbers that are going to increase as the place becomes larger across this country.

The rights of clean air, the right to breathe, and the right to have a safe environment to

live, and health for our families is the one resource we haven't heard about today. And so, again, for each of you that is charged with looking at how to regulate and better protect our air quality, please consider that. Please look at those of us who are living with it. Look into our faces and think about our lives, our children and our health. Thank you.

>> TIM SPISAK: Thank you. Sir?

>> AUDIENCE MEMBER: Thank you very much, my name is Dr. Walter Su, I'm with physicians for social responsibility, and as a physician, and as a public health physician, I'm particularly concerned about the impact of this gas and oil industry, and its effect on health.

Largely in this country for reasons that I think are related to the industry's efforts, we have not scientifically studied the long-term health effects of all of these fracking and gas drilling and venting and flaring events. I think that may be beyond the jurisdiction of BLM, but it seems to me that someone in the government has to take this issue seriously and study this in a scientific fashion.

Second is that, you know, if we realize that as physicians that the human lungs really are only designed to breathe in air. It's not designed to breathe in VOCs or methane or BTEX chemicals or anything else that's out there. If we don't create an energy industry that allows us to have mostly air that we breathe in, we are going to have a whole host of health problems.

Third is that -- I mean, I'm from a naive and new to this whole area, but these are federal lands. These are public lands that are protected for a reason, and for us to lease them out to an industry that actually is producing chemicals that are known to contribute to greenhouse gases and other toxins seems to be the antithesis of what we should be doing with federal lands. You could lead by example by using maybe renewable energy as the major source of how you use these lands.

So, for example, if the President wants to put solar panels on the White House, which he recently has done, why is it that BLM is not leading by example and putting other renewable sources like wind, solar, geothermal and so on as the major energy resource rather than having this whole discussion that we are having right now about, you know, methane reduction, et cetera, et cetera.

So I personally think that we're philosophically thinking incorrectly about this issue that BLM can lead by example. If we believe in the next century, it should be devoted to energy -- renewable energy and climate change reduction, we should actually be thinking differently about how we use our public lands.

Thank you.

>> TIM SPISAK: Thanks and just to note, BLM has permitted over 10,000 megawatts of renewable energy in the last several years. But we are not totally absent on that.

Sir?

>> AUDIENCE MEMBER: My name is Frank Swain and I'm with the advocacy grass roots based out of Denver with offices in Craig, and grand junction and Durango. I was talking about the methane law that was finalized. We are the first state in the nation to regulate methane associated with the oil and gas operations.

First, a quick technical comment. The air pollution control division, of the state government arm that handled this rulemaking found that the cost for replacing highly pneumatics to low pneumatics is \$1,420. The annual net value of the gas saved by switching to low feed was calculated to be \$1,253, so a 14-month payback period. Just something to look back at the start.

Speaking more general to the Colorado methane rulemaking. A vast coalition of partners, very unlikely partners came together to make this rulemaking possible in the first place and that ranked from health professionals, doctors, been mom groups, environmental groups, farmers, and also three of the largest more forward-thinking oil and gas operators in the state. A pretty unlikely coalition to give the impetus to make this happen.

Add to the fact that this rulemaking has the same previewing scope of the Colorado rulemaking but layers in royalty so you have more people that can stand to benefit. It's on the rulemaking number 9. We really urge you to take a hard look of what Colorado has done in terms of venting and leak detecting and repair.

So this closing, we hope you take a second and take a look at Colorado and see what we have done and I will be happy to be in touch and we will submit more information on the context of rulemaking.

>> AUDIENCE MEMBER: My name is Nick Lund with the National Parks Conservation Association. I want to thank you by hosting this forum and similar ones across the country. On behalf of NPCA, I urge the BLM to issue a strong policy to reduce waste of natural gas and better protect our National Parks from unnecessarily released methane. In 2013, more than 100 million MCF was wasted on American public lands. Gone forever.

In addition to the 54 to 64 million in royalty payments Americans have lost due to this wasted gas, escape methane is a threat to our nation's National Parks and their millions of annual visitors. Methane is a contributor to ground level ozone which produces smog and can lead asthma attacks and other respiratory ailments in northeastern Utah, the Uinta basin near Dinosaur National Monument. There were ozone levels worse than those of New York City and more than double the EPA's allowable standard of 75

parts per billion. Of course, the global warming potency of methane threat ins the environmental characteristics of all National Parks. No where has the impact of methane waste be more impact than Bakken than the Theodore Roosevelt park in North Dakota. Nearly \$100 million of natural gas is flared or vented in North Dakota each month. They have reached a famously dark night sky and the Bakken appears now from space as a city bigger than anything else in the West.

The impact to Theodore Roosevelt National Park cannot be understated and present a worse case scenario for other National Parks in the nation. The BLM should do all it can to ensure the current expensive waste of natural gas is curbed and that Theodore Roosevelt and the rest of our National Parks are permanently protected.

Thank you.

>> TIM SPISAK: Thank you. I have been checking, I haven't seen any emails for those of you watching live stream. If you have any questions, please send them in and we will get you on. Ma'am?

>> AUDIENCE MEMBER: I'm Lena Moffett with the National Wildlife Federation. On behalf of the National Wildlife Federation and the 4 million supporters nationwide, we want to thank you for this opportunity to comment today. The National Wildlife Federation is one of the country's oldest and largest conservation organizations dedicated to the protection of our wildlife and public lands.

As such we are excited to see the White House release the methane strategy in March as an important opportunity to reduce pollution in the form of waste and protect our communities' wildlife and public lands.

However, we are particularly interested in some of the ancillary benefits, that Ms. Land mentioned in both the climate benefits and the public health benefits as reducing public waste from public lands. Not only are the methane releases bad, they contradict the BLM 1920 law. Under that law, BLM is compelled to require users to use all reasonable precautions to prevent waste as many of my colleagues have mentioned before.

However, venting and flaring of methane on oil and gas development currently contributed to substantial waste each year, as has been mentioned, allowing for the loss of the valuable public resource that can and should be generating millions of dollars in annual royalties for the American taxpayers.

The GAO says that oil and gas should economically capture 40% of all vented or flared gas with existing technologies. An effort that would generate \$23 million in annual royalties and avoid the emission of 16.5 million tons of greenhouse gases every year. This is a triple win solution that we encourage BLM to pursue aggressively.

In January, the National Wildlife Federation joined with 17 other organizations in urging

BLM to do just this. The letter to Secretary Sally Jewell to require reductions in natural gas waste from venting and flaring and offered a series of principles to guide the process. They were not limited to an interim directive, but this new rule covers new and existing oil and gas development, that it mandate before leases are executed the best use of available technology and the bureau significantly restrict or prohibit natural gas venting and flaring and that the rule reflect the true cost of venting and flaring both to health and our climate and it allow for transparency and accountability. We appreciate these opportunities to comment before the rule is promulgated.

Thank you for that and we look forward to working with you to implement these rules.

>> TIM SPISAK: Thank you.

>> AUDIENCE MEMBER: My name is Gwen Lachelt. I live in Durango, Colorado. I'm very pleased that the BLM is considering developing a new policy on venting and flaring. La Plata County was very involved in new air quality rulemaking in Colorado and while that rule is not perfect, I think it can definitely serve as a model for the BLM in developing this new policy and I would urge the agency to put a strong emphasis on monitoring and enforcement and move forward quickly.

I have a prepared statement today. I actually wrote this piece in January after driving home to Durango from Albuquerque, and I actually titled the piece before I wrote it, which I know my English teacher would probably roll in her grave, but I titled it "Drilling for Gas Has Transformed Our Region."

Now it's a trash gas? For me, flaring of natural gas spurs a healthy outrage in loss gas of for several decades companies have drilled tens of thousands of natural gas wells in the San Juan basin of southwestern Colorado, and northwestern New Mexico. The wells have transformed our landscape in an industrial grid of wells, pipelines, compressor stations and roads.

The wells have also impacted families living nearby to increased noise, truck traffic, dust, drinking water wells have also been impacted, homes and properties and in some cases entire subdivisions have been evacuated, and bought out by oil and gas companies.

A 2002 study commissioned by La Plata County showed property values declined 22% with the well on the land. The list of impacts goes on. Without a doubt, our region has benefited economically from the development through property and severance packages jobs and royalty payments to mineral owners. But in 2008, gas prices started to decline. Because oil prices have remained fairly high, companies have turned their interest to drilling from gas -- for gas to drilling for oil. According to numerous newspaper articles about flaring in North Dakota, because of low prices it's cheaper to flare the gas that comes up with the oil than to put it in a pipeline.

One article I read states that an estimated \$100 million worth of gas is flared per month in North Dakota. It may be cheaper for the oil companies to vent and flare, but what about the mineral owners and taxpayers who are losing out on their royalties for that gas? And is it really cheaper in the long run if air quality is diminished and high ozone levels impact the health of the people living and breathing that air?

Closer to home, I drive frequently between Durango and Albuquerque on US highway 550. Over the past year, several new oil wells have been drilled on BLM and Indian trust lands near the highway, and all of those wells are flaring off the gas. My children get just as upset as I do when we see those blazing stacks. How can they get away with that my boys ask.

As a taxpayer, as a mother concerned about diminishing air quality, and as a public servant elected to protect the health, safety and welfare of La Plata County, I'm truly outraged that venting and flaring of natural gas is allowed. To think that we are burning off millions state and federal revenue, money that has real impact on the lives of those in La Plata County is unconscionable. Colorado as lost out on at least \$35 million in 2009 since companies have had the right to burn off the gas.

Unlike North Dakota, we have a natural gas pipeline infrastructure already in the San Juan basin. It certainly seems feasible that the new oil wells could tap into existing pipelines and capture the gas instead of flaring it off. And regardless of whether gas pipelines exist, companies have technologies available to them to capture the gas on the well site.

But it won't happen by goodwill. Strong rules must be put in place to protect our communities from these wasteful practices.

The 2008 study commissioned by La Plata County showed over 80% of the green house gas submissions in our county are from the gas wells and associated facilities, pipelines, compressor stations and gas where the formation comes to the surface or outcrops. Air quality monitoring stations throughout La Plata County and northern New Mexico show ozone levels are continuing to rise.

Our county was hit hard by the great recession and property values declined as well. Since 2010, La Plata County's revenues have declined by \$15 million, just a few short years ago, oil and gas revenues accounted for well over half of our overall revenues.

Last year, oil and gas revenues amounted to just under 38% of our revenues. We have heard from industry representatives that if our natural gas production stopped tomorrow, we would have to increase property taxes over 500% to maintain our current level of county services. Demand for county services, however, continues to increase. County employees continue to have to do more with less. Last year, the board of county commissioners had to shutter needs to hire seven new positions due to declining revenues.

We are dependent on energy impact grants to fund many county services yet we allow companies to simply burn off a potentially large source of federal, state and local revenue free of charge on public land. This must stop.

With approximately 40,000 producing wells in the San Juan basin, and a significant number of those wells on federal land, it is incumbent upon the BLM to implement expeditiously a strong policy controlling methane and VOC emissions from oil and gas operations.

Thank you very much for the opportunity to speak today.

>> TIM SPISAK: Thank you. Sir?

>> AUDIENCE MEMBER: Thank you. Tom Singer with the Western Environmental Law Center. I want to echo and follow up on the comments about associated gas and the methane waste from wells that are both connected or not connected from gathering or capture system. That is that we believe that BLM has both planning and permitting obligations that need to be integrated into the options that are presented in your PowerPoint presentation, and these planning and permitting applications include resource management plans, mineral leasing plans, mineral development plans and applications for permits to drill.

And these are front-end planning tools that can put methane waste -- put methane waste, marketing and use controls in place prior to leasing or drilling commencing on federal land.

And if I may, I would also like to add the question, EPA finds that dehydrators, compressors and pipelines are also significant sources of methane waste, and I'm wondering what your understanding is or what the data sources might be available with respect to the presence of these sources on federal lands or related to federal minerals. Thank you.

>> TIM SPISAK: Sure. Regarding that type of commitment, certainly compressors have shown that depending on the style, there is a potential for leaking there. Our -- you don't like to hear this, government, government, but, you know, our authorities end at the lease or the unit boundary and certainly there's a differentiation there but there's that type of equipment on lease that could be considered in this ruling.

Thank you.

>> AUDIENCE MEMBER: My name is John Fenton, I'm from Pavillion, Wyoming I'm a member of the Powder River Resource Council. I have grown up in the west and Wyoming as you may know has a huge amount of its land that is public land. As a matter of fact where we live, although it's private ground it has tribal minerals

underneath. So we have quite a few dealings in our state with federally managed minerals.

My father worked in the oil industry in the late 1960s and early 1970s around the city of Casper, Wyoming. And we even got pictures of where we lived and next to every one of those oil wells was a gas flare. Over 40 years ago. This is a repetition of things that comes in the West. We get wave after wave of people coming in and reaping the benefits from the mineral rich resources that we have in the West and we're very often left holding the bag of destroying ground and dirty air and all the other associated impacts that go along with it. First and foremost, I'm thankful that BLM is at least looking at this. We have to start being honest with ourselves as the true impacts of making money with these resources.

Where we live with the federal minerals underneath, it's pretty damn easy to find the leaking methane. It bubbles up through the irrigation water when we water our fields in the summertime and it comes out of the pneumatic pumps and all separators that surround our house and our farm ground and that of our names. It's to the point in the winter time where you can taste the gases in the air and smell it.

So, this needs to be some honest evaluation of what's going on and this is a very good starting point for that. Whether we are looking at it through economic waste or mineral loss, or the effects on people, to waste this resource, no matter what impact it has, is a folly that we are going to regret some day.

We owe this current generation of people and the generations to come a hell of a lot more than we have been giving them and I think this is a good start and I would be more than happy to give written comment or to anybody who doesn't believe the things that we say in the West, come and see it for yourself. We will live it. We experience it every day.

And the impacts are real. Thank you for giving us the time to speak and I hope to see a lot more of this in the future. Thank you.

>> TIM SPISAK: Thank you. Ma'am?

>> AUDIENCE MEMBER: Hi, Tim, Sarah Yule from Clean Air Task Force. We very much appreciate this public outreach process as you are scoping a potential rule and I just had a quick clarifying question for you regarding your statement earlier that BLM has not made a commitment to move forward. I'm just hoping to clarify how that comports with the president -- the White House's strategy to cut methane emissions, which states that later this year, the BLM will propose updated standards to reduce venting and flaring of oil and gas from public hands.

>> TIM SPISAK: That's part of our reluctance to try to set some type of a time frame. We have a lot of moving parts with this and other rules and it's trying to be more

conservative and cautious in how we are moving forward.

>> AUDIENCE MEMBER: So you are still planning to move forward this year, but not sure exactly what form the rule will take?

>> TIM SPISAK: Not exactly sure the timing and the exact form, sure.

>> AUDIENCE MEMBER: Okay. Thank you.

>> TIM SPISAK: Sure. Ma'am?

>> AUDIENCE MEMBER: Hi. Good afternoon. My name is Madelyn Footen, I'm with the League of Conservation Voters. We work to turn environmental issues into national priorities. We believe this is a critical moment in the fight against climate change and we thank the administration for taking a look at methane emissions from all sources, particularly the oil and the gas sector.

We believe taking steps to reduce methane emissions from the oil and the gas industry is an important component to tackling climate change under the president's climate action plan and we support BLM in taking strong actions to require the industry to reduce their emissions. As we have heard, there are cost effective technologies available that will not only reduce the greenhouse gases contributing to climate change but will reduce the waste of a valuable resource, provide more royalties to taxpayers, and protect public health without devastating the industry.

We urge BLM to quickly move forward with new, strong regulations to reduce methane emissions from the oil and the gas industry on public lands. Thank you.

>> TIM SPISAK: Thank you. Ma'am?

>> AUDIENCE MEMBER: Hello, my name is Lauren Papal, I'm the policy director for Earth Works and I want to thank the BLM for holding these hearings and doing this work. I think that you all can play a leadership role in this issue and that's really what we need right now. Public lands are lands that are held in trust for all of us, for our children, and our children's children, and I do believe that this should be a higher standard for what we do on our public lands.

And we are at a point right now where the cost and the burden of oil and gas drilling isn't being paid by the oil and the gas industry. It's being paid by the families that live next to these oil and gas wells and who go out on their porch every night and all they see is flares. And we need to really think about those folks and you need to think about those folks when you are making these types of decisions and hopefully leading on this issue.

We know that from all the science and recently about climate change, that methane -- without reducing methane emissions and without plugging these leaks, we

don't have as much time to deal with some of these catastrophic climate change issues. I think now is the time for the I'm and the gas industry and this administration and everyone who is concerned about our children and our grandchildren, those that haven't been born, to step up and say, okay, we need to stop externalizing these costs and we need to deal with some of these issues and you all have an opportunity. You have all the regulatory tools at your fingertips to do this and I really encourage you to do so.

>> TIM SPISAK: Okay. Thank you. One more.

>> AUDIENCE MEMBER: Just once again, Bill McCap from Rocky Mountains Future. I wanted to give you an example of what Mr. Swain said.

We have the Niobrara, and we have the natural grasslands. In that play, they asked for over 700 megawatts of electric power to service that load in that area. So these stiffer regulations that we have enforced in Colorado have not deterred oil and gas development within that area. So I just think once again, what Mr. Swain said about our tougher regulations, it really has not stopped or deterred any kind of development. The economic threshold must be there or they wouldn't be asking for all -- this wouldn't be that development going on.

>> TIM SPISAK: Thank you.

Any other comments?

One last look online. I don't see any new emails. So Mike, Linda, do you want to close this? Do you have any closing comments?

>> LINDA LANCE: First of all, thanks to Tim. He's done a great job of pulling this together and taking it on the road. We really appreciate it. It's been a good start for us, in starting to think about this issue. And I just wanted to say thank you to all of you and particularly those of you who have taken the time to travel from far away to DC to -- to bring us your perspective on all of this. I hope it's the beginning of an ongoing dialogue with all of you. This is an issue that we are very serious about and that it's a difficult one to work our way through.

And so we are well underway in doing that and we look forward with working with you going forward. So thanks so much for your time and your attention to this issue and we'll continue to talk. Thanks again.