Next Generation Compliance: Environmental Regulation for the Modern Era
Given on February 27, 2020 by Cynthia Giles, former Assistant Administrator, Office of Environment and Compliance Assurance, US Environmental Protection Agency (EPA). It is part of the Regulatory Policy Program's lunch seminar series at the Mossavar-Rahmani Center for Business & Government.

Speaker 1:

Welcome to the Mossavar-Rahmani Center for Business and Government at the Harvard Kennedy school. For more information on events, news and research, visit www.mrcbg.org.

Malcolm Sparrow:

Good morning to you all. I'm Malcolm Sparrow standing in for Joe Oldie that couldn't be with us today. It is my great pleasure to introduce our speaker for today, who is Cynthia Giles, who I've known ever since she was a mid career student here at the Kennedy School. Hands up mid-careers, how many are with us today?

Speaker 2:

Mid careers [crosstalk 00:00:47]

Malcolm Sparrow:

We take all the credit for the things she has accomplished in the career which is an extraordinary career in public service, mostly as a professional regulator, also as a lawyer and as a prosecutor. Few important things about her background. She is now a guest at the environmental and energy law program here at Harvard. All through the Obama presidency she was a systems administrator for EPS, OECA. The office of enforcement and compliance assurance. That is the most senior career position.

Cynthia Giles:

It's political.

Malcolm Sparrow:

It's the point at which the two worlds kind of meet. That's an extraordinarily heavy duty regulatory responsibility. She has more than 30 years of service and the public, private and nonprofit sectors. She was earlier on an assistant United States attorney in Philadelphia, [inaudible 00:01:55] environmental crimes. My little snippy town of Winchester, eight miles North of [inaudible 00:02:01] when I tried to understand what one of my neighbors was going to do to the wetlands and I had to look up all of the Massachusetts state. Wetlands laws I discover that it's got Cynthia's name all over it. I think you wrote Wetlands protection law in this state. After the Obama administration, she became the director of strategic initiatives at the university of Chicago energy and environmental lab and she has a bachelor of arts from Cornell, doctorate of law from the university of California in Berkeley and MBA here from the Kennedy school of government. We're delighted to have you with us today.

Cynthia Giles:

Thank you. When I started my career as a regulator, I adopted the strategy of do not stay in your own lane, much to the annoyance of my colleagues and then I came to the Kennedy school and Malcolm and said, "You're on the right track. Keep going." You'd be happy to know that I've continued to aggravate my colleagues in the 20 years since then. But I've done so with more confidence because of the support

I got from you. So thank you. Okay, we'll here to talk about next generation compliance, which in a nutshell is why there's so many environmental violations and what can we do about it? A little bit way back, Malcolm mentioned a little bit of my career. I was the Senate confirmed head of the enforcement office in the Obama administration as he mentioned and I've done prosecution [inaudible 00:03:43] of environmental violations.

Cynthia Giles:

I was head of enforcement in EPA region. I ran the water protection programs here in the state of Massachusetts. I worked at NGO. This is by way of telling you that my experience in this arena is both very broad and deep. I've been in the trenches finding the cases and I've been at the top levels of making policy and I can tell you that there's two common things that everybody who works in the arena of environmental compliance, this is what they believe. This is not just the regulators, but also the [inaudible 00:04:19] in many academics. The first thing is that most companies comply. You probably heard the bad Apple expression. There's some bad companies but by and large, most companies comply, especially the big ones. The big companies largely comply. Then non-compliance is mainly the small companies and people believe that compliance is the job of enforcement.

Cynthia Giles:

The regulators write the standards, write the rules, and then they hand it off to the people who do enforcement whose job it is to look for violators and bring enforcement cases. These two views are deeply and widely held but they're also both wrong. In fact, non-compliance is rim. Serious violations are widespread. All sizes of companies, all sectors, all types of programs and they cover types of violations, like too much pollution and that excessive of what's permitted, violations of prevention requirements which are intended to avoid there ever being a release into the environment, like hazardous waste rules as fast as oil spill prevention requirements, corrosion and spectrum [inaudible 00:05:34] that kind of thing and monitoring and reporting, which is how government knows what is going on. Also violations of all of these types widespread.

Cynthia Giles:

And I've asked my colleagues over the course of my careers, folks who've been working in environmental protection, most of them for their whole career. "What's your guess? How widespread do you think violations are? Just give me a ballpark, what do you think?" The most common response I get to that is five to 10%. You wish. Okay. It's nowhere near that. Nowhere near. Much more serious than that. And the belief that compliance is the job of enforcers is also a problem that I think when you look at the data, I'm going to talk to you guys about this today. You look at the data you see that it's actually the design of the rule is the primary thing that determines of the compliance outcome, not the enforcement after the fact.

Cynthia Giles:

So why should we care? What if most regulators have these two fundamental things wrong? What if it's just me? What matters is compliance is where the rubber meets the road and actually protecting people. Compliance is where we see the difference between the words written on a page in a rule and actually something happening in the world. Lower pollution, steps taken to prevent risk. The map on the left here is the areas in the United States that are currently in non attainment for national air quality standards. Probably 130 million Americans live in these areas. Water pollution, similar story. About half of the waters rivers in the United States are in poor condition. It also matters for the risk of exposure.

Those are definite exposures. Everyone who breeds [inaudible 00:07:34] water is affected by these exposure risk. These are the types of things that companies are failing to that protect us from unexpected exposures.

Cynthia Giles:

Almost every time there's some big explosion that results in toxic chemicals going into the neighboring communities or waste being poured into a drinking water supply or kids getting lead poisoning. Almost every time you find those things, we dig into it. We discover that there was a violation, that someone failed to do the prevention measures that are required to prevent that kind of exposure. So when we don't have compliance, we're not getting that protection. Next generation compliance is a series of articles that I am writing which are explaining, what is this problem? Setting up the evidence and what can we do? The first part which is posted on the web now, rules with compliance built and talked about the evidence for why it's the case that the rule design is what most affects the compliance outcome.And that's what I'm going to talk to you about today.

Cynthia Giles:

My experience in talking to folks about NextGen is they're most persuaded that rule design matters to the compliance outcome by date. What I'm going to do is give you two examples of rules that are well-designed, have very good compliance outcome and two examples of rules that have disastrously bad compliance outcome and what can we learn by looking at the structure of those rules? Two, I'm going to talk about acid rain and Paraquat. There's others in the paper but I'm going to focus on these two. I answered Brian, "Who's taken environmental economics?" Okay. So if you're taking environmental economics, you've heard about the acid rain program because it's widely tied in those circles, acid rain could see there in red, those are the areas of the country where we're seeing deposition of sulfur through rain, which comes primarily from coal fired power plants.

Cynthia Giles:

And so having a very negative effect on forest water quality in the United States. So we want to reduce sulfur. How are we going to do that? The solution that Congress devised is called the acid rain program and those who have taken environmental economics I've heard the cap and trade aspect to this program. What was done was to set a cap on the total number of tons of sulfur dioxide that could be emitted and then companies had to have an allowance equal to one ton for every ton that they emitted. So it was a cap on the total amount, which was constantly declining entry and companies were allowed to entry to market it, to trade. You've probably heard of this part of the program, what you probably have not heard about are the parts of the acid rain program that actually achieve the objective.

Cynthia Giles:

The first is rule required continuous emission monitors. I've been frequenting the case in many programs instead of continuously monitoring, so you know all the tons [inaudible 00:11:00] have. It used to be the case that someone would come in and just check every few years. How are you doing? Required continuous emission monitors. So we really know for all of these coal fired power plants how much sulfur were they putting up? My personal favorite of the list of things that this rule did was to address the common problem that even when you require monitoring, it often happens that the monitors go down, they experience a time when they're not working, they're not doing a great calibration.

Cynthia Giles:

So the data's not super reliable. What this rule said is, any time your monitor is down or you fail to pay us the quality assurance requirements, you are required to assume that you had a quite high level of sulfur emissions. Any place there's a blank [inaudible 00:11:56] high number it's going to be in [inaudible 00:11:57] which is probably higher than the amount you actually emitted. That costs the company money because they're going to have to buy allowances to cover that higher amount, so cheaper, easier for them to keep those monitors working.

Cynthia Giles:

Electronic reporting. At the time this rule came in, electronic reporting was not as widespread as it is today but I'm sorry [inaudible 00:12:20] still a lot of programs that don't have electronic reporting today. We still have the paper for a lot of environmental reporting. Required electronic reporting, among the things that electronic reporting can do for you is it allows you to run automatic checks when the data is coming in. Just like when you go online to order something, you can put your phone number into the address box. The same thing is true when you have this type of environmental report, electronic reporting. You can have internal automatic checks so that you reduce errors and increase the accuracy of the data. But it also allows for centralization of the data at EPA. So they can do data checks against other external sources of data to see whether something that somebody's reporting doesn't make a lot of sense compared to other information or compared to what their competitors have.

Cynthia Giles:

Simplicity. This is undervalued quality in environmental regulations. The beauty of this regulation was that although the underlying reality is quite complicated, then your submission monitors are sophisticated equipment and there's hundreds of pages of guidance to companies about how to run these equipment, how to do the QA. But they boil the whole thing down into something that is quite simple at the end of the day. How much sulfur did you have? How many allowances do you want? Do those match or no? If they don't, it's a violation. Very simple. And it's very hard to miss a violation. And then after that, the finishing piece of this structure that led to such good compliance outcome is automatic penalties. The typical environmental program is the company waits to be found out, to be caught and then the government has to pursue them and build the case.

Cynthia Giles:

And the whole thing takes a lot of time and a lot of people pass unnoticed. Instead, this says, you know that simplicity allowances to emissions? The number doesn't match. You owe us money, it's automatic, please send it in. It's kind of like when you pay faxes. The amount for a penalty for each allowance is more than the allowance costs to buy. It'd be crazy for a company to wait and pay more in penalties. It's easier for them to just buy the allowance and comply. This combination of regulatory design features led to one of the most impressive compliance outcomes we've seen in any rules, like over 99% compliance and achieve the objective of reduced sulfur deposition.

Cynthia Giles:

I know this is the Kennedy School and there's a lot of people here who believe in markets as the best way to deal with environmental problems but in the acid rain program, a lot of people focused on the market aspect. Market is not what causes compliance. The market made the cost a little bit less than it might otherwise have been. What resulted in compliance was this regulatory structure, which by the way mandates one size fits all commands with penalties. Some people call that command and control.

Cynthia Giles:

That's acid rain, which is I think still remains one of the gold standard regulatory structures for improving compliance. Paraquat is a herbicide, a weed killer that is widely used in the United States. It is also unfortunately very toxic to humans. One sip can kill you. Because it's so toxic, it's in the category of what's called restricted use pesticide. What that means is, it has a big label with a skull and crossbones on it and all kinds of restrictions about how you're allowed to use this.

Cynthia Giles:

And only people who've been specially licensed to use this kind of a chemical can apply it. It is, won't be surprised to hear, not legal to transfer Paraquat into a bottle of soda, let's say. That is not legal. It's long been not legal but even though that's not legal, people were doing it and the result was 17 people since 2000 had died from accidental ingestion of Paraquat that was put into soda bottles. One example was there was an eight year old who found a bottle of Dr Pepper so he thought, in the garage and took a sip of it, killed him very quickly. And it had been there because his older brother who had obtained it from a licensed applicator had used it around the house, which is also not allowed and had put the bottle in the garage. So we have a problem. There's a prohibition, there's restriction, people are not observing it. So what should EPA do?

Cynthia Giles:

The conclusion that we came to was, you can't rely, obviously the evidence shows you, you cannot rely on people that have good judgment or to pay attention to warnings that clearly say don't put this in a soda bottle. The solution is just make that impossible. EPA adopted a closed system packaging rule that says, you have to have a packaging for this very dangerous substance that will not permit you to pour it into another container. The only way you can get it into another container is by destroying your original container. So it will be literally impossible for people to pour it into these beverage containers. Those are the two examples of well-designed rules that think about not just what would be likely if people do. But what's actually going to be what people do.

Cynthia Giles:

Now a couple of examples that are not so good. And the regulatory structure that led to those outcomes. The two examples I'm going to use here are lead and drinking water and coal fired power, new source review. Anyone familiar with new source review? Okay, well, good. It's fortunate for you that you're not. If you keep it that way, that is off to the good. Let him drink [inaudible 00:19:27]. I think everybody in the United States is pretty aware of the problem of lead in drinking water since the catastrophe we had in [inaudible 00:19:39] Michigan. Lead is obviously a dangerous substance for everyone but especially so for [inaudible 00:19:49] Lead is not in the drinking water when it leaves the drinking water treatment plant and goes into the pipes to go out to your home. There's not lead there.

Cynthia Giles:

Where the lead comes from is from the pipes between the drinking water system and your home. The lead can leach into the drinking water while it's being conveyed through the distribution system. What to do about that? The principle strategy is what's known as corrosion control. You put a chemical into the water, perfectly safe, not to worry. Orthophosphate's totally good. Orthophosphate goes into the drinking water and it essentially coats the inside of the pipes. Provides a barrier between the lead pipe and the drink of water and it's designed to keep the lead out of the drinking water. This was the problem with Flint. They changed the drinking water sources to a very corrosive source and they did not do what

they're supposed to do with their corrosion control and so the new source of water scoured out all of the scale that was inside the pipes and the lead leached into the water.

Cynthia Giles:

The lead in drinking water problem is far from South in the United States. There's a ton of reasons for that, but I'm going to focus on a couple of the design issues to illustrate the point. What the lead in the drinking water rule, it's called the lane carp rule, LCROCR. It provides lots of ways for a drinking water system to avoid discovering that they have lead in their system. And then it motivates them to use those by how it's designed. Two of the things that it does that allow the drinking water systems to avoid finding lead. This corrosion control system, how the rule is designed to figure out is your corrosion control working? Are you keeping lead out of your drinking water? Is drinking water systems supposed to go in and test drinking water in people's homes? Take a sample of the water and they are supposed to test from homes where there are lead pipes because we're looking for lead.

Cynthia Giles:

The rule says, you shall sample in places that have lead pipes. However, it's pretty much beyond the system as to whether you're actually doing that. One study was done in the state of Georgia where they looked at all the drinking water systems and they said, "Tell us where you sampled for lead. And they went out and they actually checked every one of those locations. Were there actually homes with lead pipes? No, they were not. The drinking water system simply were over half of the sample locations were actually not places with lead pipes. There's one big loophole in the rule of are people actually finding lead where there is lead? Sampling out is the other big loophole. The rule's designed, if you're going to check all these homes for lead. The rule says if more than 10% of the homes have above the action level, just 15 per pavilion, if you're interested in it. If more than 10% have above the action level, you have a problem.

Cynthia Giles:

All kinds of things are now required. But let's say you took 100 samples, 10 of them were above the action level. You're going to have to report that. But here's what the rule lets you do. Maybe you feel the need to take some additional samples and you can take 10 more samples. Maybe you take them in places that don't have so much lead and now you have 10 bad ones but it's not 10% more because you've taken on 110 samples and this practice is called sampling out. I'm sorry to tell you, widely used to avoid triggering the [inaudible 00:24:20] Having created these ways to work around finding lead, they motivate the systems to use those because the consequences to the system, the way the rules set up, the consequences to the system of exceeding that action level and starting on the treadmill of violations could well be that you're going to have to actually physically remove all the lead pipes in your system.

Cynthia Giles:

That is a very large price pricing. These systems are highly motivated to avoid getting on the track that's going to cause that and by the way, there's really no way for them to find out if this is happening or not, very hard to find violations. The design of this rule has led to, States don't really know how many [inaudible 00:25:17] water systems in their state have violations. On top of that, the States are not telling EPA even about the violations the States know about. There's a regulation that says the States must tell, required to tell EPA about all violations of drinking water rules. EPA went out and did a study of the state files and said, "How are we doing with that?" 92% of the violations were not reported. The national data about lead in drinking water only has 8% of the violations that the States know about.

Cynthia Giles:

Underneath that the States don't know about a large number. The other example, new source review. New source review is a result of Congress deciding in 1977 and that's with this air pollution, we got to do something. This is really bad. The pollutants that were a principal concern at that time had also to articulate the matter and notch all of which coal fired power plants were the largest source nationally of these emissions. New research we do know only applies for coal fired power plants applies across the board. But coal fired power was definitely in Congress's mind when they adopted these rules. Huge public health impact.

Cynthia Giles:

What Congress said is, "We're going to set up a two tiered system. If you build a new coal fired power plant, you're going to have to meet all these [inaudible 00:26:59] new regulation. But if you already have an existing coal fired power plant, you don't, but over time as you modernize and update and improve your plant, then you're going to be required to put these more modern pollution controls, which by the way, are very effective. 95% reduction in pollution from the modern pollution controls. You're going to have to upgrade as you modernize."

Cynthia Giles:

And so the view was over time you would get a cleaner and cleaner pump fleet of coal fire power plants. Well, okay, new source review is the program that was adopted to implement this. Do I have to say, if you sat down and said, "How could I design a program that would have the worst possible compliance records you could imagine, it would look a lot like a new source review. You had to upgrade your pollution controls when you modify your plan. What does that mean?

Cynthia Giles:

There was an exception, doesn't count as modifying your plan if you're doing routine maintenance and repair. It turns out that the only time that coal fired power plants actually do is routine maintenance and that you could completely revamp and replace every piece of your power plant and it is still considered by them to be routine maintenance. Whether it is or not is a fact specific. Every plant is different. It's very fact specific. You got to have individual data from that particular facility and what were their emissions. It's a mess of complicated facts specific data and companies don't have to tell the government anything. They don't have to tell them whether they're doing modifications or they are not or what they've decided. The government has to come after them and try to track them down and find these violations.

Cynthia Giles:

On top of that, it's very expensive to put these [inaudible 00:29:21] hundreds of millions in a single plant, over a billion in some cases. Just like the drinking water example, they're highly motivated to avoid those costs and the rule provides them tons of ways to avoid doing that. Net result. Just about every coal fired power plant the EPA looked at was in serious violation of new source review. And so what EPA decided to do about that problem because the gigantic amount of emissions and the unbelievably huge public health impact of this, EPA decided, well, we're going to go after these facilities one at a time. We were going to bring in enforcement. We're going to just individually investigate every company and we're going to bring the enforcement actions to bring them into compliance.

Cynthia Giles:

20 years and counting to do that work, it's made a huge difference. We've gotten a gigantic amount of emission reductions but it's an illustration of how totally impractical it is to have this as our main strategy for getting compliance with environmental rules. Could do it in a coal fired power plant, although albeit it took a lot of time and money to do it. It's not conceivably possible to do for the millions of regulated sources under all of the environmental rules.

Cynthia Giles:

This is as a thought experiment. This is a good way to think about regulations and their design. If the regulatory body wants to avoid a compliant, are there a lot of ways to do that? Not saying that all of them do and not saying it's all intentional. There's a lot of unintentional and careless and reckless behavior that goes on too. But it's a good way of figuring out what are you likely to see as a compliance outcome. That's the couple of examples about how rule design leads to a quite different outcome if your design is resilient to the kind of pressures that most of these rules fit. The most kind of question that I get from people after that is, "All right, maybe you persuaded me that for those examples you gave, that those were poorly designed, those specific rules were poorly designed. And maybe those are outliers and maybe it's still true that most companies comply." No. Okay. The answer to that, no.

Cynthia Giles:

Part two is, what's all the evidence about non-compliance and serious non-compliance with the whole suite of environmental rules. There's 28 programs by the way that EPA runs. Part two presents the evidence. Noncompliance to environmental rules is worse than you think. I think the most comprehensive and in depth exploration of noncompliance environmental rules showing that serious noncompliance best case is usually 25% serious noncompliance, 75, 80% serious noncompliance is also not rare. Part three is strategies for making compliance to fall. Once we know that noncompliance is very common and that rule design can make a huge difference, what should we do? Part three is, what are the many strategies that are available to people writing rules to get to a better compliance outcome?

Cynthia Giles:

One example is, measure don't estimate. And this is an example from refinery flares. Blue is the estimated allowed reporting amount estimated and the red is the actual one we are not measuring it. You have very many of these types of gaps between what you were hoping to do and what you actually did. And you're talking about real significant pollution outcomes. Okay. The guidance you never heard of, it's undermining pollution rules. This is cost benefit analysis. I'm guessing maybe not even you, maybe you have, I bet nobody else in here has read EPA's guides for how to do cost balance and rule.

Malcolm Sparrow:

[inaudible 00:33:50]

Cynthia Giles:

Look it up. Buried in there is a provision that says, rule writers, when you're doing your cost benefit analysis, assume 100% compliance, assume it. This provision invites the rule writer to live in the imaginary world where widespread compliance is free. That's not the world that those of us who breathe the air and drink the water live in. But this provision and the guidance has been the death knell for many NextGen proposal. Part five, updating federalism. We still operate in nine States with federalism model that started in the 1970s. It hasn't really substantially been updated since that time.

Times have changed. You're out of time, move on. We've learned a lot. There's new technologies. We got to update that model. That's what this part is going to talk about.

Cynthia Giles:

Part six, climate change. We cannot afford to repeat the regulatory errors that we have experienced in other programs when it comes to climate change. When the next at bat for addressing this problem, it has to work. This is about what have we learned about how to write rules and products, regulate markets that will avoid some of the problems that we've seen in other programs. And finally, the last part of the series is what about environmental enforcement under the NextGen era? Enforcement is still very important and central and it can benefit from many of the same improvements that are true for rule writers.

Cynthia Giles:

This is about how to import those ideas into enforcement and I feel I need to say this because every time I talk about NextGen, somebody says to me, "I guess you don't believe in enforcement." That is totally wrong. Enforcement is essential. We need more enforcement than we have today. Civil and criminal enforcement is essential. I refuse to be captured by the binary world that says, "There's only two ways to think about compliance, tough enforcement or you don't like enforcement. And those are your only two choices." No, we need tough enforcement and we need to write the rules in a different way to get better compliance out of the gate. Last slide. Why is this important now?

Cynthia Giles:

One reason is the NextGen ideas really defined classification as regulatory or anti-regulatory. That makes them attractive potentially to large parts of the somewhat divided audience that we have today. I've seen the Trump folks in enforcement office bragging about some of the NextGen stuff that we started one when I was at EPA, which tells me that there's possibility there that those of us who believe in environmental protection can still find ways to make progress even in these difficult times. When we eventually get an administration that's committed to environmental protection in Washington, what we should not do is say, "Okay, we're just going to go back to the system that we used to have. The traditional system worked well for us at the beginning. We met a lot of progress doing that. But it's getting in our way now and we need to look forward and be much more innovative and do things in a new way."

Cynthia Giles:

And then finally on climate, time is up. Okay. It's got to work. We need to be focused on that now. This is the web address where the introduction and part one are posted. Part two should be the noncompliance data very soon be posted up there and feature in some ways as well. And I'm going to say the good news about this, I know it's discouraging to hear that there's all these violations but the good news is that we have the ability to do better. We can do much better. But we have to give up the fiction that most companies comply and that the compliance is exclusively the job of the enforcement person. We can do much better. We just have to decide. That's the presentation. I would be delighted to hear your thoughts, comments, questions.

Malcolm Sparrow:

Questions and comments [inaudible 00:38:43] you want to go first.

Speaker 2:

Just to set the record straight. I have to say what some of our compliances actually complicate the issue and what you're telling us makes even more complicated. No, in many cases and most practitioners would argue that the cost analysis should be a holistic as possible, which means it should take into account both [inaudible 00:39:06] baseline with other environmental regulations and how much clients expected them. We need to regulate them. I have a different question for you though because it seems to me, let's just assume for the question that the people writing regulation are willing to [inaudible 00:39:22] It seems to me that you could have the sort of outcome for many reasons. One might be that they're statutory constraints. One might be that there's complicated negotiations with industry. One may be that these really were things that people couldn't have anticipated because industry very good being innovative and figuring out ways around the rules. I'm wondering, have you sorted out all these concepts?

Cynthia Giles:

The thing I'd say first is you might be surprised to hear this. I'm actually not a fan of eliminating 100% compliance assumption.

Speaker 2:

It makes the comparison easier. I think-

Cynthia Giles:

There's a lot of shenanigans that can go on if you start monkeying with the percent compliant and I'd be very nervous about the political use of that. I think there's other ways to deal with the problem of as to why do we get these bid outcomes. I think the principal reason, not the only, but the principle reason is the people writing the rules do not consider it their job to design a rule that's going to lead to a good compliance outcome. That was beginning to change and people were starting to kind of say, "Oh yeah, I see the point but if I give all these exceptions and exemptions and all these political favors for different groups and then we can get this rule through, the whole thing is going to be a mess and it's not going to achieve the objective.

Cynthia Giles:

Most regulators don't think that that's part of their problem and yes, there was always trade offs and life is complicated and this is an oversimplified version. But what's really important is that the idea that, "Hey, your objective is to get this to happen in the world, not to get a rule that goes through ONB. For what? What have you got? If you're not going to get compliance." And to have people internalize that and say, "Yes, okay, I accept that and this is part of my job and if I design a rule that's going to have very bad compliance, I have not done my job. It is not someone else's problem. It's my problem." My experience has been that even when we were able to persuade the people writing rules that think about these NextGen ideas and get some of these ideas included in the rule.

Cynthia Giles:

Even the first things passed overboard when ONB started objecting and 100% compliance assumption is the reason because 100% compliance assumption says, every cost you add to get compliance has no corresponding benefit at all because you've already assumed you get 100% of the benefits without cost. When you're in the room arguing with people about how these numbers add up, okay, you're going to lose that argument every time and my experience is we lost.

Malcolm Sparrow:

We should have a wider conversation about this.

Speaker 2:

It's been a while since I've actually been in the trenches working on EPA rules where I've seen what's been going on behind the scenes but I always thought your office reviewed the rule language before but not only, no?

Cynthia Giles:

Yeah.

Speaker 2:

Okay, never mind.

Cynthia Giles:

Yeah. Big deal. Okay. That's what I would say. Reviewing when a rule is right. Anyone who's ever done anything in the world knows that after you've devoted two years of effort to somebody, to some project and then you could get someone a chance to review it, what are the chances that you're going to respond to a comment that says, "Hey, you've done this all wrong. Okay? You've completely messed up from your basic foundation of premise is wrong." Okay, do you have a chance with that? You have a chance with that. And my experiences even with a... it's not a [inaudible 00:43:22] there's a, "I dissent." Possibility from that review. That doesn't change anything.

Malcolm Sparrow:

But the solution to that problem is normally earlier engagement.

Cynthia Giles:

Yes, we've tried that.

Malcolm Sparrow:

Yeah.

Cynthia Giles:

And there's been a lot of effort that we had a whole big thing that was called the rule of effectiveness.

Malcolm Sparrow:

Okay.

Cynthia Giles:

They didn't want to call to NextGen so they called it the rule of effectiveness, which was good and made some modest progress but it ran into the very difficult problem...

Malcolm Sparrow:

Yeah.

Cynthia Giles:

...that the rule writers did not think that was their problem and that we should just deal with that when the rule is done. I have to say from the unfortunate side a similar problem occurred because the enforcement people are often measured by enforcement cases, not by how is compliance. Okay. So if you spend time working on a rule and you're going to get much better compliance and it's a win for the public and everything about it is terrific except for neither one of the parties benefits systems rewards into that. It's all pain currently and it's benefit for the public. That whole way the system is set up fights against incorporating these ideas unfortunately. But yeah, certainly engagement is definitely the answer.

Speaker 3:

As environmental policy becomes less of a national thing and more just like States kind of taking their own. And so you think of California, registering all of their own kind of things and Trump's administration going after them. Have you seen things in California where there is better compliance regimes going on? And if so, I guess with those compliance regimes being state level, do you see the spillovers to other places or how are companies actually reacting and does that mean that going forward California having maybe a better client structure means that when we finally get national compliance structures that make sense, companies are better suited. How does that all play out sub nationally?

Cynthia Giles:

Well, States do have the authority to be more stringent than the national regulation. But all the States are bound by the national regulation. The national rule applies across the board to every state that adopted it, it applies everywhere. California can do more, but they can't do something different from what the federal standard is. Many States have tried, experimented with some other ways to drive compliance. They have mostly been confined to the post rule world because doing a different rule at the state level is very time consuming and it has this problem of bumping up against the federal legislation and it might be not allowed. There's been a lot of innovative things that have happened in the States post rules or how can you have alternative ways of identifying or enforcing or lots of interesting strategies happen there.

Cynthia Giles:

What we have seen I think is some States are very interested in experimenting with some of these ideas and they are about equally divided between States who genuinely want to see a better compliance and States who view this as a window towards doing less. And sitting in Washington, it is not always easy to tell which side of that divide the state's innovative idea falls. I think we have a lot to learn and I think we need to change our federalism approach so that we can encourage States to do more and learn more from States. But ultimately we have a national environmental regulatory system. And the reason we have that is the idea that everyone everywhere should be protected the same. And it is not okay for a state to decide that their citizens are going to be protected less than the health standard that's been set by the national board.

Malcolm Sparrow:

Convincing.

Speaker 4:

I have a question. What equities are considered by rule writers when you consider, with this examples where small landowners, somebody who just inherited land. They just have this huge EPA coming on them, telling them they have to comply and they're bankrupting themselves in the process. They lose their land. What are any considerations given?

Cynthia Giles:

Yes, I would say that... Hang on. Many, I don't know if all, but I'd say probably most environmental standards applied differently to the individual land owner, whatever the very, very small entity than they applied in the big company. Most of the time there's a way for individuals that are effected by [inaudible 00:48:27] Provided they're not... An individual that's running a gigantic farm is more like a business than they are like an individual. But individual people in their own homes, many rules exempt individual people in their own homes from... Like the lead paint rules, don't apply to the work you do inside your own home yourself. They apply to renovators. Usually there is a way.

Malcolm Sparrow:

Yes sir.

Speaker 3:

I was wanted clarification. I've always thought lead poisoning in the pipes was a thing of the mains. You seem to be saying it's a thing of individual house problem or is it-

Cynthia Giles:

It's both. Well, it's-

Speaker 3:

I thought the big thing was the city maintenance led to lead.

Cynthia Giles:

There's actually three different ways. The mains are I think the region has shown they are not typically the biggest source, partly because there is such a huge flow and volume that comes through those. The water doesn't stagnate in there and there's not as much opportunity for leaching. The biggest pathway for leaching is the pipe that goes between the main and the home which is often jointly owned or half owed by the city and the property owner. Every state is different about those ownership things and then there's inside the home.

Cynthia Giles:

There could be lead pipes in the home and then lead fixtures as well in the home. All three of those are places where lead could conceivably get into the wire. And this is why corrosion control has been rather than replacement because it's the main. The landowners call it to the home and then all the fixtures and pipes in that home, it's starting to seem like a monumental thing that actually remove all the possible sources of lead. And that's why corrosion control as a means of preventing the lead from getting into the water has been the primary strategy. Although I would say that [inaudible 00:50:32] and I think people have seen that corrosion control, it's not working. That's terrific and then maybe you really do need to shift another focus.

Malcolm Sparrow:

Yeah, go ahead.

Speaker 3:

My question is in the context of the global warming solutions act here in Massachusetts and the Senate passing the NextGen, I think it's called the NextGen policy, climate policy about a month ago. The house-

Cynthia Giles:

In Massachusetts?

Speaker 3:

Here in Massachusetts and the house is working on something as well. I'm active in some of the local organizations here in climate change and I went and looked at the GWSA and the bill that passed in the Senate. And what I saw was, and I'm not a lawyer, just reading what plain language I could interpret. And what I saw was that the GWSA and the bill that passed the Senate, they were largely framework bills with some targets of emissions reductions. And then they didn't have any kind of enforcement mechanism. The only enforcement mechanism was if the secretary is not compliant, then the executive office could take some action. Which in my view was well, that's not going to happen. If it's not compliant, the governor's not going to take action. It's probably part of the governor's policy to not go further in some of the programs on the regulations.

Speaker 3:

The question I have is how do we as climate change folks activists just local out here in terms of working with some of the state legislators when we're looking at these kinds of bills in terms of the designer we get opportunities to give them input, in terms of design of the bill, the diverging framework approach that's been taking on specifically dispel and then being prescriptive. They don't want to be too prescriptive. The sponsor of this bill, Senator Barrett said you do not want to be too prescriptive and obviously we took eight years after 2008 when the GWSA passed till the Supreme judicial court in 2016 said that the State was not the compliant. We lost eight years of time there, which we don't have now. For fallowing the same kind of model, what can we say that, "Hey, we need to get some more prescription in there and we need maybe get some more enforcement there as well." How do we have that conversation? What should we say?

Cynthia Giles:

There's actually two different types of ways you can design compliances. The thing you're talking about is when the legislative body wants to force the regulatory agencies to do something past a standard right rule or whatever, what should the design of that be to make sure that the agencies actually to do it?

Speaker 3:

Right.

Cynthia Giles:

Okay. The part that I was focused on here was once the agency has done something, how can you make sure that they're regulated [inaudible 00:53:56] Okay. Back to this point, how do you get agencies to do.

What we've seen at the federal level it's the regulatory equivalent, the command and control. Okay. The much more line command and control which is been very effective I would say in certain contexts, is a similar kind of thing that can happen at the level of directing agency statements. EPA is under mandatory deadlines to do certain types of regulations. Lots of times that's very inefficient and aggravating and dumb. Okay. But the agency has to do it because they can be sued by an NGO usually.

Cynthia Giles:

They aren't going to win because it says there you shall do it by a certain day. The challenge is and there's always this balance in making design choices, the rigidity and obligation and vitativeness of this requirement is somewhat the attention with the desire to be adaptive and respond to circumstances on the ground. My own two sentences, just a personal editorial opinion. What you could do is [inaudible 00:55:22] Oh my God. Okay. All right. That's one thing you can do. Massachusetts is better off than most States in willingness to tackle these issues. But certainly the hammer is going to fall. And if it's an automatic hammer as opposed to you'll have to wait and be sued and then you go to court and then years later we find out what happens more automatic the hammer is the more pressure.

Speaker 3:

Yeah.

Cynthia Giles:

That's great. But you got to be careful with those. Get to make sure they don't have cameras pushing in the negative direction.

Malcolm Sparrow:

Thinking along the lines below we can get all the States follow each other. California, New York, Massachusetts, you get one state doing something, the other state wants to up the game a little bit more. And then we get further and further along in some of the reductions.

Cynthia Giles:

Those things all count. The reality is we need an economy wide dramatic national, international change and the States can help set the frame and set the tone and we convince people, it's not all scary. There's good things but without the federal government doing it, we're never going to get there.

Malcolm Sparrow:

You gave us four examples. Two good, two bad and you're obviously going to work towards, here's a recommended series of the approaches you should adopt. I'm trying to think from your four examples, whatever those recommendations are, is it going to be possible to apply them to every environmental problem or are there some that you're simply not going to be able to get those kinds of advances, so a couple of points about these and then I have a question about potential solution for number three and about the nature of number four. Number one, you've got [inaudible 00:57:19] that always comes from power plants and you presented that there's continuous technical monitoring that no one is able to cheat on. That's an unknown. If that's true, I can't believe that they can't cheat but let's imagine that they can't.

Malcolm Sparrow:

That's an amazing advantage in that case, you know about noncompliance. Second one, there's a technical solution. Making bottles in such a way that you can't do the thing that you're not supposed to do is simply not possible. There is a technical solution we found. Lead in water, the problem seems to be we've trusted them to do the monitoring and we shouldn't have done. So potential solution is we'll just deal with that and have third party independent companies. You can trust the accountancy profession to tell us things about a company that they wouldn't tell us themselves. Would that fix it?

Malcolm Sparrow:

And then I'm trying to think what's the fundamental weakness on number four? It's ambiguity and the definition of what constitutes the modification and that's routine maintenance. So fixed the ambiguity. But then you managed to prosecute them all. And I suspect because you managed to prosecute them when you really looked at the facts, there wasn't any ambiguity.

Cynthia Giles:

Not at all.

Malcolm Sparrow:

So ambiguity wasn't the problem, but you laid it out as if ambiguity was the problem or they were trying to create an ambiguity that isn't there in the law. Two questions. First of all, would independent third party monitors have fixed the lead puzzle for you and made that a monitoring system that's not possible to evade or to cheat on. And the fourth one, what is the problem really?

Cynthia Giles:

Okay. Punch of interest in some things there. Let me just say, is it possible to have a system where you can't cheat? No.

Malcolm Sparrow:

Yeah.

Cynthia Giles:

Okay. No, but when it is a lot harder to cheat on continuous monitoring than it is on sampling you do once a year because you're going to have sudden dips and weird unexplainable things in there that are going to immediately draw attention, what happened? So is it impossible? No, but you have to shift over into criminal land. You're clearly into criminal land when you do that.

Malcolm Sparrow:

Okay.

Cynthia Giles:

Okay. And some people are nervous about that, plus we get criminal guys. If we only had to deal with the people in criminal land, we'd be better off. Independent monitors-

Malcolm Sparrow:

Because there would be a few bad apples.

Cynthia Giles:

Fewer. Independent monitors is a very interesting question. A, it's challenging as a practicality matter because we're talking about communities all across the entire country. But a lot of people used to think that a lot of these problems could be solved with independent monitors and independent monitors have been tried in the financial sector. They've been tried in other programs and there's been some in depth research about these independent monitors. And what they found is not so independent [inaudible 01:00:42]

Malcolm Sparrow:

Well, depends who's paying them and what their market incentives is for getting repeat business.

Cynthia Giles:

Yeah.

Malcolm Sparrow:

It's like-

Cynthia Giles:

Yeah. Right.

Malcolm Sparrow:

...creating bombs.

Cynthia Giles:

Right. We've seen in the financial market, the people who audit, the financial auditors have found, I mean these are stunning numbers. They have found over half of the financial auditors had giantly concerning things that they signed off on the show financial instability in the company and they didn't plan and they've been issuing these reports year after year after year. And it's spinning into the ocean. Now you keep issuing reports and it's not working and nothing happens. Environmentally, we've seen the same thing. There was really interesting study in India, Gujarat, where they did a comparison of independent monitors that the companies... They have by the way, a pollution control system in India that is very similar to what we have here in the US. The companies picked their independent monitor and paid them and then they did in parallel a system where you don't get to pick, you pay us the money that you would have paid them and we'll randomly assign you an independent auditor.

Cynthia Giles:

And they found a gigantic difference in the pollution that was recorded by the ones that the company paid versus the ones that were not paid by them. Sometimes the same company, sometimes the same auditor. Actually assuring independence is a very channel. We've tried, EPA tried to put independence criteria into these, it's very challenging. The NSR example was not primarily ambiguity. Ambiguity was what let them hide and is what gave them an argument that they were actually not criminals because there was enough ambiguity, you can say, I wouldn't be able to get you unintentionally.

Cynthia Giles:

The actual problem was much more that there was a gigantic cost and the Congress grandfather of these plants to begin with. This is the problem that you get into when you start thinking about what's going to make a rule effective. It's not usually tinkering around the edges adding I don't know what. You're just using the wrong approach all together. You will never get a grandfathering system to work because the companies had tons of motivation to find every little nook and cranny of way to avoid this and they were going to find them. You will never write a rule that is going to prevent them. Enough with the grandfathering. Okay, just stop. You can't do that. Everyone's going to update 10 years. That was difficult.

Malcolm Sparrow:

So something that changed by date would be your recommendation.

Cynthia Giles:

That's the only way to say, are we really going to get it?

Malcolm Sparrow:

Yeah.

Cynthia Giles:

Yeah. There's other things you could do to improve it, Sam. But if your goal is to actually say, no, we have to have this, okay, we are going to get this. The problem is it requires an ingredient that is in short supply in Washington, which is backbone. Okay. What are you here to do? You're here to protect the environment, trying to protect people, face up to those people and say, "No, this is going to have to happen. Here's the evidence. Sorry. The answer's no." It's not always easy.

Speaker 3:

That one might be working in the wrong direction. [crosstalk 01:04:28]

Malcolm Sparrow:

You showed one slide that states large city [inaudible 01:04:35] sewers.

Cynthia Giles:

Oh yeah.

Malcolm Sparrow:

[inaudible 01:04:36] 97.

Cynthia Giles:

Yes.

Malcolm Sparrow:

When I was working in New York City.

Cynthia Giles:

New York city?

Malcolm Sparrow:

It would be a penalty rather than to [inaudible 01:04:54] I don't what it is now, these large cities.

Cynthia Giles:

New York City. That's one of them. That figure is 97%.

Malcolm Sparrow:

Greater than 97.

Cynthia Giles:

97% of large cities that have combined sewers. Combined sewers complice of storm water and sewage going into the same pipes. And what that means is when it rains, there's a big increase in flow. The sewage treatment plant can not treat that whole entire flow. And so what do they do? They just let it go out. I mean, it's not that simple but it goes out into the river, it's raw sewage [inaudible 01:05:25]

Malcolm Sparrow:

But then EPA allowed them to pay penalty.

Cynthia Giles:

I think you'd find that was the state did that. When EPA checked on the large cities there were over a million gallons a day cities, over 97% for violating the requirement that you have to control this aggressive 97%. Okay. That's basically everybody. This is not a well designed system that allows that kind of outrageous result with gigantic human health impacts. Millions of Americans are sickened every year by exposure to raw sewage, beaches and rivers and they [inaudible 01:06:16]. This is not a minor point. Large cities is another illustration of what EPA said, "We're going to do the one at a time [inaudible 01:06:28]" This is a huge public health problem. We can't let this go, one after the other. Name other large city, they'd been sued and they have a consent decree that's puts them on a schedule to come into compliance with the [inaudible 01:06:45] Those are really the two programs in a stir and combined sewer overflows are the two programs where EPA said, "Okay, what choice do we have?"

Cynthia Giles:

We're going to have to go after everyone one at a time. That's incredibly inefficient. It would have been a lot better to write a rule that push them to do it from the get go. But the public healthy [inaudible 01:07:09] this makes it worth it. So we're going to do it. But the number of sources covered by [inaudible 01:07:16] the number of cities covered by combined sewers is tiny percentage of the total numbers of entities regulated under all the pesticides, chemicals, you name it. There's millions of sources that are regulated. You cannot do that through enforcement. It's just not physically possible.

Cynthia Giles:

You can't fix the biggest high priority public health threats and goes after those, which is the right thing to do, but that shouldn't have been necessary. We should do a better job of structuring these rules so that you get better compliance out of the gate, still need enforcers. There's still going to be people that don't do it and try to evade and obviously never commit crimes and enforcement is the right answer for

those. But let's use our enforcement resources to go after those. Let's not do it to make the program wrong. But the rig should make the program work.

Malcolm Sparrow:

Last question.

Speaker 3:

Could we create better incentives [inaudible 01:08:18] within companies?

Cynthia Giles:

To incentives what?

Malcolm Sparrow:

[inaudible 01:08:24] within companies where they have independent monitors [inaudible 01:08:25] within the companies.

Cynthia Giles:

Whistle-blowers are actually pretty important part of the safeguard and it's not exclusively, so lots of things happen within companies that if the whistle blew, folks don't even know them. But whistle-blowers are an important part of flagging some of the... I remember there was a criminal case that EPA sent the inspectors [inaudible 01:09:01] criminal case. It wasn't a certain sentence backwards into this facility and spray painted on the wall, say, "EPA help us." That got everybody's attention, what's going on here? There's all kinds of ways to be whistle blowers,[inaudible 01:09:22] can truly be useful. It is important to have as much protection for whistle-blowers as we can. There are in theory, legal protections for whistle-blowers and we've seen what happens on the national stage recently to whistle-blowers despite the protections that exist.

Cynthia Giles:

The reality is whistle-blowers know, they have to know and they do know that they take their future in our hands by doing this. But fortunately, for all of us, some people are public spirited enough to do that, to take that chance. And it's actually amazing to me how often you find people said, "I'll stand up and do what's right even if the consequences are bad for me." And it's actually inspiring when you're in enforcement arena and you see how many people are willing to do that. Yes, we can have more legal protections but like any other rule, people get around with that and there's ways to retaliate against people when they do.

Malcolm Sparrow:

Great discussion. We wish you all the best with the remainder of this project.

Cynthia Giles:

Thank you.