

Final Transcript

pdvWireless 2019

Investor Day

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Corporate Participants:

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Morgan E. O'Brien

pdvWireless - Chief Executive Officer

Rob Schwartz

pdvWireless - President & Chief Operating Officer

Tim Gray

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Natasha Vecchiarelli - Director of Corporate Communications

My name is Natasha Vecchiarelli, Director of Corporate Communications at PDV. We appreciate all of the investors that are here with us in New York City as well as those that are joining us via our webcast. We have a full agenda planned for you today as outlined on the slides. About halfway through our discussion, we'll take a 10-minute break and at the conclusion we'll hold a Question and Answer session, taking questions from those in the room. As always, our discussions will stay within the guidelines expressed on the slide behind me, so, please read it carefully. Today's presentation will include forward looking statements, which reflect pdvWireless' current expectations about future plans and performance. With that, I'd like to introduce you to Morgan O'Brien, former FCC lawyer, Co-founder of Nextel, Founder of Cyren Call Communications, innovator, and entrepreneur. Morgan O'Brien has spent 50 years in the wireless communications industry, pushing the limits of what's possible. Morgan was selected twice as Person of the Year by RCR, a major wireless trade publication. They called him a true entrepreneur who almost single-handedly had created an entirely new industry. RCR described his role at Nextel as "O'Brien has done it the old-fashioned way, day after day on the wings and an idea, a vision, and a true grit to see it through." He was named by Fierce Wireless as "One of the top U.S. wireless innovators of all time." As CEO of pdvWireless, Morgan will kick off today's program. Thank you everyone and enjoy the day.

Morgan E. O'Brien - Chief Executive Officer

Good morning, everyone. I've felt this way just once before. Back then, I saw an opportunity to acquire undervalued spectrum assets, watch a regulatory process at the FCC to upgrade the usefulness of that spectrum, and to deliver a nationwide digital service, not to the consumer, but to American private enterprise, and that opportunity became Nextel. Today, I'm here to present another opportunity, at least as compelling and with many analogies to Nextel. Back then, I teamed with Brian McAuley and then with thousands of other talented professionals and we took the wireless world by storm. With the passion and our wide set of skills, tolerance for risk and faith in the FCC, we rolled up hundreds of specialized mobile radio businesses and their licenses at 800 MHz spectrum. And then we approached the FCC with a proposition that innovation in capital investment would result if they were to modernize the rules governing the spectrum. We won a unanimous victory to do just that. And so that enabled us to build the first all digital nationwide wireless company with the unique focus on the enterprise market. We started very small with the seed money investment of \$140,000. Nextel grew to a market capitalization exceeding \$30 billion and a customer base exceeding 20 million customers at the time of

its merger with Sprint. So, that was back then. This time, Brian McAuley and I have again teamed, we brought back some of Nextel's very best professionals and we've teamed them with some new players from the enterprise and critical infrastructure industries. We identified a large number of spectrum licenses available for sale at 900 MHz and these licenses represent over 50% of all the spectrum nationwide in a very important low-band block of 10 MHz and over 60% of that spectrum in these licenses is in the Top 20 US markets. So, after raising the capital to acquire this spectrum from Sprint, we immediately initiated the proceeding at the FCC seeking permission to upgrade the usefulness of the spectrum from broadband communications, for enterprise and critical infrastructure systems. So, as with Nextel our customer target is not the consumer. The consumer is being very well served by a robust and competitive environment of large-scale public carriers, but enterprise, particularly critical infrastructure, have long sought but they have not been given access to broadband spectrum for their own private communications needs. So, Rob Schwartz who is our President and COO, Tim Gray our CFO, and I are here today to tell the story of our opportunity and to share our excitement about it.

Spoiler alert. Before we really get started this morning, I want to give you our four main takeaways. One- Just within the last few weeks, the FCC has proposed in a unanimous Notice of Proposed Rulemaking or NPRM to allow 900 MHz to be converted to broadband. PDV obviously benefits from this proposal because we're the largest holder of 900 MHz spectrum and we're the only nationwide licensee. Final FCC rules are expected relatively soon. Two- Enterprise and critical infrastructure industries are feeling tremendous pressure to adopt broadband technologies, particularly the wireless technologies, in order to meet their needs for collecting, transmitting, and analyzing big data. PDV is actively discussing making its 900 MHz available through long term leases to approximately 40 entities. This robust pipeline exists even before the FCC has granted permission to use the spectrum for broadband. Three- Our spectrum at 900 MHz is part of so-called Band 8, which is the global standard for long-term evolution and that's the technology, which powers 4G. Therefore, we'll be able to access the global ecosystem of thousands of devices, which are fitted with chipsets, capable of operating off the shelf, just as soon as the FCC approves final rules. And it's highly desirable for enterprise and critical infrastructure users to have access to standardized equipment. So many times they are locked into proprietary equipment. Here, Band 8 LTE is supported by multiple competing vendors. And the fourth and the one I want to make sure we absolutely leave you with as a takeaway is our business model for PDV is extremely capital efficient, unlike typical public wireless systems since the intended lessees of the right to use our spectrum are motivated to build and to finance their own private LTE systems. For the electric utility industry in particular, there are significant incentives to invest both in spectrum and in infrastructure since many of them operated with a business model in which they're permitted to earn a guaranteed rate of return on capital investments. So, those four points, the FCC proceeding, big data driving the needs of critical infrastructure, the ecosystem of LTE devices ready and available for use, and this particular and specialized and unique opportunity for our capital-light business plan- those are the key takeaways.

I'd like to picture this opportunity as a convergence or maybe even more likely, a collision between two very powerful forces. One force is the pressing demand by critical infrastructure industries for access to dedicated broadband spectrum so they can build and operate private LTE wireless systems that enables them to digitize, capture, transmit, and analyze big data, so that's one force. The other force is the maturing FCC process. It's now four plus years in the making, which will create the ideal broadband spectrum which cost effective, private, dedicated and secure LTE systems can be built from and that spectrum is just what critical infrastructure industries crave.

As we studied the LTE opportunity for critical infrastructure, it became clear that the electric utility industry stood out as our most compelling early opportunity. You'll hear today from me and from Rob and from Tim that we have an unbridled enthusiasm for dedicating large portions of our spectrum to address the crisis that's confronting the utilities. We'll talk more in detail about that crisis, particularly of the large investor-owned utilities the so-called IOUs. These IOUs are challenged by profound changes in grid architecture and this is creating -- these changes are creating a strong demand for just the kind of spectrum we're bringing to the marketplace. We've been very impressed by the arguments the utilities have made for years about their need for dedicated broadband spectrum and it seems to us we're by far the best partner to help them meet those

needs. Importantly, for the IOUs, their demand is matched with potential access to literally billions of dollars of capital, first to acquire spectrum and then to deploy broadband infrastructure covering vast stretches of the U.S. As you know, the business model for the IOUs is to earn guaranteed rates of return on prudent capital investments, such as wireless spectrum and wireless infrastructure. And literally billions of dollars are being authorized by state regulatory commissions for grid modernization. And at the very heart of the grid modernization, we believe are the right investments in broadband wireless assets. Because we've spent the last couple of years, not only with the FCC process, but working with a large number of utilities, we now know the ideal that they pursue. The ideal that they pursue is nationwide dedicated spectrum, below 1 GHz for compelling economic reasons, spectrum that is supported by a global standard technology that will allow them to take advantage of all the wonders of 4G, a technology that would be installed on hundreds of different LTE devices that already exist in the ecosystem, and a minimum of 6 MHz of paired spectrum. As we'll spend today describing, we have the unique opportunity; PDV has a unique opportunity to meet those needs.

A great new company, in my view, needs a compelling and unique product. It needs a market for that product, which is strong and growing and it needs market participants that have the ability to pay for the product. A company needs experience and a track record of achievement. It recruits talent that knows the market and has the flexibility to move with the opportunity. And finally, I think a great new company needs a vision of a better world within reach of its most aggressive grasp. We have that vision and our job this morning is to share that vision with you.

I'll spend the next few minutes talking about our progress with the FCC, but before we even do that, we have a little clip and the clip is from our Board member, a long time friend of ours, former FCC Commissioner and a former Commissioner of the California Public Utility Commission, Rachelle Chong. It's hard to find a better person to give us a perspective on the FCC's current rulemaking.

[Video Played]

Rachelle Chong - Independent Director

The FCC's notice of proposed rulemaking on the 900 MHz spectrum is extremely important. In my memory, this is the very first time the FCC has recognized that utilities need their own reliable, secure spectrum for their users. As a former member of the California Public Utilities Commission, I think this is groundbreaking, in fact, and it really is a testament to the leadership of the FCC meeting this need.

Morgan E. O'Brien - Chief Executive Officer

So, let's talk about the regulatory process. To begin, PDV is the largest holder of licenses in 900 MHz and has a nationwide footprint. And as you can see, the FCC is next, so between the licenses that we hold and the licenses that the FCC has yet to issue, there's 74% of the action right there. So, after spending my career in this space, I want to be crystal clear about where I think we stand. We faced an uphill battle at the start, but recent FCC action gives us a lot of room for optimism. The substance of our broadband vision and our proposal was incorporated unanimously by the FCC in the recent notice of proposed rulemaking. Many of you who are very familiar with the process know that going forward -- the process going forward is not trivial but I like our odds for an acceptable report in order and a conclusion of this proceeding sometime in this year. Of course, the final decision is up to the FCC. But my confidence in the outcome is based on the FCC's consistent adherence to principles of fostering innovation and embracing new technology. They did it for Nextel; I believe they're going to do it here. In the March NPRM, here's what the FCC said. They unanimously proposed, "To reconfigure the 900 MHz band to facilitate the development of broadband technologies and services, including for critical infrastructure." Now, that was exactly what we proposed.

Let me talk about a few of the principal elements of the NPRM. First, let me explain to you here where -- what the before and after is of the situation. The top line is the before situation. That shows the way in which the

900 MHz band has been allocated and assigned for over 35 years; no broadband, individual segments of interleaved spectrum. The below is what the Commission is now proposing to do and what we suggested ought to be done. As you can see, there's a broadband segment created of 6 MHz. So, it's creating that that makes the FCC the key deliverable in the proceeding. Incumbents will be subject to retuning and those are two-way radio systems, most often, voice dispatch systems of various sizes. And when we refer to a system, in the context of retuning, we mean an individual FCC license. It generally authorized the licensee to operate on one or more frequencies or channels that are interchangeable at one or more locations. The majority of systems involve only a single location and no more than a handful of frequencies, but there are some systems that will need to be retuned to cover extensive geography, multiple transmitter locations and a large number of frequencies. So, for purposes of retuning, not all systems are the same and very different processes for handling them are needed.

Next principle that the FCC proposed: retaining narrowband segments efficient to retune the incumbents. And retuning, for those of you who aren't as familiar with some of our jargon, is just moving an incumbent licensee from one part of a radio band to another, simply by changing the frequencies of their devices. The majority of incumbents operate from a single transmit location with five or fewer frequencies. So, these smaller systems are unchanged by the retuning process other than just swapping one set of frequencies at 900 MHz to another set of channels at 900 MHz. For the minority of systems that are more complex, most are quite simple, but for the minority that are more complex and have maybe multiple transmit locations or complicated operational requirements, of course, need careful planning, system engineering, but none of the challenges that we will face there are unfamiliar to our experienced team.

Next, the FCC, in the proceeding in the notice, proposes to define eligibility criteria for the broadband licensee so that each area would have only one qualified applicant. Now, this is particularly significant to PDV because we own more than 50% of all the nationwide spectrum through a combination of auction purchases and private transactions that stretch back decades. Another important element: the FCC proposes to license by county rather than by major trading areas or MTAs and this is consistent with our suggested approach and consistent with what we thought was most favorable to critical infrastructure. An additional element in the FCC proposal is to incorporate some carve-outs from any mandatory relocation required for just a handful of markets where large complicated systems require very special handling, which are just a handful. Now, this is very important because if you look at the bulk of the record that's accumulated over the four plus years, most of it is about the technical roles of how broadband is going to integrate into an environment that had previously been narrowband, but if you look, the technical rules that the FCC has adopted or proposed to adopt precisely mirror our recommendations, and in doing so, they allow using hundreds of off-the-shelf devices that are already available globally; very important point. So, our view is that the NPRM resolves favorably to PDV the bulk of the many issues presented to date on the record. We'll participate actively in the comment and reply comment cycles, which are scheduled for June 3rd and July 2nd and we're optimistic that the bulk of the comments and reply comments placed on the record will support our overall objectives. But in the proceeding remained outstanding several issues of importance, which we'll continue to address, but let me just tick them off right now, just a couple of the issues remaining to be discussed.

I'll start with voluntary retuning. As suggested in the NPRM, there could be a voluntary period for a year during which the broadband applicant is challenged to reach voluntary agreement with licensees sufficient to total at least 90% of the channels that also considers their own channels. So, in typical markets, PDV starts with a large number of channels and has to get to 90% for voluntary and then if we get there the FCC would allow a mandatory period; mandatory meaning the remaining 10% have to agree to retune. Now, this voluntary followed by mandatory recognizes a very well phenomenon known as holdouts where one or more incumbent refuses to accept retuning. They may even refuse to accept phone calls to discuss retuning in order to try to extract an unreasonable premium to the value of their spectrum. The FCC adds another element saying in the absence of meeting 90% during that first year voluntary, perhaps a mandatory period will commence in the second year, the broadband licensee has been able to get to 80% of the channels. So, that was the first issue that we will continue to discuss.

Second. The FCC says, well, perhaps in lieu of voluntary retuning, how about an auction. Now, while we prefer a modified voluntary process because it's far faster with greater certainty, the FCC does ask for comments on two auction process alternatives. One is a traditional overlay auction and the second is an incentive auction, which would be modeled after those that were conducted for the 600 MHz broadcast band just within the last year. And each of those could be designed by the FCC and they're asking for comments on this in lieu of a voluntary retune process. So, that's the first issue -- the first and the second voluntary and incentive auction. The next is the size of the proposed broadband block. As you recall, when I showed you, it showed 6 MHz out of 10. And so our original petition, which is filed -- that we filed with EWA, we limited our proposal to repurposing 6 MHz out of the 10 and we did it in order to enable narrowband incumbents to remain in the band with the same equipment they were currently using, making it a far less complex process for incumbents. But the FCC in the proceeding, and there's really no surprise the FCC in the notice says, "Gee, wouldn't it be better in many ways to just go ahead and make the entire 10 MHz broadband and find another home for the licensees that want to stay narrowband." There're very significant advantages and disadvantages of making that kind of decision. So, you're going to see a lot of that argued on the record.

So, these issues that I've just ticked off, they're important, but they should be relatively easy for the FCC to resolve. And while there can be no certainty, we anticipate that a resolution before the end of 2019 is likely. Now, I know of possibly greatest interest to some of you in the audience is the process of retuning and our expectation about its timing and its cost. So, I'll say this, based on our latest thinking of how this process will evolve, we estimate the full cost of the retuning process to total somewhere from \$90 to \$120 million over the next three years. Now, by way of background, let me say that no company has greater expertise in the retuning process than PDV. Our principals back in the early days of Nextel cleared contiguous 800 MHz spectrum and that's now the backbone of the broadband Sprint network. We orchestrated the successful relocation of thousands of utilities, other private enterprises and highly complicated public safety systems at 800 MHz band during the so-called public safety retuning. We also know the 900 MHz equipment and the environment of 900 MHz equipment very well, and the technical and operational issues of narrowband systems. And in fact, we've already relocated several very complex utilities out of the future broadband. So, these utilities were anxious to get this done and so we've already done it with them. And a super important point to make on 900 MHz retuning is this is a vastly smaller effort than at Nextel's 800 MHz. Fewer than four hundred systems need to be touched. And 900 MHz equipment can be retuned to other 900 MHz channels so it's only in rare instances that equipment has to be replaced, very different from 800. It's worth mentioning that the nationwide railroad system used by freight railroads is a unique situation and we've been collaborating with the railroads that are close to a final agreement with it and we're expecting FCC cooperation to need to finalize an arrangement of the railroads for retuning all the railroads. And the railroad industry has a very good record of getting the relief it needs from the FCC. So, we're optimistic about the chance for success there.

We thought it would be useful to show -- to get you grounded, we want to show you that of the United States, which has roughly 3200 counties, 2600 of the counties have no site-specific incumbents that are going to require retuning. So, we can move very rapidly in 2600 of the 3200 counties as soon as we get any of the geographic licensees relocated, which is a much smaller task. So, now I'd like to talk about retuning in two example markets and we picked one that's easy and one that's hard just to give you a sense. So, here's Minneapolis, easy. If you look at the total 240 channels, pdvWireless and the FCC between them have virtually everything you need. There are only seven channels owned by three licensees that need to be touched to be able to get to the 240 retune channels. So, the railroads, TAMO, and GM Research Corporation, between them they have seven channels. And in order to achieve that retuning as you can see, we've got 82 channels that we own outside the 240 that we can use for that so that's one is easy, but we also put up a hard one. This is Chicago. Here, the situation is quite different because as you can see, the FCC really doesn't have any channels in Chicago. All the Chicago channels have been assigned. So, our task in Chicago involves 19 licensees that are incumbents. I gave you an example here on the left of some of the big ones so you could see that, you know, these are UPS, Ford Motor Company, Edison, ESP is a larger SMR. So, again, this is a process that needs to be worked, it's a process we're familiar with, but some of these markets are relatively complicated. So that's

retuning. We'll talk a little bit more about it when Tim speaks, but now I'd like to move to what it is about the utility industry that we consider to be so pivotal to our opportunity. And in order to get that kicked off, here's a little video that we have prepared.

[Video Played]

It's a pretty sure thing that consumers will adopt new technology that offers great benefits. Industry is the same. Electric utilities are already modernizing to improve reliability, safety, security, efficiency, environmental impact, and resilience. The only question now is the speed and depth of the change. This matters because when the power is out, life is interrupted. When it doesn't come back quickly and emergency generators are tapped out, everything stops and basic things like food, water, and medical care are at risk. Our nation's power grid was originally built to carry electricity in one direction from large central power plants to homes and businesses, but today, it brings power from a wide variety of smaller, intermittent sources like home solar systems and local wind facilities that help increase reliability and reduce carbon emissions. With electric vehicles and battery storage facilities drawing heavy variable loads all over the grid, more power is flowing in more directions, a much more complex and potentially dangerous situation. Utilities use smart technologies to keep the modern grid safe and reliable to prevent issues from arising and recover quickly when they do. They're putting sensors all over the grid to tell operators about power levels, down lines, and other conditions and they're installing smart devices to take action and better predict and prevent the failure of mission critical equipment that delivers electricity to customers like you and me. But how does information get from the sensors to the control systems and from the control systems to the smart devices? Historically, over both wired facilities as well as a jumble of old wireless networks. Each of these wireless systems is typically limited to moving only the data for a single type of device, which is too difficult and expensive to manage. As surely as utilities will modernize, they'll move away from those old networks and anchor the grid on a powerful, flexible communications platform that will support their needs today and into the future. It'll be a combination of wired and wireless because it's too expensive to run wires to so many devices. It'll be broadband because there's too much data for anything less. It'll be private because shared systems aren't secure and reliable enough. And it'll be resilient because if it ever goes down, it has to come back up very, very quickly. Building a robust communications platform requires infrastructure, devices, and the right dedicated spectrum to carry the signal. The best kind of spectrum for utility infrastructure and devices is spectrum that enables LTE, a technology already proven to work well for consumers and critical infrastructure all over the world. And the best choice of spectrum is licensed, not unlicensed, frequencies below 1 GHz, which carries signals farther and stronger than higher band frequencies. Utilities will modernize on a wireless broadband network platform. pdvWireless will help make it happen with purpose-built LTE--

Morgan E. O'Brien - Chief Executive Officer

So, the utility opportunity. Fundamental transformation is occurring in this industry and the changes have cascading impacts in many areas. These changes are already happening, there're certain to increase and they cannot be stopped. The reason for the transformation: an imperative to reduce carbon emissions caused by the burning of fossil fuels. Now, for over 100 years, electric power has been centrally generated by reliable, constant, large-scale generating facilities. But just in the past 5 to 10 years, that basic paradigm has begun to shift because these facilities are under mounting pressure to reduce their greenhouse gas emissions. With technological advancement and the drive to reduce carbon emissions, utilities have slowed, building new large-scale centralized facilities and increasingly, generation is coming from smaller, more geographically distributed facilities, putting power production closer to intended users. According to Schneider Electric, over 55% of U.S. companies now have their own on-site generation. And by 2040, 15% of all electricity will be generated by small-scale photovoltaics. So, we're living through a time when billions of dollars are being invested in wind and solar power. Those power sources are inexhaustible, non-polluting, and they get cheaper by the day, so that's great, right. But one thing wind and solar share are they're intermittent. The sun comes up, the sun goes down. Wind strengthens, weakens or stops dead. So, the great gifts of alternative energy come with this huge negative of intermittency. And that fact underlies the challenge of the modern grid, power generation shifts

repeatedly and unpredictably, from power out to power in and that leads inexorably to utilities creating and collecting massive amounts of new data. Because of centralized generation, the electric power grid historically carried electricity in just one direction only from the central generating facility to users, homes and offices and other -- and factories, but now the grid has to accommodate users that are both generators and consumers, switching back and forth rapidly on any given day. I mean, think about that the house down the block has the solar panels. A solar panel is actually a power generator. So, the modern grid needs to carry power in both directions and that's not something it was originally designed to do and major changes in grid architecture are required to carry electrons in both directions. Sensors and smart devices placed throughout the system will provide operators the visibility and control necessary to run the new two-way grid efficiently, safely, and reliably, and that in turn means that these operators need to have robust data communications capabilities and they're necessities because electric power is the lifeblood of civilization, it is the essential service. To continue pumping this lifeblood, the grid must be able to accommodate the new distributed generation model. The financial impacts of failure can be substantial. Schneider reports that U.S. power outages in the U.S. can cost customers between \$79 and \$115 billion each year and that's not surprising when you consider Schneider's estimate that 45% of current U.S. electricity distribution infrastructure is near the end of its useful life. This is an amazing statistic. According to International Energy Agency, global investment in transmission and distribution grids from 2012 to 2035 will be \$7.2 trillion. Amazing! 60% of it will go to new infrastructure.

Now, state governments are further cementing the power of this shift because they're imposing clean energy and renewable mandates on utilities. All the 13 states currently have some type of program for these kinds of mandates. As an example, California has mandated that 100% of electric power must come from zero carbon resources by 2045 and they require 60% to be renewable by 2030. Oregon adopted a clean electricity coal transition plan and it requires 25% of electricity to be provided by renewable energy by 2025 with the goal of achieving 50% renewable by 2040. In Hawaii, the requirement is 100% renewable by 2045. And finally, last year, Massachusetts enacted House Bill 4857, requiring an increase in the State's renewable mandate pegged to annual sales and it also sets clean generation source requirements during peak demand hours.

So, this transition to distributed electricity generation is really picking up momentum. There are early adopters of grid modernization technologies, and as they proliferate, more utilities are going to embrace these technologies to avoid potential liability for failure to make reasonable, safety, reliability, and security improvements. An early example of that is recent legislation in California related to wildfire liability and it requires all state utilities to file detailed wildfire mitigation plans. Potential liability for wildfire damage has contributed to a Chapter 11 bankruptcy for a major California utility. Now, other industries have similar requirements for control of massive amounts of data, but those of you in the financial sector, which is pretty much everybody in the room, the data connection to your terminal brings you real-time information and you need that for decision making, analytics control, responsiveness to the market, and if you don't have it, you lose money. Utilities also need that kind of activity in the controls that it enables. Otherwise, they lose money and worse than that, property and lives. An example, lack of system visibility and human error were the primary causes of the cascading Southwest blackout that knocked out power for 7 million people in Southern California and Western Arizona in 2011. So, advanced technologies can extend the ability of a utility to monitor weather conditions and to respond rapidly to isolated wildfires before they spread. I didn't realize the importance of humidity in the fast ignition of wildfire and so humidity readings from remote locations are critically important.

So, now let me connect the dots about how all of this happening in the utility space relates directly to PDV. Moving these large volumes of data demands broadband communications. Narrowband provides just too little capacity. Imagine relying on your old dial-up modem to download streaming video. Now, of course, utilities have been deploying broadband for years, but that connectivity is principally wired and they've made very substantial investments in fiber infrastructure and that fiber is and will continue to be critical for utility applications, but fiber is costly to deploy and where there are so many locations where connected sensors and smart devices need to be widely distributed, it's just not practical. Here's an idea of the sensor environment we're talking about here. From 2017 to 2025, the number globally is estimated to quadruple for 20 billion to approximately 75 billion devices.

Now, let's look at another important distinction about utilities and their wireless communications needs because those can be met either by private or public. A private network is controlled by the utility so the utility decides what data can use the bandwidth, where to install coverage, when to update system -- software. Probably most important, a private network allows the utilities to have absolute control over the priority of communications at times of congestion. Times of congestion are times of emergency, they have to get through. On a public network versus private such as a service provided by a commercial carrier, utility data has to contend for bandwidth with other carrier customer data. Coverage is installed when and where the carrier deems appropriate, not the utility and that's probably based upon the density of their paying users and system updates are on the carrier schedule, regardless of the utilities needs. And most importantly, as a matter of security, a utility can elect to separate its private network from the internet. A commercial carrier of necessity is connected to the internet and is thus reachable by hackers across the globe. But as the President's National Infrastructure Advisory Council determined in 2017, industrial control systems, just what we're discussing here, connected to business IT systems and the internet, constitute a systemic cyber risk among critical infrastructure. So, needless to say, utilities overwhelmingly desire private networks for their mission critical control system data. It's clear to us wireless broadband networks are a powerful element of the essential smart grid communications solution. Now, it's clear that utilities have wireless systems in communication systems today and they have for decades, but for a range of reasons these legacy systems are not adequate for the modern grid. There may be occasional broadband systems that are limited to point to point microwave, but for many, many of the private systems, they're based on old technology. They're frequently inefficient, costly to maintain, difficult to secure and approaching end of life where utilities rely upon a commercial wireless carrier and of course they do. Those networks are built for the consumer and they are ultimately shared with hundreds of millions of consumers. They do not provide utilities great service with requisite control and security. Utilities clearly understand how important it is that they improve their telecommunications infrastructure. In 2019, they're estimated to spend a total of \$16 billion on telecommunications infrastructure.

So, let me give you a couple examples of specific utility plans. In its Smart Energy Plan, Ameren stated its intention to develop a wireless footprint statewide starting with St. Louis metropolitan area, including private LTE, that's exactly PDV's proposal. Further, in a filing with Connecticut's Public Utility Regulatory Commission, here's what they said. Building low latency, high bandwidth communications infrastructure, including fiber and wireless technologies is a necessary prerequisite for the grid of the future for large volumes of data collected and used to support real-time operations and advanced analytics.

Another example. In a proposal under its Energy Strong program, New Jersey, their utility the Public Service Electric and Gas, PSE&G, they state the need for improved communication is even more urgent than it was in 2012. Another communication system from a third party will not meet the future needs of the grid where the importance of secure, high-speed, and reliable communications to a significantly higher number of devices will be required. Now, we're fortunate that the inexorable transformation is building demand towards our offerings, and it's occurring in an industry with remarkable financial capabilities. As a benefit of regulations, utilities have access to large markets and access to large amounts of capital. So, if you step back a minute and this is a good way to think of it, PDV has a unique opportunity to meet an unavoidable and urgent need for critical infrastructure -- infrastructure -- a critical industry that provides an essential service to every person in business in the country and there could well be ample capital to fund it. Our plans begin with the IOUs, the investor-owned utilities. These are highly attractive customers with strong balance sheets and high credit ratings. Most IOUs operate exclusively in a service area and they're regulated by a State Public Utility Commission. And even though there's a relative handful of them, they provide service, the IOUs, to about 220 million people. Total electric operating revenues in 2016 was \$260 billion and just the top 20 IOUs generated approximately 80% of that revenue and serve about 50% of all the meters of the U.S., so it's very concentrated. What we've learned is that in selecting a private broadband wireless solution, a utility will consider how the regulator will treat its investment in the network. Most of the investment will be in infrastructure, and that typically can be recovered in rates from the electricity consumer and carries with it the important right to earn a rate of return on the investment. It's not just -- it's not covering the investment, it's also allowing a return. Each state

determines its own accounting rules for use in rate cases, but in our expert analysis of the uniform system of accounts, which is used by the FERC, the Federal Energy Regulatory Commission, and many state PUCs follow it, it indicates that if a utility wishes to earn a rate of return on investment in PDV spectrum, the lease can be constructed in a way that the utility would be able to do so. So, get a rate of return on the investment in leasing our spectrum.

So, obviously states and their public utility commissions are crucial players when it comes to investing by utilities. Already, a majority of states have begun to suggest and approve and some even mandate investments in grid modernization. Missouri now requires that any new rate proposal must be based on utility spending that includes at least 25% for grid modernization. Illinois 2011 Energy Infrastructure Modernization Act authorized up to \$3.3 billion in funding for advanced metering infrastructure and other grid investments by Ameren and Con Edison. In Massachusetts, regulator approved grid modernization plans of three utilities authorizing a total of \$220 million in what they call grid facing investments, grid modernization technologies over the next three years. And in 2019, utilities are estimated to have a capital spend of \$123 billion on grid mod, that's \$123 billion in 2019.

So, that's our view of the utilities and why the utilities are kind of in the center of our attention. And you can understand why we're laser focused on that segment because of its large size, immense capitalization, strong credit, and the rapidly changing landscape that's driving demand. But there are other compelling industrial segments driven by that expected continued deployment of billions of connected industrial sensors over the coming years. So, use cases include detecting leaks in millions of miles of pipelines or providing situational awareness for cargo flowing through ports or the command and control of drones that railroads are using today to survey the tracks. These types of customers need highly secure systems so that hackers can't gain access to their data and they'll also benefit from being on a highly scalable technology platform, such as LTE, Long Term Evolution, which is the leading technology globally, when it comes to IoT investment and deployment. And of course, we see significant synergies between utilities and some of these parallel industry verticals, and not the least of which is that they frequently have rural coverage requirements that are not met by commercial wireless carriers, but they share the need for that coverage. So, we started explorations with companies in these segments, including as potential customers, as partners, with the possibility of sharing common infrastructure with customers with similar needs across service territories.

So, let me briefly mention a few specific industry verticals we're targeting; oil and gas, another critical industry. They often rely on antiquated telecom infrastructure, connecting some remote areas including satellite and private land mobile radio networks that are all built on narrowband technologies, but with the massive anticipated increase in the number of sensors from everything from location service, data control, video surveillance, security monitoring, the opportunity to move to a private LTE network is pretty compelling. The mining sector is characterized by remote site operations, and this sector could benefit from a broadband LTE system for mobile video surveillance, telemetry, location tracking, remote location of expensive equipment. Also, a super important vertical, railroads, they're under pressure to deploy higher bandwidth applications, and their current use of cellular modems just don't provide the nationwide coverage that they need. And the railroads would also benefit from the low latency and high data rates enabled by private LTE. Just a reminder that the freight rail industry specifically is also an incumbent at 900 MHz, having been granted by the FCC decades ago, a handful of nationwide licenses on six narrowband channels, and they're using these channels for important safety-related operations. We, for the last couple of years, have been working closely with them, mostly the freights, to understand their channel use to discuss potential channel alternatives and develop relationships and engage the industry related to their future communications needs. I'm happy to say we reached an agreement in principle with them to trade some of our channels for their six channels to significantly improve the retuning process make it easier and we hope to formalize that agreement with the FCC. And of course, we see an opportunity and its flows from these discussions to help serve their future broadband needs.

Another example of a vertical – an important vertical: water utilities. They're expected to spend more than \$20 billion on data solutions over the next decade and their applications range from smart metering to security

systems for water quality and leak detection. We're seeing interest from large companies in this sector for a robust technology platform that will enable the connectivity for these capabilities. We're also collaborating with a company that finds leaks. Apparently, the single largest cost of water utilities is lost water through leaks that don't become revenue producing. With better data about the condition of their buried pipelines, they can prioritize spending, proactively minimize the damage caused by water main leaks. And of course, water utilities are funded by the same citizens that are funding electric utilities. People subscribe to water just like they subscribe to electric. So, the same citizens are funding and so it inherently brings opportunities for these guys to work together. To avoid asking the public to pay for overlapping infrastructure, we envision agreements with electric utilities and water utilities to share broadband services.

Now, finally, and this is a large topic, and we just touch it. There's a lot of excitement about the move to smart cities where local government can use modernized electrical grid and telecommunications infrastructure to create better data for things like smart street lighting, traffic controls, smart parking for safety and efficiency. And LTE capabilities are compelling when it comes to making some of these advancements possible. So, as you can tell, there're considerable opportunities for many types of industrial customers to improve their operations by capitalizing on a 900 MHz private LTE platform, and solutions for one vertical are likely to be leveraged across other segments as well. It's just there's so much interdependence between sectors like a water system going down if they lose electricity, for example, multiple sectors can benefit from building a common infrastructure platform to support these long-term plans. We learned something important at Nextel. By emphasizing service to enterprise rather than a consumer by making the adjustments and network design availability to meet their unique requirements, we won customers who had the lowest churn and they have the highest lifetime value of any of the large wireless carriers. And we believe that the enterprise opportunity for private LTE will continue to expand. In fact, they're likely to accelerate as the FCC finalizes its rules and we begin to enable customers very publicly to deploy systems. This opportunity is substantial in these other verticals. Total Addressable Market or TAM for these verticals is approximately \$26 billion a year based on the IT spend across them. So, for many reasons we've set out today, the electric utilities are an early important fit for us, but our spectrum covers the entire U.S. and we'll continue to explore other verticals to apply our unique spectrum asset to support broadband needs.

I know I've given you a lot to think about. And now I'd like to have Rob Schwartz who's our President, Chief Operating Officer and a key part of the team that's going to win the big game, I'll have him come up and discuss our product offering.

Rob Schwartz - President & Chief Operating Officer

Good morning, everybody. Thank you, Morgan. So, Morgan took you through our confidence in the regulatory process and the outcome that we're expecting, and also the large market opportunity, and why utilities are really the bull's eye of that opportunity for PDV. So, I'm going to focus on covering our product what PDV offers to customers and our go-to-market strategy, what our sales and business development is doing to address this market opportunity. Our customers seek advanced capabilities for moving massive amounts of data and improving how they communicate, with voice, video and even future needs such as unmanned vehicles and augmented reality. Our spectrum is at the core of making these advanced capabilities possible by powering private broadband networks. Our 900 MHz spectrum asset -- which we own in all markets across the country -- is the key ingredient to unlocking the benefits of private LTE for our target customers. Utilities have LTE technology available --- but having LTE without spectrum is like having a Ferrari in the garage, but no gas to make it run. You need broadband to make LTE run. And our view, 900 MHz spectrum is the ideal foundation of an LTE wireless broadband deployment. A foundation that will evolve to be part of a larger network, including fiber and possibly even other bands of licensed and unlicensed spectrum.

PDV has come at an important moment. The Critical Infrastructure community has been on the record for over a decade, at the FCC and other regulatory agencies, in search of a viable private spectrum band for their growing connectivity needs. 900 MHz, when combined with the global standard of LTE technology, provides a

proven, long awaited option for implementing private broadband for these market segments. PDV is the only 900 MHz license holder in the band with a nationwide footprint, with licenses for about 52% of the band. And based on the FCC's recent NPRM, we are in a strong position to bring broadband to meet the market's needs. We expect to enter into long term leases and other types of transactions that will enable our customers to access this valuable spectrum to own and operate their own private networks.

As a specific example of leasing to one of our potential customers, we intend to offer a 20-year spectrum lease, with annual escalators and long-term renewal terms. Our utility customers typically desire to have contractual use of the spectrum for very long periods of time, as they have a history of keeping their private communications networks running for decades. Needless to say – we also prefer these long-term leases. We are structuring these leases to be economically similar to tower leases, but with even higher credit quality customers. We also see opportunities to leverage these long-term relationships into additional products and services that can accelerate customer adoption and increase customer value from these investments. Our ultimate vision for the critical infrastructure and enterprise industries includes privately controlled networks that are also interconnected with each other to form a “network of networks,” enabling value added services like roaming, mutual aid, sharing of data for decision making, and network redundancy; as well as enabling efficiencies by sharing some common network functions; ---- all of these are under strong safeguards to maintain the security and integrity of the whole.

As Critical Infrastructure and Enterprise migrate toward Private LTE, customers will work together to drive economies of scale, accelerate the further innovation of equipment, and bring change and solve valuable use cases. The network effects are real. There is certainly greater value in the network as more devices are connected and more data is gathered, and we pass the tipping point of having leading utilities join this revolution, we believe the rest of the industry won't be far behind. And as private LTE networks proliferate, this value can grow as these networks are interconnected. Here's a message from Tami Barron the CEO of Southern Company's subsidiary Southern Linc. Southern Linc that operates an LTE network, and Tami addresses the value for utilities in leveraging LTE, including 4G and 5G to their utility:

[Video Played]

Tami Barron - President and CEO of Southern Linc

So, if you think about our industry as a whole, the same needs exist across the industry as within Southern Company. If you think about the evolution of our industry, there's this coalescence in merging of operational technology with information technology, really data analytics, as well as telecommunications needs. I'm not real sure where it stops and starts any longer because they're also interdependent. And with the grid operations being so dependent on the telecommunications infrastructure, it's as critical for us as an industry to ensure that we have telecommunications support of that network that match our own electric grid requirements. So, having a brand new, truly mission critical, highly reliable, highly secure network at Southern Company positions is extremely well to meet the needs of our operating companies and our external commercial customers on that value mission critical communications going forward. So, the 4G technology is the predominant platform, and you hear the evolution of 4G to 5G technology, which absolutely is true in the world. However, 5G really becomes layering on top of the 4G network. 4G is really at the macro level, and 5G is much more at the micro level. So, they're really complementary technologies. And then our strategy in 5G deployment would really be driven by use case specifics. So 4G, we consider the workhorse for Southern Company and our mission critical wireless network. Based on our experience, we are convinced that private wireless broadband networks are a strategic and tactical advantage for electric utilities. Utilities have a long history of working together and collectively a network of utility broadband networks will provide a powerful benefit to the industry as a whole.

Rob Schwartz - President & Chief Operating Officer

PDV sees opportunities to develop supplementary product offerings, in addition to our 900 MHz spectrum leases, to potentially accelerate adoption and enhance profitability. Possibilities include providing spectrum and network deployment services -- to managed network services. For example smaller municipal and cooperative electric utilities could be provided with PDV's dedicated LTE broadband as a fully managed cloud-based service, allowing them to focus on their own business. Any of these incremental opportunities of course would be success based, and would need to stand on their own two feet. And as we are seeing interest from like-minded industrial customers in the same locations converging and private LTE owners also willing to leverage their network investments, we see an opportunity for enabling shared private network deployments and providing hosted services on behalf of the utility.

I'd like to now highlight for you three important aspects about our offering-- They have to do with the spectrum itself, the technology platform customers' will use and the value of private networks to our customers. Our 900 MHz spectrum is low band, meaning under 1 GHz, which is commonly referred to as the beachfront property in the landscape of spectrum offerings. This is because it has the best characteristics -- based on physics that don't change -- of both coverage and building penetration. That's why most major wireless networks around the globe started with low band spectrum as their foundation. Due to the physics of radio waves, or propagation, low band spectrum, such as 900 MHz, is much better than higher band spectrum at covering wide geographical areas with fewer tower sites. As you can see in this slide, as you move up the frequency band, the signal of the spectrum does not travel as far. Another characteristic of low band spectrum is its ability to penetrate building structures, which is important when you're trying to get to a sensor in a utility room or to other indoor network assets.

To be very clear, this translates into better economics than higher band spectrum. Higher spectrum bands require more towers and that drives up the total cost of network ownership substantially. This is especially important for large IOUs that have statewide or multistate service territories, including assets like transmission lines or substations in remote locations, not covered by public carriers. So what makes the economics of 900 MHz so compelling? Let me take you through an example. Each individual 900 MHz site can cover around 150 sq. km --- while a higher band site above 2 GHz would only cover about 30 sq. km, or 20% of the same area. Now let's assume we want to build a rural network to cover 10,000 sq. km. -- which is not atypical for a utility. This utility service territory would require about 67 sites at 900 MHz for coverage,--- while the higher bands would require upwards of 333 sites. So this additional capital cost of the additional cell sites is bad enough, but what really kills the higher band model is the escalating monthly operating expenses per site of the combined tower rent, backhaul and maintenance. Operating expenses are treated as a direct passthrough expenses, the utility does not earn a return on operating expenses. Of course, the specific landscape and design criteria will vary and impact these numbers, but the laws of physics don't change -- and the benefits of low band spectrum prevail.

The second point I want to emphasize to you is the value of building these networks with LTE technology. And specifically, our 900 MHz spectrum is a standardized LTE band --it's known as Band 8-- and therefore already embedded in the major global LTE chipsets. In fact this band is already in the smartphones in most of your hands, as well as in the vast ecosystem of LTE network infrastructure and thousands of different types of available end user devices. The 900 MHz band is used by carriers in Europe and Asia and millions of customers rely on this band every day. By working with the global standard of LTE, it assures our customers that their network will continue to evolve with the benefit of the combined global R&D investment and can be forward compatible with new innovations like 5G.

And we were able to demonstrate this immediate availability in our support of Google Alphabet's Loon project. After the devastating storms in Puerto Rico in 2017, Loon dispatched a cluster of their balloons over Puerto Rico in an emergency effort to restore communications. Their balloons, which act like cell sites in the air, actually use the global standard, 900 MHz, band 8. So they reached out to us we agreed to allow them to leverage our spectrum in Puerto Rico for this important cause. At the same time, the local carriers in Puerto Rico send an over the air message to their subscribers to unlock this 900 Band 8 in their existing US cell phones. The result was tens of thousands of people had their communications restored. So what this really

means is that our initial customer deployments and pilots, which we will get into later this morning, are not testing new technology --- Instead they are demonstrating new applications to solve critical and timely problems that cannot be solved by legacy networks.

I want to make sure that everyone gets this important point – because we didn't have this huge advantage when I was at Nextel. Back then there was no global standard, and we had to work with vendors to develop a new technology – and as a result invested tons of time and money, and this almost prevented Nextel's success. This time, we are fortunate to ride the wave of this global standard, with the associated economies of scale, broad vendor choice, and an assurance of future innovation.

I've discussed the first two items – the value of 900 MHz spectrum and the opportunities created by using the LTE platform. Now, I'd like to mention the third of the three components: the unique value that private brings to our customers --- when compared to public networks. Private wireless networks are not new to utilities --- In fact they have been depending on private narrowband communications networks for decades. And some of these legacy networks operate on unlicensed spectrum, which is shared with garage door openers and baby monitors, and provide limited capacity and limited range. - And as the number of devices expand in these bands and the data demand increases, unlicensed spectrum becomes increasingly less suitable for essential applications and high value use cases. The Utilities' need for these private networks is based on five fundamental principles: control, reliability, resilience, economics and security.

Control means they want to be able to build networks where they need them, fix them when they choose to, and make sure their data is the top priority. And should there be a network problem or incident, their crews can fix it quickly, and they are not beholden to any third party commercial carriers.

Prioritization of traffic is important to these utilities. Mission critical examples such as protecting from falling power lines or emergencies where electric crews are dispatched to deal with power issues should be prioritized over consumer usage -- such as my kids watching YouTube. But if the utilities don't operate private networks, they can't be sure that their needs will be prioritized. Reliability means how consistently their network runs, and Resiliency means how fast it bounces back from an outage. Combined they reduce the risk, depth and span of costly power outages. We've seen the destruction that outages can cause - from loss of revenue to our electricity dependent economy, to tragic loss of life. Now I'm sure everyone here has experienced a power outage at some point and these outages not only cost the utility in terms of system repair and revenue, but there is a tremendous societal cost as well - Businesses lose productivity, perishable inventory, and plant production time. Home owner's food spoils and they needing to make temporary housing accommodations – and even threatens lives in extreme heat or cold.

These combined costs of these outages represent around \$80 billion annually, and utilities use this societal cost to justify their spend on preventative activities. PDV's solution will provide better communications options to critical utility network elements that can drastically reduce outage times, --- resulting in happier consumers, and therefore enable regulators to continue fund these important projects. These concerns are rooted in real experiences. You might remember the large blackout of 2003, impacting parts of the Northeast and Canada. 50 Million people lost power. Most didn't get their power back for two days, and in some areas, it took weeks for power to be restored. The industry ultimately determined the blackout's primary cause was a software bug in the alarm system at the control room of an individual utility. What should have been a manageable local blackout cascaded into the collapse of the entire Northeast region.

Regulatory treatment of new technology drives utilities to want private networks for a simple reason: if the utility owns the asset, the cost qualifies as a capital expenditure, and therefore can be included in the rate-based with a state approved rate-of-return.. If however they instead buy services from a wireless carrier for example, that's an operating expense, and it gets less favorable treatment. Additionally, over time, many utilities have built individual narrowband private networks, deploying them one at a time for a single purpose, resulting in multiple uncoordinated communications systems. These systems each have discrete operating and maintenance costs that when combined can be substantial, as we have seen at several utilities that operate more than a dozen

existing networks. Modernizing their communications allows them to consolidate onto one very reliable, high performing broadband platform which can substantially simplify their operations and reduce ongoing operating and maintenance costs. And the resulting increased situational awareness also drives cost savings. Infrastructure is aging more quickly than it is being replaced, and each utility struggles to determine the optimal infrastructure spend plans. Using sensors to know what needs immediate replacement --- based on collected data -- helps keep target investment where it's needed - versus - replacing systems purely based upon asset age. This helps to lower costs while improving the efficiency and reliability of the grid.

Security issues are of paramount concern to utilities. Again citing from the President's NIAC Report which was a collaboration of the Department of Homeland Security and private industry participants. "... power companies are moving their operational systems to dedicated, closed networks and... these networks can significantly limit access points, giving operators fewer digital gates to guard." Private to the energy industry also means physically separate - known as "air gapped" - from the public internet. Although tough to imagine in our hyper connected world, this architecture provides the greatest security from remote attack, and was the #1 mandate of this NIAC report. Fast forward to 2015, when a major cyber-attack caused a widespread disruption to power services throughout Ukraine. This was one of the first examples of a targeted and sophisticated grid attack, that caused a substantial blackout.

Protecting our grid from cyber disruption is a national concern. A quote from a recent WSJ article detailing the worst known hack into our nation's power system stated "at least 60 utilities were targeted...About two dozen were breached, ...hackers penetrated far enough to reach the industrial-control systems". Many experts believe this was just a rehearsal for a larger attack still to come. Private, physically separate networks are critical to combatting this looming risk.

Research shows spending on cybersecurity by utilities will reach \$7.25B by 2020.

So how do PDV's offerings stack up against other available technology options?

As experienced network operators, we know that one size does not fit all, when designing for optimal connectivity. Our customers will have a diverse set of use cases and connectivity requirements, that are best served by a combination of technologies and business models; whether unlicensed mesh and narrowband for non-critical use cases, such as street lighting; or complementary fiber deployment connecting the transmission system and substations, for ultra-low latency use cases. There is however, a growing number, and a very valuable set of use cases where the last mile connectivity requirements are best served by low-band, 900 MHz private LTE. Alternative high band spectrum solutions will not meet the performance, coverage, operational efficiency or economic requirements of utilities. As the inexorable modernization of the distribution grid continues - assets become more and more connected, intelligent, and critical to the overall stability of the network, and 900 MHz private LTE continues to look like the optimal solution.

All right, so with that we're going to pause here for a 10-minute break and after the break we will look to review our go-to-market strategy and our business model. Please help yourself to refreshments. Bathrooms are through those doors in the back. Thanks everyone.

[Short Break]

Rob Schwartz - President & Chief Operating Officer

Okay, welcome back everybody. Thank you.

So, in parallel to executing on our FCC Regulatory Initiative, we've been executing our two-pronged market development strategy focused on driving the utility market to embrace and adopt our spectrum solution. It's designed to create customer demand and regulator support for our offering, and when combined the goal of the two-prongs is to accelerate the industry to the tipping point of a de facto national network of network for

utilities. The first prong of this approach, what we call the bottom-up approach, focuses on the more-traditional direct engagement with utilities and I'll explain our substantial progress in our customer pipeline in a minute, but first I want to explain the other prong, our unique top-down approach. This is focused on driving utility industry regulators to both understand and support our initiative. The goal is to accelerate industry adoption and facilitate state and federal funding opportunities. Government agencies play a key role in the regulated-electric utility landscape and are primarily divided into two main areas. First is federal. Federal agencies like the Department of Energy or DOE and its subsidiaries they influence driving long-term direction and funding, and the second is the state-level organizations that enable investor owned utilities through local oversight and importantly the approval of funding called rate cases. At the federal level, our message is to educate key agencies on how our solutions support grid modernization and the associated requirements for private-communications offerings. The National Institute of Standards and Technology or NIST as it's called, as an example, convenes industry experts to validate local practices for smart-grid implementation. PDV participates in these meetings, helping both the government and utilities to understand that private LTE is the key to enabling the modern grid, and as we stated previously, one of the major policy areas of focus for utilities is cyber security. Our interest is in demonstrating the value of private-data networks and helping secure these systems that control utility operations. Our goal is supported by the President's NIAC Report, as we cited earlier, that separated networks are needed to defend against cyber attacks.

The Department of Energy also is focused on cyber protections for the grid. At a recent technical conference that we were a participant in, the DOE's Assistant Secretary, Bruce Walker, who leads their Office of Electricity, highlighted the 2019 National Threat Assessment Conclusion that nation states are targeting and are able to disrupt the energy sector. He said, "The status quo just doesn't work and that's why we are having this conference," and he further asked the audience whether it will be helpful for DOE to specifically advocate that utilities should actually own and operate their own communications network, separate and private. Such advocacy is something we've been supporting at numerous federal-agency meetings. The Federal Government is also deeply involved in the technical work, underlying the nation's efforts to protect the grid from cyberattack. PDV also participates in this National Cybersecurity Center of Excellence, helping define the best practices including the use of private LTE. So, the fact that these federal efforts drive a path for grid modernization, then the fact that they are underway for sometime really demonstrates the importance in this sector. For the American Recovery and Reinvestment Act that started in 2010, the DOE invested \$4.5 billion and this was more than doubled by matching funds from the industry, and jumpstarted grid modernization through deployment of smart grid technologies. In addition and since 2016 the DOE has invested more than \$300 million in R&D, advancing smart-grid technologies under its grid-modernization initiative to enhance reliability, resilience and cyber-security protections. So, the path has already been outlined for the industry by State and Federal Governments and the learnings nationally from these investments are now driving state-level adoption. So, at the state level PDV is also actively involved in working to educate state regulators about the need and availability of private LTE to benefit their electric consumers in the state. We regularly attend and are presented at meetings of the National Association of Regulatory Utility Commissioners, better known as NARUC.

We've also placed articles in publications that focus on that community, and to support our utility-outreach efforts we have identified key states where the regulators initially appear most receptive to support rate cases and approval of private LTE investments, and we are developing an economic study for utility use which we intend to publish to help state regulators better understand the value of private LTE for their consumers. At the state level, Public Utility Commissions are adapting approaches and using the framework recommended earlier for utilities that operate within their individual state footprints. States are developing their own tailored plans and mandates based on this framework. As an example, the Maryland PUC, their Public Service Commission, started a grid modernization proceeding in 2016 that address topics including rate design, energy storage and distribution-system planning. In 2018, New Jersey's governor directed their PUC, the Board of Public Utilities, to develop an energy master-plan that included modern-grid initiatives. These state initiatives are being driven by the rapidly changing requirements of the grid, and in California the recent wildfire epidemic has caused that state commission to require mitigation plans from utilities to combat the urgent problem. These responses

highlight the vital importance of smart devices in private-communications networks as fundamental components. So, here is Peter Tseronis. Pete's the former and first CTO of the Department of Energy and one of our trusted advisors sharing his point of view on these important issues.

[Video Played]

Peter Tseronis - Former Chief Technology Officer of the Department of Energy

I'm Pete Tseronis; I'm the Former Chief Technology Officer for the United States Department of Energy. When I think about private LTE and policies that align to this next generation of infrastructure to support our digital communications across the globe, you're talking about a lot of stakeholders, entities here in the beltway, the Federal Communications Commission, the Department of Energy, the Department of Homeland Security, the Department of Transportation. So forming a policy takes a bit of village, but at the same time implementing a policy will take collaboration both in the public and private sector. There are 16 critical infrastructure sectors in our country. Each sector is a sector that we depend on everyday, the food we eat, the cars we drive, the energy that we leverage, the defense industrial base that protects our country. The networks that support those sectors today, now, are deemed resilient but tomorrow they may not be reliable. So, what's next, what's next is embracing the internet of things because what's saved today, what's secured today won't be tomorrow. Private LTE networks at its most core basic-foundational level powers that innovation of the future. What we are talking about is transformational; we've seen this inflection point before the internet was in front of us. Think about what it was like before. We're at that point now with broadband communications. The world that's ubiquitously connected is transforming before our eyes each and every day, and that being said we have to modernize the infrastructure that powers that transformation.

Rob Schwartz - President & Chief Operating Officer

So, now we've flown at 10,000 feet with our top-down strategy. I'm going to take you down to the ground level, where we are in the trenches day to day engaged in discussions with a growing pipeline of about 40 industrial customers and educating many more through outreach programs. This is what we call our bottom-up approach and the objective is very simple, stocking the fire of customer demand within the industry. These are real customers with interest in building private networks, customized to solve their specific needs. Outside of energy utilities, we are seeing interest from water utilities, oil and gas transportation and government sectors to name a few. Our pipeline includes the majority of the Top 20 investor on utilities, who collectively serve about 57% of the country's meters. This progress goes hand in hand with the progress of the FCC, and our approach is straightforward. We've hired an experienced business-development team who are working on an account by account basis. We attend major trade shows, industry association forums. We respond to RFPs and are building key relationships. Our message is clear, "Customers can solve important needs across many use-cases through a partnership with us and the utilization of our spectrum." Our history as former executives of a national wireless operator provides important validation to our potential customers, and when combined with the demonstrable benefits of private-broadband networks and technologies that can be enabled on our spectrum, this has led us to converting many of the previous opponents to become supporters and now potential customers.

This strategy is very different from our Nextel experience. In those days, we had to first get fully through our regulatory rulemaking, then fund and build out a costly nationwide network – at a substantial cost of dilution, and then start adding customers – one subscriber at a time. Here instead we are working in parallel to deliver both the spectrum and industry customers, and we've identified a target segment where they want to build, own and fund the network. Utilities describe the variety of their needs by providing use cases. Let me give you a very real example so you can understand the importance and value of utilities finding solutions to these needs.

I'm sure everyone saw the stories and images of the horrific wildfires in CA and the resulting tragic loss of lives, and property. Based on the forensic reports, multiple incidents were caused by falling live powerlines that

ignited fires as they hit the dry ground. As a result of this catastrophe, the utility was unfortunately forced into bankruptcy. Now what you may not know is that further down the California coast, another utility developed, and has begun to deploy falling conductor protection technology. The concept is simple – deploy sensors regularly along a powerline, and then, should for example, a tree fall and break the line, the sensors detect the break in the current and depower the line – all before it hits the ground. Now this sounds simple in concept, but it requires two critical things. First the advanced systems and algorithms to make it happen, which exist and are being piloted and deployed today. But the other essential element is a fast communications network – one that has low latency to get the signal processed and the decision made between the time the wire breaks and when it reaches the ground – about 1.4 seconds. This communications network also has to be cost effective enough to cover all of the at risk areas, which in CA, are large regions of the state where often there are no people and therefore no public wireless networks. So this is where our 900 MHz private LTE solution can effectively solve this critical use case. LTE has very low latency so it provides the required speed and bandwidth, and because we are low band, it has substantial cost advantages against higher band alternatives for coverage and capacity. Latency is also directly affected by the amount of use on the network, which in a private network, the utility owner can control. With the billions of LTE devices made around the globe, this scale has driven price and performance to attractive levels. And this use case doesn't just apply to wildfires – utilities around the nation face the challenge of building network resilience in light of natural disasters that include hurricanes, floods, and tornadoes.

Put yourself in the shoes of a CEO who's looking at what caused the bankruptcy of a neighboring utility, and you can understand why our solution is getting heightened attention

This use case is also a good example of our broad outreach. With the leadership of our board member Rachelle Chong, a former FCC and CA state PUC commissioner, we recently participated in the CA state led Wildfire Technology Innovation Summit, where we met with utilities and vendors to understand their needs, and to offer our spectrum to help solve this vital issue. Partnering with infrastructure vendors is another key part of our strategy. These vendors have complementary interests in seeing nationwide utility adoption of private LTE, and have robust technical and sales teams, and long-standing relationships with many of these target customers.

In our work with Ericsson for example, they bring global leadership in LTE innovation, and are Southern Company's vendor for the recently constructed low band private LTE network -- the first of its kind in the US. With this experience, Ericsson brings deep understanding of the current needs, challenges and critical use cases of the electric utility market. We are also working with Nokia --- a leading global LTE vendor, and importantly the major vendor of Network Management Systems for utilities in the US, based on their acquisition of Alcatel Lucent. As utilities continue to recognize the substantial advantages of 900 MHz over other alternatives, we see customers proactively selecting our band as the best solution. We're working collaboratively with Nokia on utility opportunities including our ongoing pilots with Ameren. And in addition to these partners, there are many other large vendors that are deeply imbedded into the electric utility ecosystem – with billions in revenue from the sector, and they have shown increasing interest in working with PDV, and developing strategies to integrate their offerings with private LTE. Many of these leading hardware, software and system integration vendors are now joining our recently formed Utility Broadband Alliance, and we see the potential for future strategic partnership and investment opportunity.

While these vendor partnerships are vitally important, it's also important for PDV to remain vendor neutral, so that 900 MHz spectrum can be the preferred standard for the industry irrespective of the customer's choice of equipment vendor. In fact, in a few of the early utility RFPs and selection processes, we've seen 900 MHz evolve to be part of the specification across vendors, which is where we strive to be, as a trusted advisor to the utilities. And speaking of Ameren, let me provide you with an update on our market pilots and other developments. We helped Ameren file and get the first of three 900 MHz broadband experimental licenses granted by the FCC, in advance of the final rulemaking. Ameren's pilot, deployed in both IL and MO, is currently in its first phase which is expected to wrap up this summer, but the initial results are positive. Their initial goal is to prove out the use case of connecting and disconnecting key distribution network assets that enhance reliability and resiliency. The benefit of the pilot to Ameren is that this allows them to accommodate a

growth of wireless sensors and endpoints on a single field area network that supports increasing bandwidth requirements on a standards-based technology. It also can demonstrate the value of investment in private LTE, supporting Ameren's Smart Energy Plan as filed with Missouri's state regulators.

While this is a very valuable initial use case, Ameren has expressed even bigger aspirations. Like most large utilities, they have numerous legacy narrowband networks that are nearing their end of life - in fact Ameren's case has over 17 different wireless networks – and they target consolidating these over time onto private LTE for operational cost savings, reliability, control and security. And going forward, Ameren has numerous new innovative use cases that will be further enabled by this private LTE network that can't be appropriately served by their legacy networks. Private LTE enables new use cases that require broadband and substantial increases in the number of network sensors. Ameren for example expects to see an increase of over 350% in the number of sensors and controllers in their various networks over the next 5 years . These connected endpoints will improve situational awareness and predictive analytics and will also support grid modernization more broadly. And as we discuss our specific utility partners, I want to call out our continuing strong and growing relationship with the industry leader Southern Company, with service territory in Georgia and Alabama. They are now the leader of the industry's drive to private LTE. Our alignment of interests continues to help us in almost all that we do, as Southern Company shares our vision of nationwide adoption of private LTE by utilities, -- creating a robust ecosystem of devices, applications and solutions to use cases specifically for the needs of utilities. Southern has built a robust private LTE network to broadly support their fixed and mobile network needs and has already proven its network's resilience through storms in the hurricane corridor where they are situated.

And while I'm talking about Southern, I'd also like to talk about our joint efforts with them to launch the Utility Broadband Alliance, or as we call it UBBA. UBBA is a breakthrough initiative bringing together utilities and vendors, and is becoming a hub of information sharing, collaboration and planning to assist the industry in the development of private wireless broadband networks owned by and dedicated to utilities. It's positioned to drive scale and innovation for the industry by creating a network of utility private broadband networks through centralized initiatives. This industry has a long history of working together to solve common problems., And as we travelled the country talking to utilities and see them struggling to solve the same evolving use cases and communications issue, we realized this was an opportunity for us to take a leadership role in bringing them together. Since it's recent inception in January, we are proud to say that UBBA's membership has grown to 19 members, including National Grid, Excel, Evergy, Southern, Ameren and vendors Cisco, Motorola, Ericsson, GE with others expressing interest to join. But rather than just hearing it in my words, here are some UBBA members sharing their perspective.

[Video Played]

If electrification or decarbonization is going to solve some of the world's biggest challenges right now, we would have to build a grid that's much more dynamic than the one that we have today. To do that, you're going to need communication-and-controls infrastructure, and we view it's our jobs really to save the world.

I'm really excited today to see the soft launch of the Alliance. I think it will be a huge benefit for utilities.

Utilities have typically relied on vendors to tell them what they want in, and this is kind of a role reversal for us. So, now, we're telling vendors, we want private broadband network.

Utilities face a lot of challenges today and there is going to be even more down the road as so many new sensors and other types of IOT devices come on to their systems.

They're walking around the show floor picking out a lot of interesting technologies and they want to go deploy that on the grid tomorrow.

We got notification that they are going to bring a 1000-pole sensors on the network and that just appeared overnight.

They want to find the best copper theft detection sensor, the voltage sensor, whatever. Buy that device, deploy it on the infrastructure without having to come back and us do a custom engineering action. Does it meet with the UBBA requirements, absolutely; sure, go ahead and buy it. We know that we can activate it on our network and the rate of sensors and the deployment of things under the grid, that rate is only accelerating.

We're going to have so many devices that we're going to be the size of small-regional carriers.

We have an opportunity at PDV to visit with a lot of different utilities independently and what we saw was that these utilities needed to come together, where they can just really help each other deliver on their mission.

This is the first time in which there is an entity that's going to allow the different utilities and their vendor ecosystem to share business cases and use-cases, and solve this problem collectively.

I built a lot of telecommunications networks for utilities. I haven't built a perfect one yet, but I know a lot of ways with which to do it again. The faster that we can foster and share that information, the faster we can all evolve the industry forward.

We're not going to be successful unless we're not all in this together, building these networks.

Rob Schwartz - President & Chief Operating Officer

So, I'm confident that this alliance will substantially benefit the industry as a platform for learning, sharing and be another key catalyst in the creating of a nationwide utility interest in the 900 MHz private-LTE system.

So, another exciting development we recently announced is our partnership with the Department of Energy's National Renewable Energy Lab or NREL in Golden, Colorado. This is one of the preeminent facilities in the National Laboratory Complex and has a -- it's a great example of our government actually doing applied research for the benefit of the industry. Leveraging an experimental license on 900 MHz and NREL's sophisticated test facility, we are integrating a private-LTE wireless communication system into NREL's test bed to analyze real-life use cases faced by utilities in a variety of scenarios. NREL's involvement will provide greater assurance to the industry and support of its unique requirements, and also help accelerate adoption of private LTE as an industry standard. Overseeing this program with PDV is an Industry Advisory Board, comprised of six leading utilities that provide service across 18 states, as well as the former CTO of the Department of Energy, Peter Tseronis, who you saw earlier. Also worth noting, the DOE recently awarded this project high-impact status, which they give selectively to projects that accelerate innovation in the private sector and develop scalable technologies that satisfy the goals of the US Department of Energy's Grid Modernization Initiative. Later this year we expect to present the findings from this important NREL project.

So, as we try to make clear, our business development efforts are being accelerated by the significant tailwinds of macro-market forces that have increased the urgency and escalated the awareness of the importance of communications infrastructure issues at utilities. These forces include the Russian cyber invasion of US utilities that left our grid at risk, the wild-forest fires mentioned earlier and the frequent once-a-century storms and other natural disasters. By connecting the dots between these macro forces and the benefits of broadband LTE networks, we have raised our visibility through various media outlets, including recent up-page in both the Wall Street Journal and The Hill as examples. These efforts help us transition from being an unknown in the utility industry to being a potential partner of some of the nation's most important businesses and charting a course to create a nationwide network of networks to address these vital need, and to bring it all together here is Rachelle Chong again summarizing this landscape.

[Video Played]

Rachelle Chong - Independent Director

Based on what I have seen, it's become clear that broadband has become a very-high priority for electric utilities and we've had unfortunate incidences here in California that have brought that to the fore, cyber terrorism and the wildfires. However, if there is any good news that came out of it, I see that the governor's office, the legislature, the California PUC and the executives themselves of the utilities have put a priority on upgrading the systems and there is benefits. There is a public safety benefit first of all and, secondly, this was a natural progression to improve the IT systems of the utilities. Everything is coming together and it will bring investment without question.

Rob Schwartz - President & Chief Operating Officer

Substantial spectrum opportunity we see in front of us, the large and rapidly growing market need that's complemented with the valuable customer relationships that we're developing and why our value approach to building our business is unlike any other wireless company before us. So, now that we have discussed these key elements of our business, Tim Gray, our Chief Financial Officer will share our perspective on how this translates into our business model.

Tim Gray - Chief Financial Officer

Thanks, Rob, and good morning everyone. We described our business opportunities and plans in detail because it identifies why we believe PdvWireless should not be evaluated like a typical wireless company. The familiar metrics for most wireless companies, net adds, ARPU, CHURN and high capex spend, will not apply to PDV. So, the Question is: how should you evaluate a Company that leases spectrum to Critical Infrastructure and Enterprise entities? I will provide insight on how we are evaluating and building our business model. We believe that MHz per pop comparisons will be less relevant to evaluating our business, other than to set an effective floor of asset value. On this chart, you can see some comparisons that we believe wireless investors should review when considering our 6MHz of potential nationwide broadband spectrum covering 320 million pops. But, we believe that our business model going forward can create significantly more shareholder value than a MHz per pop valuation.

As you've heard today: our spectrum process is nearing completion at the FCC and we are experiencing strong and growing demand by electric utilities and other industrial users for our spectrum. This demand is driven by a confluence of market forces related to modernizing and securing the grid. We described why we believe our exclusive low-band 900 spectrum could be the best alternative for many of these customers. And, given that these IOU's want to deploy and operate their own networks, the result is a capital efficient model for PDV.

How do these factors translate into PDV's business model?

To monetize our valuable spectrum assets, we generally anticipate 20 year plus lease terms with our customers. While we can't rule out the possibility of some customers paying upfront for spectrum, our early customer offers are centered on long-term leases. Utilities are credit worthy customers, with long term bond yields currently averaging around 4% and can offer us reliable cash flows with significant visibility. In many respects, we believe at steady state PDV's business model and margins will be comparable to that of a tower company except as to their capital spend. We are basing our lease price estimates on market transactions, previous spectrum auctions, consultations with spectrum experts, and on our discussions with potential customers. We plan for our lease structures to contain annual pricing escalators and long-term renewal options.

During the remainder of this fiscal year, our goal is to sign at least one customer agreement for use of our spectrum. Based on the work we've done with potential customers to date, in 5 years, that's fiscal year end

2024, we target to have a portfolio of escalating contractual lease commitments, with average maturities of around 20 years (plus renewals), producing an annual run rate of revenues in the neighborhood of 125 to 150 million dollars. We believe we can achieve this goal with a combination of 6 to 11 of the top 20 IOU's. Our active discussions with a majority of the top 20 IOU's and many other utilities gives us confidence that we have the opportunity to sign customers that provide the targeted annual run rate revenues by fiscal 24.

Based on this, in FY24, we expect to have more than half of our spectrum still on our balance sheet and available for future lease. In other words, the value of our business at the time should reflect the portfolio of our leases plus the value of our remaining spectrum. By that time, however, we would expect the market to more fully value our remaining spectrum assets based on our demonstrated ability at that time to monetize the spectrum.

As you can see on the chart, we expect revenue to continue to grow as we enter leases for our spectrum assets post fiscal 2024. We believe demand for our spectrum will grow among utilities and other verticals over time as we continue to monetize the majority of our spectrum still on the balance sheet. We will potentially have additional areas to further drive revenue such as network of network services and other spectrum opportunities.

How does our annual revenue targets fit into the overall utility capital spend profile? Per Edison Electric Institute, the 150 US IOU's spent approximately \$120 Billion dollars in capital in 2017. Based on our research we estimate that \$16 billion of capex per year will be spent on telecom in 2019, and that is expected to nearly double to \$30 billion per year by 2023. Our revenue target for fiscal 24 represents less than half a percent of that annual telecom spend. As a result, we believe our spectrum assets provide a unique opportunity for our customers to deploy best in class technologies and solutions, that will represent only a small percentage of their telecom spend, and can help them save money in the long-run by reducing or eliminating existing expenditures. Deploying our 900 MHz spectrum is clearly more cost-effective than the capital and operating costs of deploying systems on higher band spectrum. And as Morgan mentioned, I'll remind you that the total addressable market or TAM for the other verticals discussed is approximately \$26 billion dollars per year based on their combined annual IT spending.

Now that I've shown the revenue opportunity, I'd like to discuss the funding requirements to realize the plan. We expect network buildout costs to be borne by our customers so outside of retuning there will not be a large capital burden to PDV which is favorable in comparison to both tower and wireless companies. We expect our annual cash burn before retuning costs will be approximately 30 million dollars per year over the next few years during which time we will be increasing our customer efforts and moving forward with implementing our business plans.

We've spent a significant amount of time on evaluating the retuning or spectrum clearing process, and I want to share with you our current estimates. To best facilitate, we have segmented the 900 MHz ecosystem into large, medium and small systems to determine the costs and level of effort required. Throughout the US there are fewer than 400 incumbent systems to be addressed as part of our process., versus the thousands of systems faced in the Nextel rebanding experience. There are 60 large multi-site systems, 120 medium-sized systems, 220 smaller systems and as the report and order currently sits, we will need to come to terms with a handful of licensed two-way radio operators, which makes up the remainder of our overall estimate. We expect the full cost of the retuning process to total from \$90 to \$120 million dollars over the next 3 years. We, however, are in control of the rate of spend and can accelerate or decelerate as necessary based on customer opportunities and our available capital. This forecast is based on our view of the rules as currently written in the NPRM, which includes voluntary transition. It's also important to note that our retuning expenditures will include both costs to retune incumbents and spectrum acquisitions and that the mix of retuning versus acquisition will vary by market. Keep in mind that post the retuning process, PDV does not expect to have significant capital spending going forward.

As revenue grows and we complete the retuning process, we expect to have high EBITDA margins just like other businesses with significant recurring cash flows. The cost of acquiring a customer is all upfront and the cost of servicing a recurring lease going forward is minimal. As a result, in 5 years or by fiscal 2024, we

expect to exit the year with an EBITDA margin run rate approaching 80%. I'd also like to note that based on the company's NOL's on the balance sheet, the company does not anticipate being a material tax payer for several years past becoming net income positive.

Based on what we've laid out, we believe we will have model with high EBITDA margins and long-term commitments from high credit worthy customers, all of which should lead to high EBITDA multiples for PDV. We have quantified the additional funding needed after taking into consideration the 76.7 million dollars of cash on our balance sheet at March 31, 2019 and projected operating cash burn and retuning costs. This will translate into our need to secure an additional 100 to 150 million dollars to fund our future operating business and the retuning process. We are looking at several options for this funding, including equity, debt, strategic partners and the financing or securitizing of our long-term spectrum leases. With respect to the timing of a capital raise, we intend to be opportunistic and to raise capital at an effective time based on several factors, including the status of our regulatory process, our progress with our targeted customers, our expectations for the timing of our capital outlays for retuning and market conditions.

I'll finish by making sure that you understand how excited we are about the progress we've made to date and look forward to updating you throughout this fiscal year as we continue to make progress in obtaining the report and order, formalizing and starting to execute on our retuning plan, exploring options to fund this plan, signing at least one commercial agreement for the use of our spectrum. I hope you now have a better understanding of the value of the nationwide spectrum on our balance sheet and our ability to convert this spectrum into valuable customer contracts. We look forward to sharing our progress throughout the year, as we continue to strive to build shareholder value. Now, I'll turn it back over to Morgan.

Morgan E. O'Brien - Chief Executive Officer

Everyday, I look at this opportunity and everyday I like it better. I believe we're sitting right at the crux of inexorable demand, meeting unique spectrum and assets. Critical infrastructure, and in particular, the electric industry have the need, they see the need, they have the capital to address the need, and I really believe we have the very best product to serve their need. Tim and Rob and I got to stand up today in front of you, but we're literally surrounded by dozens of talented players that we've recruited from critical infrastructure and wireless enterprises, and this is the team that wins the big game. We benefit from a very strong board. As you can see, these are sophisticated players, solid decades of experience in critical infrastructure, and each contributes in many ways to our day-to-day progress. Together, they steer us with experience and savvy. The goal for today was to marshal our facts and give you what you need to understand our business plan and then you can assess for yourself there is likelihood of achieving it. Now, make no mistake, the paramount goal of all the team at PDV is to increase shareholder value, and everything we do is designed towards that. But I've been privileged to see what special results can be achieved when every member of a team shares a compelling vision and what I described earlier this morning is a vision of a better world within our grasp. For me, that vision is to contribute in a material and long-lasting way to perfecting and securing the nation's electric grid. Thank you so much for coming today and listening. We all hope that you can sense how excited we are— extremely excited about where we are and where we're heading. We have plenty of time for questions and we look forward to answering them. It will take us a couple minutes to just work out our logistics, but bear with us. We'll take questions in a couple of minutes.

[Short Break]

Natasha Vecchiarelli - Director of Corporate Communications

Thank you, everybody; we're now ready to take questions from the audience here in the room. Before we take questions if you could kindly just state your name and company into the mic. We do have a webcast audience that is listening live. So, we're ready for our first question, if you can just raise your hand? Okay.

Ted Lerman - Individual Investor

Hi, I'm Ted Lerman, Individual Investor. How quickly can you ramp customer adoption and penetration? And how confident are you that you can accelerate this five-year plan and what are those opportunities to accelerate?

Morgan E. O'Brien - Chief Executive Officer

Sure, let me ask Rob, because he's the man on the scene with these current discussions and plenty of reason to be optimistic.

Rob Schwartz - President & Chief Operating Officer

Thanks Morgan. So -- and we share two different perspectives, one from the customer pipeline view and one from economic view and kind of where the rubber meets the road. What we're seeing based on all the macro market forces at the trench level, is a snowballing level of interest, and it's hard to describe that both because we have nondisclosure agreements in place with all these large industrial customers that don't allow us to give you a lot of the specific names, but fundamentally, as we built our direct outreach to these customers, and remember, this is all in advance of us even having the spectrum completed, right? So, we're having these conversations saying, we will be getting the spectrum, and these are very risk-averse customers. So, typically, wouldn't look at things like this before they're fully completed. But the demand is so great that we're seeing as you saw through UBBA, through the NREL efforts, you can see the list of the kinds of large investor-owned utilities that are spending their time, effort and money to really develop your thinking on it. So, we're confident based on this snowballing level of demand that we're seeing that once we can unleash the spectrum through the regulatory process that we're going to see a really high level of demand to be able to license and use that spectrum.

Morgan E. O'Brien - Chief Executive Officer

Yeah, so let me just emphasize one thing. The caution, the natural caution of putting together a proposal like this says, okay, let's see if we can get one these very large companies signed up in this calendar year, but the momentum that's been achieved so far, and what we're seeing and hearing suggest that that's very conservative, but we'll have to see. The inflection point appears to be reached once the FCC put out that notice of proposed rulemaking, and there're an awful lot of forces, extrinsic and internal that would appear to suggest that this will pick up speed rapidly, but we're being cautious.

Natasha Vecchiarelli - Director of Corporate Communications

Great, thank you. Okay.

Dave Barton - Bank of America

Thanks, guys. It's Dave Barton from Bank of America. Just a couple of questions, I apologize; I'm new to this story, but is it right to think of this for lack of a better analogy as kind of like gold mine, where you're going to be leasing off the spectrum and then there's a finite amount of it that you can lease and when it's all leased it's gone. And if that's right, as I look at that map, you know, what percentage of the counties have an addressable utility that you could actually sell to, because you're going to have some spectrum where there presumably people or companies that won't use it? And then third, is, if you're leasing it to these different parties who are either, I guess, they couldn't overlap, but they could be adjacent to each other, how do you coordinate the network management as these networks bump into each other? Thank you.

Morgan E. O'Brien - Chief Executive Officer

Okay, good. Let me start by saying, I don't think the gold mine analogy is all that bad. I mean, it is a precious finite resource, and if I make it available to the utility in Houston, and the utility in Houston makes an arrangement to take all of it, then I can't make the same arrangement with the refineries in Houston. Conversely, if the refinery step up first, they make the deal before the utilities, but neither of those arrangements precludes sharing of infrastructure and capacity and working at protocols amongst themselves, and that's much more realistic as you get outside of Houston, as it would be right in the heart of Houston. But let me also pick up that it's hard to find a _____ 09:30 in the United States that doesn't have a potential utility customer. So, the vision, as I say before, the compelling vision is, why shouldn't this spectrum become the de facto nationwide platform? It's the most logical platform. Will that happen? You have to make your own assessment of whether that'll happen, but once this industry has a few leaders and those leaders are literally lining up as we speak. As those leaders line up, we believe that there are followers behind and the synergy of these utilities have deployed LTE, those utilities are deciding whether or not to do it. The ability for them to have share of facilities and I'm blanking on the word that they call it when they all come together and -- mutual aid. Mutual Aid could be the single most compelling reason why utilities, three, four and five, decide that they're going to follow utilities one, two and three. It's a logical thing. Will it happen, of course it's never happened, but will it happen? It seems logical. Part of the reason that we're working, the federal and the state environments is we think the federal, and when we met at Department of Energy, they said, what can we do to help? We said, what you can do is you can incentivize, you can lead the way for the industry to adopt private broadband and 900 MHz. We said, of course, it's a selfish interest, we've got the 900 MHz spectrum, but nevertheless, here is the need, here is the opportunity, we're telling you, this is what you've been looking for. So, I hope that answered the question, but one thing I think I left out is that we don't see the world ending for PDV in 900 MHz. As Tami Barron mentioned, as capacity exceeds even the benefits of 6 MHz 900. There's going to be other spectrum that can be layered in and the technology of LTE has something fantastic called carrier aggregation because around the world carriers have to feather in additional spectrum. There's licensed spectrum, there's unlicensed spectrum, it all depends on where you are. So, don't -- I wouldn't discourage you from thinking of this sort of asset goldmine analogy, but don't limit your thinking please to just 900.

Tracy

Hi, Morgan, you had a goal of getting a commercial agreement done this calendar year. Would that be dependent on getting a final rulemaking or could a commercial agreement be contingent on a final rulemaking?

Morgan E. O'Brien - Chief Executive Officer

Tracy, I think the answer is absolutely it could be convention, and those are the kind of discussions that we're having. There's a -- as Ron pointed out, you can describe an industry as big as the utilities, particularly investor on utilities, as so slow moving; however, in this case, they're pushing us. They're pushing us saying we need to know what you know and we're saying to them, okay, FCC process looking really good, get those comments, and let's get this thing done quickly. But there's nothing to prevent us from signing deals that have various levels of contingency.

Mike Rollins - Citi

Hi, Mike Rollins from Citi. How does the commercial introduction of 5G impact the technology decision making for your target market as well as the timing over which they want to make those decisions?

Morgan E. O'Brien - Chief Executive Officer

Sure. Let me ask Rob to take that one.

Rob Schwartz - President & Chief Operating Officer

Sure. As Mike, you probably know better than me because I read your research to understand more about what's happening in 5G, but there's a lot of discussion publicly and honestly a lot of hype about what 5G is and 5G isn't. So, that absolutely like any kind of marketing, create some misperceptions from the customer, but when you cut through it and I think Tami Barron really said it very effectively, you know, 5G is super high-band whereas in some of these cases low band as we've seen recently for other valuable use cases, but when you get down to the brass tacks of solving the use cases, and, you know, what all of our phones are operating on today, when utility needs to solve these kinds, it's the current LTE instantiation which is 4G, but the advantage is we talked about is that LTE, right, the E stands for evolution, is that you are forward compatible by putting in the infrastructure today you buy from vendors, like we talked about Ericsson and Nokia, that infrastructure, mostly software changes allows you to then become future compatible with 5G capabilities. And so our vision is and the customers understanding is invest in the network that solves your needs today, but do it in a technology that's going to be forward compatible with those future changes as 5G really starts to, you know, redefine.

Morgan E. O'Brien - Chief Executive Officer

But let me let me make two points. We have sat at industry events, utility industry events in which supposedly smart people have said, don't worry about anything else because 5G is going to solve all your problems with utilities as if 5G comes loaded on the truck ready to be deployed, you know, completely regardless of spectrum. So, once you get past that, you understand that there's a physics reason for starting with 4G LTE at 900 and then evolving as capacity demand requires it to 5G, but let me answer a question you didn't ask, which is, as everybody heard from Natasha's introduction, regrettably, I've been doing this for 50 years, I don't see 5G is hype. I do think 5G is absolutely transformational in a ways that nobody can calculate yet. It's not in any way antithetical to where we're trying to go, not in any way antithetical, you know, this industry, the utility industry has to walk before they run, but we will see amazing things happening, just amazing things happening. It's so exciting to be around to see it after having gone through 1, 2, 3 and 4G as some of the rest of many have done to 5G. I mean, sure, there's plenty of talk about it, and the vendors, of course, want to sell new stuff, but to me, it's awesome.

Joe Galone - BTIG

Hi, Joe Galone from BTIG. Why aren't -- I guess to take it a step further, would PDV build out a wireless network with the utilities and kind of put yourself in the middle of the whole process and then nationwide, and if you were to do that, what how much do you think a nationwide 900 MHz network would cost and like a timeline on?

Morgan E. O'Brien - Chief Executive Officer

Yeah. Let me give you a stab at that. Some of you may know that PDV earlier, while we were still involved in the earlier stages of the FCC process, we made a very strong run at becoming the contractor for FirstNet. And it's hard to believe but AT&T was selected instead of PDV. Because of that, we know because we laid out pretty much a nationwide infrastructure build at 700 MHz and 900 is really not significantly different. So that number, answer to your question is the nationwide build is probably just for infrastructure in the 25 to \$30 billion dollar range. When I was asked the question by somebody very high up at DOE about what the number was, and I thought it was probably going to scare him off, but I said 25 to 30 billion and he said peanuts, compared to grid modernization every year, that's peanuts. He said, if that's what it takes, that's what it takes. We got to get that spectrum to him. So, that's the first thing. And the second thing is -- I'm blanking on the question.

Joe Galone - BTIG

It was related to the build _____ 18:25.

Morgan E. O'Brien - Chief Executive Officer

Oh, yes, exactly. So, your question was, would we consider, you know, we've talked about the great advantage of capital efficiency the utilities, the investor owned utilities actually want to finance because when they finance they can earn a rate of return on it. But are there other elements of the industry such as the municipals and co-ops, maybe they have roughly 30% of the market, do they feel the same way? Are they funded the same way? No, they're not. So, we can believe and let me let me have Rob elaborate on it. We do believe that there are other models that we might adopt. But the first one, of course, is so compelling, because these guys have the access and they want to fund the build out.

Rob Schwartz - President & Chief Operating Officer

Yeah. Thanks to Joe. Your question, the capital efficiency of having these investor owned utilities, for all the reasons we described, want to own and operate their own network. So, they're funded in essence, that's the primary model for us for sure, and that covers the majority of the country in doing that. In the other places where there's typically municipal or cooperative utilities or other sectors that we talked about, there're opportunities for them to build their own networks. And we will, on a case by case basis, also evaluate the opportunity whether we could own and manage a network, but those have to, as I said earlier, really have to stand on their own economic two feet, right? This isn't going to we know what it costs to build a network, we obviously would have to have a long-term contractual commitment up front to have a great rate of return on making that kind of investment, but the primary model is really leveraging the balance sheet of these investors on utilities to build the predominance of the network and in the country.

George Sutton - Craig-Hallum

George Sutton with Craig-Hallum. Rob, nice socks. Tim, I wanted to make sure I understood, year five you're suggesting -- I want to make sure I understand what you're suggesting in terms of what's in the number, what is not in the number? In other words, the network of networks and some of the service opportunities that I think you see is that included? And then separate from that you mentioned 50% is still on the balance sheet in terms of spectrum. How should we be viewing the potential monetization of that 50%?

Tim Gray - Chief Financial Officer

Sure, George, I think the -- when I talked about approaching even a run rate at the end of that fifth year of 80%. That doesn't, that's just based off the leasing revenue run rate that we would have at that point in time, not based on adding in the additional services or the spectrum opportunities or those other things. We see those as opportunities for acceleration of revenue, but in our model, those are more longer term right now. So, space just based off of the leasing aspect. So, when we look at the what we put as a 10-year projection in the 200 to 500 million dollar range, you know, we we've modeled out that we're starting to use up more and more of the spectrum, you know, more than half at that point. And it all depends on a combination of what utilities you're selling to what parts of the country, etc., but even at that point, there's still a significant amount of spectrum still available for us to use, even year 10 in the model that we've built out.

Rob Schwartz - President & Chief Operating Officer

But let me add something which is, I think, appropriate in an environment like this where you want to hear what our thinking is about possibilities. As I mentioned, the FCC has thrown out, well, why don't we just do all 10 of the MHz, not just 6, and that is still to be determined. Were that to be the outcome, that would benefit us tremendously. And so it would take the sort of -- it would sort of take the cap off that 3 x 3 and open up the

opportunity to 5 x 5, which has all sorts of great advantages. As I earlier, there are disadvantages too because it complicates retuning perhaps, but the FCC may see past that and the FCC may drive us to 5 x 5, the great upside of that would be now we're the largest operator teeing up not 6 MHz, but 10. So, no promises, it'll be determined by the outcome of the proceeding, but you can certainly see where our heads might be.

Scott Searle - Roth Capital

Good morning, I am Scott Sorrell from Roth capital. A couple of questions, and first, a clarification, talking a lot about LTE and broadband, but some of the use cases that you talked about related to the utilities and otherwise with sensors also applied to narrowband technologies, and I was wondering if there was a component or thought process in terms of the strategy where Cat-M1 fits or NB-IoT fits in terms of the existing thoughts on the band plan or in the adjacent narrow bands, that initial 6 MHz channel?

Morgan E. O'Brien - Chief Executive Officer

Sure. I'm glad you brought that up. I think Rob is the perfect to answer that.

Rob Schwartz - President & Chief Operating Officer

Yeah, sure. Thanks, Scott. Yeah, absolutely, LTE technology has embedded in the availability of those two narrowband technologies, the IoT technologies of narrowband IoT in LTE and both are opportunities. In fact, with Ameren right now, they're piloting narrowband IoT in a deployment to understand because, yes, they're small low cost, lightweight sensors, but embedded within the LTE technology, what it does is it's about the volume, right? So, broadband gives you both the access of broadband -- in Ameren's case, you know, they want to have thermal cameras in their substations, for example, to be able to see when things start to overheat, right? That's video. That's pretty bandwidth intensive. On the other side of it, they want to put out as I talked about thousands of individual devices on re-closures for example, those are the things that open and close the power circuit. So, if you have a break on one side, and you have to re-route the power, you close one side and open the other side. Those are pretty simple, but there's lots of them, and so you need a technology that allows you to deploy locks. The narrowband technologies can work for a small number of those centers, but they don't scale at the kind of level of reliability resilience. So, that's why it all fits within the umbrella of a single secure technology of LTE versus having all these individual narrowband systems.

Morgan E. O'Brien - Chief Executive Officer

Right. So, that's one environment, and it makes perfect sense for us to use all the inherent flexibility of LTE to do narrowband where that's best and broadband where that's necessary. We sometimes get asked when we first start telling our story. Oh, I get it. I get it, this has to do with smart meters in peoples' houses, and we typically respond, no, it really doesn't. Because smart meters in peoples' houses don't need the kind of performance that you get out of LTE, it would be -- I usually say, it would be kind of a shame to waste LTE capacity on something that only needs to report a minute amount of data, and only report it, you know, once every day or something like that. So, you really have to look past some of the use cases, and get down into the other dozens of use cases that these guys are looking at, to get to the heart of what controls the grid. What allows the grid to modernize, and allows very importantly the utility to continue being completely relevant as the mastermind of all this power generation because a lot of times solar and wind aren't necessarily in their control. Some places by legislation, it's they're not allowed to do it. So, you have to sort of step back, like we said before, what's the CEO thinking? The CEO ought to be thinking that this grid modernization risks our control of this grid, and we need to have devices and we need to make investments to get that control locked down, i.e., wireless for the critical grid functions.

Scott Searle - Roth Capital

And if I could, just to follow up on some of the earlier questions as well. It sounds like the model is pretty fluid at this point in time, but certainly a capital light model where you're focused on spectrum leasing, are you envisioning doing that exclusivity in 6 MHz megahertz challenge or on smaller portions of the spectrum in each given market, and then to kind of follow up in the evolution, you had mentioned neutral host earlier and I think you've kind of alluded to that a couple times as well depending on the market you may be involved in some of those opportunities depending on the economics, but how you're thinking about, is there an opportunity for the spectrum coordination, the neutral host management and otherwise to be able to monetize that coordination and network and networks functionality in the not too distant future? Thanks.

Rob Schwartz - President & Chief Operating Officer

So, on the first question of exclusivity in the full 6 MHz, I do think in most cases, especially with investor owned utilities, they do want to have the full control and ownership of that 6 MHz. So, in economics that obviously come along with it, which is paying for all 6 MHz and the potential of that could grow with the FCC support potentially to 10 MHz. So, I think that is sort of the defect of the default model right now, but I think we're going to see hybrids and, you know, to go a little deeper into Southern Company, SouthernLINC, for those of you who don't know about it, they have -- they run their own network, they actually had iDEN network originally just like Nextel did and evolved into deploying new technology and have now deployed LTE with the help of Ericsson. They serve their own customers, but they also serve -- they serve their own utility as a customer, but they also serve what they call like-minded customers. So, on there they have even public safety, other smaller utilities and other folks who have the same kind of fleet management and kind of command and control of their networks, not consumers, not typical enterprise. And so that's a great model for us to see in ways and other utilities see that more so in ways that they can not just invest in the network for their own use, but ways as they look at it is really to offset the cost by being able to bring in other like-minded users onto that network. As commercial, as former commercial operators, we see a role and we're being asked to play this role of helping them figure out how to commercialize that network they build, and that network includes not just the spectrum, but they end up putting in fiber for backhaul, they're building new sites as they go forward, and so there's a, you know, portfolio of assets that we see opportunities, not built into the numbers we shared with you, but opportunities for us as we're in the epicenter of that decision making on a utility by utility basis. Then to the second part of question, when you move into a network of networks, Morgan mentioned, you know, mutual aid is sort of the first element for those of you don't know mutual aid is when, you know, a storm hits Florida, utilities in the neighboring areas literally wind up the trucks on the border, wait for the storm to pass, and they all drive down there to be able to help restore their system. That's the way utilities work together uniquely as an industry. They when they arrive, we hear the stories, they get a paper manifest. This is the five places your crew is going to go to restore that system, because they don't have communication systems that are compatible. They have two-way radio systems on different frequencies. So, just the simple idea sort of like what FirstNet did for public safety of having a single network starts dead services, but someone does have to be at the core of that, the ability to do that roaming back and forth across systems, and we do see an opportunity for us to be the ones who can both develop that being at the core and also help monetize that as one of the examples, but as you go up the value stack of security applications and other things, we think will be very well situated to be able to capture more value out of those centralized services.

Morgan E. O'Brien - Chief Executive Officer

Let me let me just make a quick addition. This will give you a little insight into how we think. It'd be great it would be fine. If we came across to this industry only as, you know, we have something you need it, we'll sit down, you'll get it and then these wireless interlopers go away. But we've never wanted to approach it that way. We think there's so much more opportunity. So, we've taken measures like we have a dozen high level former industry types from significant positions that are out there creating a climate to say these people are not spectrum speculators, these people see you your need, have heard your need and want to help develop solutions. Of course, they have shareholders and of course are looking to benefit their shareholders, but they see this as an opportunity to partner with you. And in doing that the advantages of LTE are so great in our being able to put

together a point of view situational awareness. So, for example, we could say the Department of Energy, something bad happens, something bad is happening, something bad is threatened. And you want to see what it is, what the responses are, do you want to help control the response? You need a point, you need a point that would be developed together by us where the network of networks is actually live, you can see it, they don't have anything like that now. There's a potential for chaos. So, I completely answer your question with, yes, that's a far more interesting element. Once we work through leasing the spectrum and getting the ball rolling for this to become a nationwide solution for them.

Larry Lytton - Second Line Capital

Larry Lytton, Second Line Capital. Could you clarify for me the capital-spend plan, I realize you have the operating cash flow and you have the returning portfolio, is it not additional plan in terms of acquisition of additional licenses to secure more of the 900 MHz spectrum?

Rob Schwartz - President & Chief Operating Officer

So, when the estimate that we put out about retuning it's kind of a catch all 90 to 120 million dollars, there's a combination there of the aspect of extra retuning or changing frequencies of radios and equipment, etc., and also some acquisitions that would be a part of that -- part of that number. So, so it's a combination of both. I don't know exactly what that's going to be, it depends on market by market and once we get in start to have conversations with those folks, so that will play out over time, but we think that fits into the overall list.

Larry Lytton - Second Line Capital

And as a baseline in terms of retuning, do you see that as linear front end loaded or back end loaded, given what you're thinking about today?

Rob Schwartz - President & Chief Operating Officer

Well, again, we control that as to how we do that, I would anticipate a lot of it is going to be defined by what the final report and order says as far as the final rules, but we will begin this year as we look at near term customer opportunities, so that as we get a report in order, we could put customers on as fast as possible to accelerate the numbers that we've talked about. And so we'll be moving forward this year, as we see those customers move through the pipeline closer to being finished. So, I expect most of that'll be in year two and year three, but there will be some this year. It's just hard to define right now as we work through the customer pipeline and then the final rules.

Morgan E. O'Brien - Chief Executive Officer

Let me let me give you a quick sidelight to that. If your perspective as ours is, is to get as close to a 5 x 5 or 10 MHz as possible. In the interim, a retune is spending capital and doesn't get that income and out of 10 MHz, it moves them out of here and puts them over there. So, where we can use relatively the same amount of capital acquire the spectrum, and that's the end of it. It's better. So, county by county, market by market, licensee by licensee that's the approach we take as we go into this.

Larry Lytton - Second Line Capital

And one more lastly if I can, when you sign a customer or second customer, would there be a pilot program where they might generate a couple million dollars of revenue for a year, a year and a half or do you sign a 15 to 20 million lease from the get go?

Rob Schwartz - President & Chief Operating Officer

It need to say it depends, but it depends because we've got a pretty wide portfolio kinds of customers, but, for example, some of our existing customers now, some of the folks we're dealing with the potential customers and pilots, we are getting, you know, nominal fees for some of the services. So, we do see opportunity to what's interesting, it's kind of ties back to the last question is that when these vendors that are selling to them, the large infrastructure vendors are used to selling to carriers that have sophisticated wireless capabilities engineers, and, you know, thousands of employees that do this for a living, utilities don't. They know a lot about how to run their networks, they know very little about wireless networks, they shouldn't know, and they're having to learn. And so as the vendors are coming in to sell them the solution set, there's a real gap of understanding and knowledge and that's really been very valuable for us, not just for potential revenue short-term, which is something we're absolutely evaluating, but also put the need to have a trusted advisor to help them navigate, how to write an RFP, how to select a vendor, how to get through the initial phases has been something that's brought us in. We do see revenue opportunities for us in the short term in providing some of those services as well.

Mark Fleischhauer - Owl Creek

When you speak of the 5 MHz, 5 x 5 opportunity potential, I mean, clearly you also mentioned maybe can weave in to extend their easier counties or systems, markets than others. Are there -- is there potential for a hybrid here where there are certain areas of the country where 5 x5 is easy because there's no one there. I mean, is there potential for three by 3 x 3 in lot of areas, 5 x 5 in others, some sort of middle ground where there's migration. Can you speak to that?

Morgan E. O'Brien - Chief Executive Officer

Yeah, here's my answer. My answer is yes. I think one of the most material things that that it'll be our job to try to see how the FCC staff works through this between now and report in order, exactly how close this can come to facilitating a 5 x 5 when it's in the nature of things and thousands of markets don't have anybody in them, except us, the FCC, and the railroads. If we make a global deal with the railroads, then it's us and the FCC. That's it's the same answer, whether you ask 6 MHz or 10. So, what we need to do is get the FCC comfortable with a process for going to the logical thing, which is making it 10 MHz, but that's a -- there's a art and a science to that, and that's something that will be unfolding in these next few months.

Rob Schwartz - President & Chief Operating Officer

Or if I could add to that, because if you -- thinking from a customer's standpoint, right, the entities that we talked about, they're being relocated, look at the services that they're currently using it for, which is primarily two-way radios, right. And we obviously know a lot about that space having been in for decades. Over time and southern is a good example, those systems have been integrated to LTE. So, the idea of being able to have push to talk services integrated into the same network as LTE services is occurring in southern. It was one of the first to put out what they call mission critical push to talk, which is really driven by the FirstNet requirements. And so as those get more integrated, and the customer that's using those separate narrowband systems gets more -- is able to rely on those broadband LTE push to talk systems, the need for those standalone separate networks over time. So, it's just -- to me, it's a natural selection that's going to happen that those customers in those systems, whether the commercial systems or whether they're private systems, the usage, we're seeing it of the number of radios and operations on those systems is declining over time.

Analyst

Just following up on a previous question. So, how do you -- how does the, I guess, the shape of the revenue ramp look like from year 1 to year 5 and then 5 to 10?

Morgan E. O'Brien - Chief Executive Officer

So, -- let's repeat the question _____ 39:01 sort of what's the shape of the revenue growth that you go from the first to what we hope to be many, many?

Rob Schwartz - President & Chief Operating Officer

Yeah, I would say even in the five-year plan, it's kind of almost like a hockey stick, where we're, you know, starting to sign that first customer, then the next couple the next year. And it moves forward so that when we talk about 125 to 150, there be a significant ramp from very little even in year three all the way to that year five number based on the building of that customer or signed customers.

Morgan E. O'Brien - Chief Executive Officer

But let me just take a second to do a plug for the NREL trial and the importance of it because for an industry that is very much inclined to trial everything before they buy and we've been told that from the beginning they try before they buy. So, you have to build that in. This NREL project with all the companies that are participating could cut through a lot of that. It can demonstrate the usefulness of LTE. And when you get right down to it, it's the use case that they need to trial. Not LTE is the technology, LTE is the technology every single one of us uses it everyday flawlessly. So, it's -- that I think it's an important element to consider.

Jesse Freedman - Analyst

Hi, Jesse Freedman from _____ 40:26 I'm going to try asking the question that he did a little differently. So, I think you alluded to 6 of the 11 large IOUs in the 125 to 150 number. You mentioned tailwinds, you get approval. How likely is it that that 6 could be 10 or 11 in a quicker time, then what would that number look like? Could you frame what that upside would look like?

Rob Schwartz - President & Chief Operating Officer

Sure. So, let me just talk about what the 6 to 11 is first, so we're grounded on that. So, it's a combination to get to 125 to 150. There's different combinations because of the different sizing, etc., of what those IOUs look like what geographies they cover, so how much revenue each of them individually will provide based on those factors. I think by looking at our pipeline, it could very well be closer to the 11 number, and accelerate even what we have there based on, you know, Morgan, talking about how our view we feel is a little conservative, but we'll have to see as our pipeline grows, and of course, we've got to sign that first customer to make sure that all our pricing assumptions fit into the model that we've got, but we feel good about the number we've got for your 5 and that could be slightly conservative.

Morgan E. O'Brien - Chief Executive Officer

But let me let me throw one more. I think I see where you're trying to get your arms around this. For an industry that is pretty individualistic because they have their own service territory and they don't overlap for the most part. They do -- this industry electric utility industry does come together, and one of the places they come together is in this Edison Electric Institute, and that's where the CEOs, the CEOs of the major investor owned utilities, they do gather and discuss. So, I'll be honest with you, our approach, bottom up, bottom up, bottom up, but there is the potential to make the compelling proposition to get the comfort level, and then to try to step back and let this become their show. To let this become how rapidly does the utility industry want to seize this opportunity and develop this opportunity. It's a refined process to do this because we come in as somewhat outsiders. We've done everything we could to not be perceived as outsiders, but the outside wireless spectrum guys looking to make a global deal with them, that would allow them to solve one of their biggest problems,

which we think that requires finesse, but we think it could happen and so that would change everything, but that's, we can't predict it. We can just describe the process we're going through.

John Sites - Private Investor

Excellent presentation. I'd like to go back if I could, just for a second to the gold mining analogy, because my firm owns gold mines. There's one difference I think, in a gold mine, there's a resource, it's mine refined and sold and that's the end of it when you're out of the resource. This is recurring revenue, just goes on and on and on, it's just a point, and the reason I bring up this point is Tim and Morgan and Rob, it leads to my question. The value of a stream of income, as you well know, is determined by a lot of things, but mostly interest rates. Is it possible in your plan that instead of raising -- needing to raise 90 to 120 million dollars, that you can securitize these leases or a portion and sell those to achieve the net present value thus reducing your new cash needs?

Morgan E. O'Brien - Chief Executive Officer

So, John, it's a good question. So, as I presented, we're looking at a variety of different options from a funding perspective. And so yes, securitizing those long-term leases is definitely an option, and as we look at signing our first or first couple of customers, is that something we could do to solve the funding gap without having to go to the equity markets, absolutely, and so that's definitely something that we're taking a look at and talking to folks about. It doesn't necessarily have to be equity, and we just have to do that, and that's why I listed off a host of factors for us to look at over time as we move forward to fund the plan.

Natasha Vecchiarelli - Director of Corporate Communications

Any other questions?

Analyst

Are the assets ultimately going to be re-eligible?

Rob Schwartz - President & Chief Operating Officer

What do you mean re-eligible, resalable?

Analyst

Yeah, can you re-spectrum, I guess is what I'm asking?

Rob Schwartz - President & Chief Operating Officer

So, yeah, take that Tim if you want to fill in, but our understanding is that could be every new asset class as it's going through that process, it's not black and white, and we haven't gone through the approval process to make that happen, but our view is that it's a, you know, a very tangible asset like whether you're going into data centers or tower assets, that it should be readable, but again, that's kind of a longer term view from our standpoint clearly as we as we build a portfolio of assets, whether they're securitized, and someone suggested, independently or whether we can capture that value as part of a of a REIT or other tax advantage structure, something we'll continue to explore.

Morgan E. O'Brien - Chief Executive Officer

So, I think with that, unless there any other questions, what we will say is we are so grateful for the opportunity to tell this story. We continue to be willing to answer any questions anybody has. Natasha runs investor relations for us. Natasha, is I can tell you this, reachable on e-mail anytime day or night, and just please let us know what your questions are, we'll be happy to answer them and thank you so much, have a great day.