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AN ENERGY POLICY IN "FITS" AND STARTS: USING FEED-IN TARIFFS TO ENCOURAGE THE LARGE-SCALE DEPLOYMENT OF DISTRIBUTED RENEWABLE ENERGY SYSTEMS

Frank Piccininni and Adam Preller

It is now well established that the planet is warming due to deforestation and the anthropogenic output of greenhouse gases into the Earth's atmosphere. Peter H. Gleick et al., *Letters: Climate Change and the Integrity of Science*, 328 SCI. 489, 489–490 (2010). Accordingly, this article explores a strategy that uses the large-scale deployment of distributed renewable energy systems to mitigate and adapt to climate change. Specifically, we highlight the benefits and challenges to large-scale installation of distributed renewables. We then proffer feed-in tariffs (FITs) as a solution to encourage distributed renewables, while simultaneously improving climate resilience. It is our hope that distributed renewables will supplant the fossil fuel based energy on which our society currently relies.

Distributed Renewable Energy Systems

The earth has an abundance of renewable energy sources, such as wind and solar. *See* George L. Crabtree and Nathan S. Lewis Cory, *Solar Energy Conversion* 60 PHYSICS TODAY 37, 37 (2007) (noting that "[t]he amount of energy humans use annually, about 4.6×10^{20} joules, is delivered to Earth by the Sun in one hour"). The challenge is to harness this energy in a safe, reliable, and cost-effective manner. *See* Koen Kok et al., *Intelligence in Electricity Networks for Embedding Renewables and Distributed Generation*, INTELLIGENT INFRASTRUCTURES 179, 190–192 (R. R. Negenborn, and Z. Lukszo, and J. Hellendoorn eds., 2009). The intermittent nature of renewable energy poses a significant challenge in maintaining energy quality and reliability. *Id.* Yet, technology has progressed such that reliable, large-scale deployment of distributed renewable energy is possible. *See* Budischak et al., *Cost-minimized Combinations of Wind Power, Solar Power and Electrochemical Storage, Powering the Grid Up to 99.9% of the Time*. 225 J. OF POWER SOURCES 60, 60 (2013) (modeling the reliability of electrical grids powered exclusively with renewable resources); Cody A. Hill et al., *Battery Energy Storage for Enabling Integration of Distributed Solar Power Generation*. 3 IEEE TRANSACTIONS ON SMART GRID 850, 855–856 (2012) (detailing how batteries can ameliorate concerns about intermittent power production and adapt to local market signals through time-shifting).

Engineers foresee future power grids consisting of a large number of renewables connected directly to low- and medium-voltage networks. Rashad Badawy et al., *Agent-based Coordination Techniques for Matching Supply and Demand in Energy Networks*. 17 INTEGRATED COMPUTER-AIDED ENGINEERING 373, 373 (2010). Distributed energy generation will reduce costs for public utilities by deferring infrastructure upgrades, minimizing losses,

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and avoiding wholesale market purchases. H. A. Gil and G. Joos, *Models for Quantifying the Economic Benefits of Distributed Generation*. 23 IEEE TRANSACTIONS ON POWER SYSTEMS 327, 327 (2008). Additionally, large-scale deployment of distributed renewable energy would reduce the need for high-voltage transmission lines.

A decreased demand for energy infrastructure construction would, in turn, incite fewer siting issues. Moreover, the placement of photovoltaic cells on residential roofs is not likely to generate significant opposition from neighboring landowners. Unattractive rooftops do not obscure and tarnish an "ocean vista" or "scenic landscape" as much as substations, transformers, and miles of transmission cables do. *See* Dan van der Horst. *NIMBY or Not? Exploring the Relevance of Location and the Politics of Voiced Opinions in Renewable Energy Siting Controversies*. 35 ENERGY POLICY 2705, 2705 (2007).

Furthermore, studies demonstrate that distributed renewable energy systems can mitigate climate change by reducing emissions. Elaine K. Hart and Mark Z. Jacobson, *The Carbon Abatement Potential of High Penetration Intermittent Renewables* 5 ENERGY AND ENVT'L. SCI. 6592, 6595–6596 (2012). Distributed renewables will also decrease carbon emissions associated with fuel extraction, transportation of raw fuel to the generating plant, and the transmission of energy from the generating facility to the end user.

Unfortunately, due to government subsidies and externalities, the price of energy produced with fossil fuels does not reflect its true cost. The question then becomes, "how can distributed renewable energy systems be encouraged in an industry dominated by heavily subsidized fossil fuel companies?" *See* Heather Gerken, *Keynote Address: Lobbying as the New Campaign Finance*, 27 GA. ST. U. L. REV. 1155, 1157 (2011) (finding that the goal of "taking money out of politics" is unlikely to be realized). The answer, we believe, lies with FITs.

An Energy Policy in "FITs" and Starts

FITs are a relatively new mechanism in the U.S. energy policy sphere; FITs have traditionally been utilized in Europe, particularly in Germany. Currently thirty-seven U.S. states, plus the District of Columbia, have sought to encourage renewable energy generators through Renewable Portfolio Standards (RPSs). *See Renewable Portfolio Standard Policies*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE), *available at* www.dsireusa.org/summarymaps/index.cfm?ee=0&RE=0 pdf (last visited July 1, 2014). RPS is a policy tool designed to create market demand for renewable energy. It focuses on the wholesale buyers of energy, that is, the public utilities. It requires that, by a certain date, the utilities purchase a specified minimum percentage of their power from renewable energy generators. *Id.* These percentages and deadlines vary between states depending on the state's level of ambition. *Id*. RPS focuses strictly on creating demand to satisfy the statutory goals. As such, it leaves the means of satisfying that demand to public utility retailers, instead of directly urging the entry of distributed renewables into the market.

FITs, in contrast, focus on the supply aspect by granting incentives for distributed renewable energy generators. A FIT policy fulfills three essential functions to promote the generation of renewable energy: (1) it guarantees that the renewable project will be interconnected to the grid; (2) it mandates that utilities enter into long-term contracts with generators (usually ten to twenty years in length); and (3) it sets above-market rates for these contracts. By guaranteeing long-term stable returns, FITs provide market certainty for investors in renewable generation projects. This eases efforts to obtain the necessary financing for a new generating unit. *See* Lincoln L. Davies, *Reconciling Renewable Portfolio Standards and Feed-in Tariffs*, 32 UTAH ENVTL. L. REV. 311, 313 (2012).

As observed by legal scholars, FITs should be viewed as a complementary tool, rather than as a replacement, for the RPS. *Id*. In other words, the RPS sets a statute-mandated renewable energy goal and creates legal accountability; FITs provide the fiscal incentives necessary to attain that goal. *Id*. An analogous approach is followed in Europe. There, FITs are the most commonly referenced incentive mechanism. EU

Member States use them to reach their binding goal of deriving 20 percent of its total energy consumption from renewables by 2020. Philip Brown, *European Union Wind and Solar Electricity Policies: Overview and Considerations*, Congressional Research Service 2–4 (R43276, Aug. 7, 2013), *available at* www.fas.org/sgp/crs/row/R43176.pdf.

FITs have the potential to provide a critical means to adapt to climate change. According to the American Society of Civil Engineers, our energy system consists of a patchwork of aging infrastructure. *See* Am. Soc'y of Civil Eng'rs, *2013 Report Card for America's Infrastructure* (2013), *available at* www.infrastructurereportcard.org/a/documents/Energy.pdf. This patchwork is vulnerable to extreme weather—the frequency and intensity of which is expected to increase as our climate warms. FITs can be targeted in localities that are particularly vulnerable to climate change related weather, such as coastal communities. *See, e.g.*, Jeffrey B. Halverson and Thomas Rabenhorst. *Hurricane Sandy: The Science and Impacts of a Superstorm*. 66 WEATHERWISE 14, 21 (2013) (detailing the devastation wrought by Superstorm Sandy, including 8.6 million power outages). Targeting FITs to vulnerable communities can help minimize risk by reducing the need for high-voltage transmission lines and associated infrastructure.

As the U.S. population continues to grow, not surprisingly, so too does our demand for energy. Accordingly, distributed renewable energy systems provide a unique opportunity to both mitigate and adapt to climate change. We are optimistic that good science and informed energy policy will be effective in responding to the challenges ahead. It is our responsibility, as a generation on the precipice of a frontier teeming with untapped solutions, to meet this demand and, more so, to provide the "energy" to fix the inertia of an industry static from complacency. *Cf.* Lincoln L. Davies, *Tracing U.S. Renewable Energy Policy,* 43 ENVTL. L. REP. NEWS & ANALYSIS 10320, 10321 (2013).

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POWER GENERATORS AND THE MINIMUM OFFER PRICE RULE

Jeff Gray

NJ Board of Public Utilities et al. v. FERC

In a recent opinion, the Third Circuit Court of Appeals upheld the Federal Energy Regulatory Commission's (FERC's) 2011 Orders that modified PJM Interconnection, LLC's (PJM) Minimum Offer Price Rule (MOPR). *New Jersey Board of Public Utilities et al. v. FERC*, No. 11-4245 (3d Cir. Feb. 20, 2014).

Under FERC's 2006 Order establishing the MOPR, offers for the sale of capacity in the PJM markets at artificially low prices would be required, with some exceptions, to be mitigated (i.e., raised to a competitive level) based on costs. FERC's 2011 Orders modified the MOPR by (1) eliminating an exemption from mitigation for resources built pursuant to state mandate; (2) eliminating a provision that had guaranteed that load-serving entities (LSEs) could satisfy their capacity obligations through their own generation resources or through bilateral contracts (i.e., "self-supply"); and (3) changing several factors, including screening mechanisms, used in determining whether a particular offer was subject to mitigation.

Petitioners New Jersey and Maryland contended that the 2011 Orders constitute regulation of power facilities in violation of the Federal Power Act (FPA) and that FERC acted arbitrarily and capriciously in eliminating the exemption for state-mandated resources. Several municipal and cooperative utilities challenged FERC's elimination of the self-supply "exemption." Various other parties took issue with new rules governing the calculation of a resource's net cost of new entry (CONE), which is used to determine whether an offer will be mitigated, and with FERC's determination that a new generation resource must clear only one auction in order to avoid further mitigation.

The court found the petitioners' arguments without merit and denied the petitions for review.

Background

On January 28, 2011, New Jersey Governor Chris Christie signed into law the Long-term Capacity Agreement and Pilot Program (LCAPP), which launched a state initiative to develop new generation resources. Pursuant to the LCAPP, the New Jersey Board of Public Utilities (NJ Board) would conduct a competitive bidding process, with winning bidders entering into long-term contracts with New Jersey's four electric utilities (NJ Utilities) that would support the construction of new capacity resources in exchange for payments at a specified rate. Under a contract for differences (CfD) construct, the NJ Utilities would pay the generators the difference between the contract price and PJM's base residual auction (BRA) clearing price; or, if the clearing price was higher than the contract price, the generators would pay the NJ Utilities the difference. To ensure that the generation resources would clear the BRA, New Jersey intended to offer the capacity at a price below actual cost.

In December 2010 the Maryland Public Service Commission (MD PSC) released a draft request for proposals for Generation Capacity Resources Under Long-term Contract. After an evidentiary hearing and briefing, the MD PSC issued an order directing Maryland's three electric utilities to enter into long-term contracts with generation developer CPV. As in New Jersey, the long-term contracts contained a CfD construct, and CPV's capacity would be offered into the BRA at a price below actual cost.

Shortly after the LCAPP was enacted, PJM Power Providers (P3) filed an FPA § 206 complaint with FERC arguing that the MOPR in the 2006 Order (which had never been triggered) was not an effective mitigation tool against buyer market power; P3 specifically cited concerns about the New Jersey and Maryland initiatives described above. P3 urged FERC to eliminate the MOPR's exemption for state-mandated resources, and to make various other reforms to the MOPR, including elimination of the self-supply "exemption."

On February 11, 2011, in partial agreement with P3's complaint, PJM submitted to FERC proposed tariff changes under FPA § 205. In support of the tariff changes, PJM averred that the original MOPR in the 2006 Order was ineffective for its intended purpose, and PJM noted that the original MOPR had never been triggered. PJM also noted that state initiatives like those in New Jersey and Maryland, with their "out-of-market" CfD payment mechanisms, heightened the need for an effective MOPR. Specifically, PJM proposed tariff reforms to, *inter alia*, (1) amend the MOPR to eliminate tertiary screens, while keeping the primary "conduct" screen; (2) clarify that self-supply offers, with some exceptions, are subject to the MOPR; (3) eliminate the MOPR exemption for state-mandated resources; (4) increase the conduct screen threshold to 90 percent (later increased to 100 percent) of estimated net CONE; (5) require that new resources clear three auctions before becoming exempt from the MOPR in future auctions; (6) add wind and solar resources to the list of resources that always would be exempt from the MOPR and thus could offer their capacity at prices as low as zero (with these additions, the MOPR would apply only to new natural gas-fired facilities); and (7) amend the method used to determine estimated net CONE in each locational delivery area (LDA) by using energy and ancillary services offsets based on resources in the highest-earning zone within the LDA.

On April 12, 2011, FERC accepted PJM's proposed tariff changes, with some modifications, as just and reasonable (April 12 Order). Under one of the modifications, FERC concluded that the MOPR should apply to a new resource only until the resource clears an auction once, and not three times as PJM had proposed.

Numerous parties sought rehearing of the April 12 Order. In response to those rehearing requests, FERC convened a technical conference and allowed parties to submit formal comments for consideration. On November 17, 2011, FERC issued an order that only slightly modified some of the tariff revisions approved in the April 12 Order (November 17 Order). FERC denied further requests for rehearing.

Separately, in a May 2, 2013 Order (2013 Order) FERC found just and reasonable a PJM proposal to,

inter alia, exempt self-supply from mitigation, subject to net-short and net-long tests. In other words, if an LSE introduces new self-supply but can demonstrate that it is not a net buyer of capacity, the self-supply will be exempt from mitigation under the MOPR.

Third Circuit Case

Numerous parties petitioned and cross-petitioned for review of the April 12 Order and November 17 Order (together, "2011 Orders"), and numerous parties intervened.

Elimination of Exemption for State-mandated Resources

New Jersey and Maryland posited two overarching arguments: (1) the MOPR revisions amount to direct regulation of generating facilities, which FERC is prohibited from doing under the FPA; and (2) FERC erred in approving PJM's elimination of the MOPR exemption for state-mandated resources as just and reasonable by failing to sufficiently explain its reasons for departing from the 2006 Order, which arbitrarily and capriciously denied the exception upon which New Jersey and Maryland had relied.

FERC argued that the FPA bestows on it broad authority over rules affecting wholesale rates and that it did not exceed its authority by approving PJM's elimination of the MOPR exemption for state-mandated resources, which relates directly to the wholesale price for capacity. The court agreed with FERC that accepting PJM's elimination of the MOPR exemption for state-mandated resources fits squarely and exclusively within FERC's jurisdiction.

Having found that FERC had not exceeded its jurisdictional authority, the court then turned to the question of whether FERC had adequately justified its reasoning for rescinding the exemption it previously had deemed "just and reasonable" in the 2006 Order, at the very moment that states began to make use of it. After considering the arguments, and applying a rational basis standard, the court stated that "[t]hough we are not unsympathetic to New Jersey's and Maryland's arguments that they reasonably relied on the availability of the state-mandated exemption in contracting for the construction of new capacity resources, we find no fault with FERC's ability to, and reasons for, eliminating the state-mandated exemption." The court further concluded that, in the 2011 Orders, "FERC sufficiently explained its reasoning for eliminating the state-mandated exemption as unjust and unreasonable."

Automatic Clearance for Self-Supply

Prior to the 2011 MOPR reforms, PJM's tariff provided that, in the BRA, PJM would accept "first, all Sell Offers in their entirety designated as self-supply *committed regardless of price* . . . ." In P3's 2011 FPA § 206 filing, P3 construed this language as providing a complete exemption from the MOPR for resources designated as self-supply. Accordingly, in PJM's 2011 FPA § 205 filing, PJM proposed to eliminate the foregoing language in order to "clarify" that self-supply offers were not exempted from the MOPR. In the April 12 Order, FERC accepted the clarification.

Certain petitioners took issue with FERC's characterization of this as a "clarification," and argued that FERC had acted arbitrarily and capriciously, and without substantial evidence. The court was sympathetic to those petitioners' arguments. However, meanwhile, the 2013 Order, *supra*, had been issued. Therefore, the court stated that "while we have concerns about FERC's decision-making process in this regard, we do not have jurisdiction to review its action, because while this petition was pending, FERC has again changed its stance on the proper treatment of self-supply, rendering the . . . challenge moot."

Exemption for Solar and Wind Resources

The new exemption for solar and wind resources, added to the existing exemptions for nuclear, coal, and hydroelectric resources, left only natural gas-fired resources subject to the MOPR. New Jersey, Hess, and CPV argued that targeting only gas-fired resources for mitigation is discriminatory and violates the FPA. FERC argued that the FPA prevents only "undue" discrimination and giving different treatment to different classes of entities does not amount to undue

discrimination when the classes are not similarly situated.

The court found that FERC had fully explained its reasons for approving PJM's proposal to subject only natural gas-fired resources to the MOPR while exempting other types of generation and that FERC's decision was not arbitrary and capricious.

Calculation of Energy and Ancillary Services Offsets

Prior to the 2011 Orders, PJM's tariff did not provide a method for estimating energy and ancillary services offsets. PJM's 2011 FPA § 205 filing for the first time defined a method for calculating those offsets, which are the expected revenues a new generation resource will likely earn from the sale of energy and ancillary services. Those revenues are subtracted from a resource's estimated construction cost to determine the resource's net CONE. The lower the net CONE, the lower the threshold used to determine whether a new resource will trigger the MOPR. In PJM's 2011 FPA § 205 filing, PJM proposed to calculate the energy and ancillary services offsets for a given resource based on the revenues earned by the highest-earning resources in the PJM zone where the resource is located. This calculation would cause the resource to be assigned a lower net CONE and, consequently, a lower mitigation threshold, which would make it easier for a resource to avoid mitigation.

P3 assailed PJM's "zonal" approach and instead advocated for a nodal approach. In approving PJM's zonal approach in the 2011 Orders, FERC justified its decision by asserting that PJM's zonal approach, rather than a nodal approach, is consistent with the existing Variable Resource Requirement (VRR) Curve guidelines.

The court found that FERC had articulated legitimate reasons for finding PJM's zonal approach just and reasonable and that is all the FERC is required to do.

Single Auction Clearing Requirement

Prior to the 2011 Orders, new resources were automatically exempt from mitigation after participating in, but not necessarily clearing, one auction. In PJM's 2011 FPA § 205 filing, PJM proposed a much stronger rule, by which the MOPR would apply to a new resource up to and including the second successive annual auction after a resource first clears.

In the 2011 Orders, FERC did not accept PJM's proposal (or alternative P3 and IMM proposals) in its entirety. Instead, FERC decided that a new resource would no longer be subject to mitigation after it cleared one auction at an offer price near its full cost of entry. FERC's rationale was that a resource that has successfully cleared an auction at or near its cost is "needed" by the market and is therefore economic. It does not matter, FERC ruled, whether or not the resource later receives a subsidy.

P3 claimed that FERC's decision was arbitrary and capricious because (1) FERC had "cherry picked" among the various alternative proposals rather than accepting one of the proposals in its entirety; (2) by allowing a resource to receive discriminatory subsidies after clearing only one auction, FERC was essentially sanctioning the exercise of buyer-side market power; and (3) FERC's decision departed, without reasoned explanation, from a recent decision regarding New York Independent System Operator (NYISO).

FERC pointed out that (1) it did not need to adopt a third party's proposal, in its entirety, in order to meet the "substantial evidence" standard; (2) in the 2011 Orders, FERC had adequately explained why it chose to require a new capacity resource to clear one auction before escaping mitigation under the MOPR; and (3) FERC was not required to replicate the standard it approved for NYISO. The court sided with FERC on all three points.

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SILICA REGULATIONS: THE LATEST PROBLEM FOR THE HYDRAULIC FRACTURING INDUSTRY?

Barclay Nicholson

Hydraulic fracturing, or "fracking," has been utilized in the oil and gas industry for decades. Nevertheless, within the past several years, hydraulic fracturing and its alleged impact on the environment, including alleged water contamination and air pollution, have received increasing attention and scrutiny from the media, the U.S. Environmental Protection Agency, Congress, regulatory agencies throughout the United States, state and local governments, and various environmental groups. Of major concern are the chemicals, fluids, and proppants that are used in the hydraulic fracturing.

Hydraulic Fracturing

Hydraulic fracturing involves the injection of highly pressurized fluids and proppants into shale or other nonporous hydrocarbon formations in order to create fissures or cracks in the rock, allowing for increased production from oil and natural gas wells. One of the key proppants used is silica or "frac sand" which props open the cracks created by the fracking operation.

The frac sand used in hydraulic fracturing must be high-purity silica sand, with a very uniform grain size, rounded or spherical in shape, and sufficient hardness not to be crushed during the process. The frac sand must be processed before it is used in hydraulic fracturing operations. First, the sand is washed to remove fine particles or other impurities and is thoroughly dried to remove all moisture. Then the grains are screened and divided up into various sizes (up to 2 millimeters in diameter). Delivery is usually via rail or truck to the well sites.

Silica Mining

Until a few years ago, most of the sand mined for hydraulic fracturing purposes came from Wisconsin and Texas. With the increase of hydraulic fracturing operations, sand mining now takes place in many midwestern states, including Illinois, Indiana, Iowa, Kansas, Kentucky, Minnesota, Michigan, Missouri, and Nebraska.

During the mining of the sand, the workers are exposed to respirable crystalline silica, very small particles at least 100 times smaller than ordinary beach or playground sand. It is this respirable crystalline silica that poses health problems for the workers and that the Occupational Safety & Health Administration (OSHA) and the National Institute for Occupation Safety and Health (NIOSH) are regulating by establishing new "occupational exposure limits" in order to reduce and/or prevent long-term health risks such as silicosis, lung cancer, and chronic obstructive pulmonary disease among the more than 1.85 million workers in mining, construction, and oil and gas drilling operations exposed to silica each day.

OSHA and NIOSH

In 2010, recognizing the use of silica in oil and gas drilling operations, NIOSH collected 116 full shift air samples from eleven hydraulic fracturing sites in five states (Arkansas, Colorado, North Dakota, Pennsylvania, and Texas) to determine the levels of worker exposure to silica. *See* "NIOSH Fact Sheet: NIOSH Field Effort to Assess Chemical Exposure Risks to Gas and Oil Workers," *available at* www.cdc.gov/niosh/docs/2010-130/pdfs/2010-130.pdf. Many of the air samples showed silica levels for workers in and around dust generation points to be above the defined occupational exposure limits—47 percent greater than the calculated OSHA Permissible Exposure Limit (PEL) and 79 percent greater than the NIOSH Recommended Exposure Limits (REL) of 0.05 milligrams per cubic meter. *See* "OSHA-NIOSH Hazard Alert: Worker Exposure to Silica During Hydraulic Fracturing," *available at* www.osha.gov/dts/hazardalerts/hydraulic_frac_hazard_alert.html.

NIOSH found seven primary sources of silica dust exposure during hydraulic fracturing: (1) thief hatches or access ports on top of the sand movers while the machinery is running during refilling; (2) open side-fill ports on the sand movers during refilling operations; (3) on-site vehicle traffic, such as sand trucks; (4) transfer belts under the sand movers; (5) sand poured

into, or mixed in, the blender hopper and on transfer belts; (6) operation of transfer belts between the sand mover and the blender; and (7) end of the sand transfer belt (dragon's tail) on sand movers. *Id.; see also* "OSHA Infosheet: Silica Exposure During Hydraulic Fracturing," *available at* www.osha.gov/dts/infosheets/silica_hydraulicfracturing.html. NIOSH recommended a number of safety improvements, including better ventilation and the use of respirators. *Id.*

In the *Federal Register* on September 12, 2013, OSHA published proposed standards to replace and/or update rules relating to silica exposure that were first promulgated in 1971. *See* www.gpo.gov/fdsys/pkg/FR-2013-09-12/pdf/2013-20997.pdf. The new standards would reduce a worker's exposure to a new PEL of 50 micrograms of respirable crystalline silica per cubic meter of air, averaged over an 8-hour day. *See* "OSHA Fact Sheet: OSHA's Proposed Silica Rule: Overview," *available at* www.osha.gov/silica/factsheets/OSHA_FS-3683_Silica_Overview.pdf. The proposed rules would also require employers to keep records of workers' silica exposure and to offer regular medical examinations to workers frequently exposed to silica dust. *Id.*

Will the New OSHA Standards Affect Hydraulic Fracturing?

Due to the extensive scrutiny applied to hydraulic fracturing, especially the continuing controversy about the disclosure of chemicals, fluids, and proppants used in the process, the new OSHA standards will undoubtedly affect the industry by fueling antifracking groups with an additional reason to limit or ban hydraulic fracturing. Despite difficulties with proving causation and the insulation of workers' compensation laws, plaintiffs' attorneys will be given new opportunities to sue oil and gas companies. It will be up to the oil and gas companies to use industry-recommended best practices for silica dust to avoid silica becoming the asbestos of hydraulic fracturing.

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