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INVESTING IN U.S. PIPELINE INFRASTRUCTURE: COULD THE PROPOSED MASTER LIMITED PARTNERSHIPS PARITY ACT SPUR NEW INVESTMENT?

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The so-called "shale revolution" has upset traditional notions of supply and demand centers for natural gas and crude oil. Demand centers in the Northeast traditionally needed to import natural gas or oil from distant supply centers, such as Texas or Louisiana. However, major plays located near these demand centers, such as the Marcellus shale, are causing directional flows on existing pipelines to change. In addition, these plays have spurred the need for additional pipeline infrastructure development to transport crude oil and natural gas liquids from major shale plays in the Northeast and the Midwest to processing and manufacturing facilities that currently exist or are under development in Texas and Louisiana.

This Article explores combining the traditional oil and gas pipeline structure with solar electric generation to: (1) increase the return on pipeline investments by making the income from a solar electric generation business available to pipeline operators; and (2) lower the cost of operating the pipeline. After a brief overview of the current state of U.S. pipeline infrastructure, this Article describes the structure generally used for current pipeline investment and pending legislation, which would make the structure available to solar electric generation businesses. The Article then explores the potential benefits of combining solar generation and pipeline transportation businesses if the pending legislation passes.

Overview of the Current State of U.S. Pipeline Infrastructure

The past decade has brought sweeping change to the oil and gas industry in the United States. Technological developments in drilling and hydraulic fracturing have al-

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lowed extraction of large volumes of shale gas and tight oil that were previously economically infeasible to produce. With respect to natural gas, tight oil and shale gas accounted for forty percent of the total U.S. natural gas produced in 2012.[1] The U.S. Energy Information Administration (EIA) projects natural gas production in the United States will increase from 23.0 trillion cubic feet in 2011 to 33.1 trillion cubic feet by 2040, a forty-four percent increase almost entirely due to projected growth in shale gas production.[2] As of June 2013, EIA ranks the United States fourth in the world with respect to volume of technically recoverable shale gas resources[3] and projects that the United States may become a net exporter of natural gas in years to come.[4] Crude oil production has similarly increased; EIA ranks the United States second in the world with respect to volume of technically recoverable shale oil,[5] and crude oil production from tight plays accounted for nearly all 847,000 barrels per day increase in production in 2012 compared with 2011.[6] This is by far the largest growth in crude oil production in any country.[7]

Development of the infrastructure necessary to fully utilize the wealth of shale oil and gas reserves in the United States has been slow to materialize. Pipelines, particularly large diameter, long-distance interstate pipelines, are very expensive to build. By some recent estimates, onshore pipeline construction costs in the United States can be an average cost-per-mile of $3.1 million.[8] A recently proposed interstate natural gas pipeline is expected to cost approximately $3 billion to build.[9] Moreover, pipelines have a long construction lead-time: it often takes years to work through planning, siting, and obtaining regulatory approvals, prior to beginning construction. Developers have often found it difficult to attract the kind of long-term firm commitments that are necessary to support investment in pipeline infrastructure. Pipelines also face competition from railroads for the crude oil and natural gas liquids transportation business because building new rail is cheaper, and existing rail beds give more delivery point options than pipelines.

Moreover, not all investments in the pipeline transportation business have been

[1] Energy Info. Admin., Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States [hereinafter EIA 2013 Assessment], (June 13, 2013), at 11, http://www.eia.gov/analysis/studies/worldshalegas.

[2] *See* Energy Info. Admin., *Energy in Brief: What Is Shale Gas and Why Is It Important?*, (Dec. 5, 2012), http://www.eia.gov/energy_in_brief/article/about_shale_gas.cfm?src=home-f2.

[3] EIA 2013 Assessment, *supra* note 1, at 10.

[4] Energy Info. Admin., *Annual Energy Outlook 2013*, (Apr. 2013), at 2, http://www.eia.gov/forecasts/aeo/chapter_executive_summary.cfm.

[5] EIA 2013 Assessment, *supra* note 1, at 10.

[6] *Id.* at 12.

[7] *Id.*

[8] Christopher E. Smith, *Worldwide Pipeline Construction: Crude, Products Plans Push 2013 Construction Sharply Higher*, OIL & GAS J, (Feb. 4, 2013), http://www.ogj.com/articles/print/volume-111/issue-02/special-report--worldwide-pipeline-construction/worldwide-pipeline-construction-crude-products.html.

[9] Bill Faries & Mike Lee, *Spectra Wins $3 Billion Interstate Florida Gas Pipeline*, BLOOMBERG NEWS, (July 26, 2013), http://www.bloomberg.com/news/2013-07-26/spectra-wins-3-billion-interstate-florida-gas-pipeline.html.

successful. For example, the Rockies Express Pipeline (REX), completed in 2009 at a cost of about $6.2 billion, was built to deliver natural gas from Colorado and Wyoming to demand centers as far east as Ohio.[10] The subsequent development of economically recoverable shale gas reserves in the Marcellus and Utica regions has upended REX's value proposition such that it has operated at a load factor of only sixty-six percent in 2013.[11] This resulted in bond ratings agencies questioning REX's ability to maintain earnings after its anchor shippers' contracts expire in 2019, absent timely action to enter into new contracts.[12] Current anchor shippers vigorously oppose entering into new contracts for shale gas shipments from east to west, making REX's future prospects uncertain.[13]

Master Limited Partnerships[14] Today and the Master Limited Partnerships Parity Act[15]

Master limited partnerships (MLPs) are publicly traded businesses that are taxed as partnerships.[16] A U.S. business entity that is taxed as a partnership, unlike a corporation, is a "pass-through entity" for federal income tax purposes.[17] This means that the partnership does not pay tax as an entity, but rather each partner is allocated his share of partnership income, gain, deductions, losses, and credits annually and pays tax on his distributable share of partnership income regardless of whether the partnership makes any cash distributions to its partners. As a result, there is only a single level of federal income tax (at the partner level) on the income of a partnership. This is in stark contrast to the two levels of tax imposed on the income of a corporation (for a corporation, the income is taxed when earned by the corporation[18] and then again when it is distributed in the form of a dividend to its shareholders).[19]

In 1987, Congress limited the types of businesses that would be taxed as partnerships if they were "publicly traded" out of concern that the widespread use of publicly traded partnerships would erode the corporate tax base.[20] Partnership status, however, was retained for businesses that had traditionally been conducted in partnership form,

[10] KINDER MORGAN ENERGY PARTNERS, Current Report (Form 8-K, Ex. 99.1) at 128 (June 12, 2009).

[11] Peter Behr, *Rockies Express shippers fight a proposed change in gas flows*, ENERGYWIRE, (July 26, 2013), http://www.eenews.net/stories/1059985120. Load factor refers to customers' actual utilization of a pipeline's capacity compared to its maximum capacity.

[12] *Id.*

[13] *See id.*

[14] For federal tax purposes, master limited partnerships include both limited partnerships and limited liability companies.

[15] S. 795, 113th Cong. (2013); H.R. 1696, 113th Cong. (2013).

[16] *See* I.R.C. § 7704(c)(1) (2012).

[17] *See id.* § 701.

[18] *See id.* § 11.

[19] *See id.* § 61(a)(7).

[20] H.R. REP. NO. 100-391, pt. 2, at 1064 (1987), *reprinted in* 1987 U.S.C.C.A.N. 2313-378, 2313-680.

such as businesses involved in oil and gas exploration and production.[21]

To qualify for MLP status, a business entity that otherwise would be treated as a partnership for federal income tax purposes and whose interests are "publicly traded" must satisfy a "qualifying income" test, which requires ninety percent or more of the gross income of the partnership to be "qualifying income."[22] Qualifying income includes: (i) passive income such as interest, dividends, and gains from the disposition of property that generates such passive income; (ii) rents and gains from real property; (iii) income and gains from the exploration, development, mining, production, processing, refining, transportation, or marketing of minerals and natural resources; and (iv) income and gains from transactions in commodities in the case of partnerships that buy and sell such commodities as a principal business activity.[23]

MLPs combine the benefits of public corporations whose interests are readily bought and sold on established securities markets and the tax benefits of partnerships, which are not subject to the federal corporate income tax. Such favorable tax treatment allows MLPs to access capital at a lower cost than business entities taxed as corporations. This makes the MLP structure particularly attractive to the capital-intensive pipeline infrastructure transportation business.

In 2008, Congress expanded the definition of qualifying income to include transportation and storage of certain renewable and alternative fuels, such as ethanol and biodiesel, as well as industrial-source carbon dioxide.[24] Income from alternative or renewable energy generation businesses, however, continues to be excluded from qualifying income status.

Legislation has been introduced in the House of Representatives[25] and in the Senate[26] that would expand the definition of qualifying income to allow alternative or renewable energy projects access to the MLP structure. Under the "Master Limited Partnerships Parity Act," the definition of qualifying income would be expanded to include income from clean energy resources and infrastructure businesses. Qualifying income would include income from renewable energy projects such as wind power, closed and open loop biomass, geothermal, solar, municipal solid waste, hydropower, marine and hydrokinetic, and fuel cells. The legislation would also expand the definition of qualifying income to include income from certain clean energy technologies, including the production, storage, and transportation of renewable fuels, electricity storage, carbon capture and storage, waste heat power production, and energy-efficient building technology.

[21] *Id.* at 2313-683.
[22] I.R.C. § 7704(c)(2) (2012).
[23] *See id*. § 7704(d).
[24] *See id*. § 7704(d)(1)(e).
[25] H.R. 1696, 113th Cong. (2013).
[26] S. 795, 113th Cong. (2013).

Opportunities for Solar Generation: Pipeline Infrastructure Synergies

Passage of the Master Limited Partnerships Parity Act could lead to some interesting opportunities and synergies for solar generation and pipeline infrastructure businesses that could begin to address the economic hurdles to pipeline infrastructure development. The Master Limited Partnerships Parity Act would allow a single MLP to be in the pipeline transportation business and the renewable electric generation business because both businesses would generate "qualifying income" that would allow the entity to benefit from favorable tax treatment as a partnership. The solar generation business would give the pipeline operator an additional revenue source from the sale of power, either through bilateral sales, wholesale sales into power markets, or sales under the Public Utility Regulatory Policies Act (PURPA).[27] In addition, the operational costs of the pipeline business would be reduced. For example, while pipeline compressor stations can vary widely by design, they typically incur fuel costs and often emit greenhouse gases and NO_x, which imposes additional construction and maintenance costs due to the equipment necessary to meet local or federal emissions limits.[28] As compressor stations are usually spaced approximately every fifty to one hundred miles along a pipeline route,[29] these costs can be significant on long interstate pipelines. Using electricity from solar assets to power compressor operations offers the opportunity to reduce the overall cost of operating the pipeline. Although solar generation only produces power during the day, electric storage devices would allow such power to be used to serve nighttime compressor operations.

Moreover, pipeline companies have right-of-way and permitting institutional knowledge that is readily transferrable to the siting and permitting of solar generation. In the process of constructing a pipeline, pipeline companies must acquire rights-of-way from local landowners along the entire route of the pipeline, including appurtenant parcels for placement of compressor stations that can reach seventy acres each (including the

[27] PURPA was enacted in 1978 with the intent to spur development of more efficient and renewable generating facilities developed and owned by entities independent from incumbent franchised utilities. *See* FED. ENERGY REGULATORY COMM'N, *What is a Qualifying Facility?* http://www.ferc.gov/industries/electric/gen-info/qual-fac/what-is.asp (last visited Nov. 23, 2013). To that end, PURPA established a new class of generating facilities called qualifying facilities that receive special rate and regulatory treatment. *See id.* One type of qualifying facility, the small power production facility (SPP QF), is a generating facility of eighty-megawatts or less that uses, as a primary energy source, renewable (hydro, wind, or solar), biomass, waste, or geothermal resources. *See id.* Facilities that meet the size and fuel requirements to be SPP QFs and file a simple self-certification form with the Federal Energy Regulation Commission enjoy numerous rate and regulatory benefits. *See* FED. ENERGY REGULATORY COMM'N, *What Are the Benefits of QF Status?*

http://www ferc.gov/industries/electric/gen-info/qual-fac/benefits.asp (last visited Nov. 23, 2013).

[28] Ranier Kurz et al., *Gas Compressor Station Economic Optimization*, INT'L J. OF ROTATING MACHINERY, Vol. 2012, *available at* http://www.hindawi.com/journals/ijrm/2012/715017/.

[29] Energy Info. Admin., Natural Gas Compressor Stations on the Interstate Pipeline Network: Developments Since 1996 (Nov. 2007),

http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngcompressor/ngcompressor.pdf.

compressor site and additional acreage for sound buffering).[30] Pipeline companies are also familiar with state and local processes for environmental and similar permits. These areas of institutional knowledge are equally relevant to the solar generating facility siting and permitting process.

Infrastructure development related to the shale boom is a complex problem without a single, simple solution. But within every problem lies opportunity, and the beneficial combination of pipeline and solar infrastructure is one potential opportunity that could start to address the need to incentivize investment in pipeline infrastructure in the current economic climate.

[30] *See, e.g.*, 240 No. 7 PIPELINE & GAS J., *Millennium Touts Completion of Minisink Compressor Station*, (July 2013), http://www.pipelineandgasjournal.com/millennium-touts-completion-minisink-compressor-station.