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JUL 13 2015

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July 13, 2015

By Overnight Mail and E-mail

1222 Program
Office of Electricity Delivery
and Energy Reliability (OE-20)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
plainsandeastern@hq.doe.gov
Attention: Angela Colamaria

RE: Application of Proposed Project for Clean Line Plains and Eastern Transmission Line, OE Docket No. TPF-01

Dear Ms. Colamaria:

Pursuant to the notice published by the Department of Energy ("DOE") in the Federal Register on April 28, 2015 and the extension of the comment deadline announced on DOE's website,[1] SWN Production (Arkansas), LLC ("SWN-A") and DeSoto Gathering Company, LLC ("DGC" and, together with their publicly traded parent Southwestern Energy Company and its other subsidiaries, "SWN")[2] hereby submit comments to DOE on the application prepared by Clean Line Energy Partners LLC ("Clean Line") for the Plains and Eastern high-voltage direct current ("HVDC") electric transmission project ("Plains and Eastern Project" or the "Project"). SWN-A and DGC previously submitted comments to DOE on April 20, 2015 on the draft Environmental Impact Statement ("DEIS") prepared for the Project and attach a copy of those comments to this letter as **Attachment A** to ensure a complete record and because SWN-A and DGC refer to their previous comments herein.[3]

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[1] DOE, Application for Proposed Project for Clean Line Plains and Eastern Transmission Project, 80 Fed. Reg. 23,520 (Apr. 28, 2015) (April 28, 2015 Federal Register Notice); DOE, Proposed Project: Plains and Eastern Clean Line Transmission Line, available at: http://www.energy.gov/oe/services/electricity-policy-coordination-and-implementation/transmission-planning/section-1222-0 ("However, DOE has decided to extend the public comment period to July 13, 2015.").

[2] SWN-A is a natural gas exploration and production company and DGC is a natural gas gathering company. Both are subsidiaries of Southwestern Energy Company.

[3] In this regard, DOE has stated: "All comments submitted during either comment period will be considered in the DOE's ultimate decision as to whether to participate in the proposed project under the Section 1222 Program. Therefore, comments submitted during the NEPA public comment period do not need to be re-submitted during the 1222 public comment period, regardless of the subject discussed in the comments." DOE, Proposed Project: Plains and Eastern Clean Line Transmission Line, available at: http://www.energy.gov/oe/services/electricity-policy-coordination-and-implementation/transmission-planning/section-1222-0.

SWN-A and DGC emphasize at the outset their support for the development of renewable energy sources and appropriate new electric transmission infrastructure constructed to foster renewable energy development. Natural gas and renewable resources are in many ways complementary and together can provide the United States with cleaner and more reliable generation resources.

In this case, the proposed route for the Plains and Eastern Project runs through the heart of the Fayetteville Shale region, one of the most prolific gas producing fields in the United States. If care is not taken as to the routing of the Project, it will damage the operations of SWN-A, DGC, and other companies engaged in natural gas exploration and production activities. The representative right-of-way for the Applicant Proposed Route identified in the DEIS ("Representative ROW")[4] will result in substantial adverse impacts to SWN-A, DGC, and possibly other natural gas companies. Given the importance of natural gas exploration and production to the Arkansas economy, these impacts can be expected to have further direct and indirect negative consequences. As it considers whether the Project meets the statutory and regulatory criteria for DOE's participation, DOE must take these impacts into account.

If the Project's route is allowed to pass through the Fayetteville Shale region, Clean Line must adhere to concrete, enforceable, and effective mitigation measures to avoid these impacts. SWN-A and DGC are willing to engage in discussions with Clean Line, as well as DOE as appropriate, in an effort to resolve SWN-A and DGC's concerns by developing workable solutions acceptable to all parties. SWN-A and DGC believe that the development and implementation of concrete, enforceable, and effective mitigation measures can reduce the prospect of future litigation. To that end, SWN-A and DGC have engaged in preliminary discussions with Clean Line to resolve many of the potential issues identified in these comments. Should SWN-A, DGC, and Clean Line resolve the issues addressed herein, SWN-A and DGC anticipate making a supplemental filing notifying the DOE that an agreement was reached.

I. DOE's Solicitation for Public Comments on Clean Line's Application

Clean Line submitted an application to DOE for the Project in 2010 in response to a request for proposals ("RFP") issued by DOE in connection with Section 1222 of the Energy

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[4] DEIS at §§ 2.1.2.2.1 & 3.1.1. The Representative ROW was used in the DEIS to assess impacts. SWN-A and DGC's analysis in these comments and in their comments on the DEIS focus primarily on the impacts of the Representative ROW because it provides the discrete framework necessary for identifying and analyzing impacts, although the comments also analyze broader impacts. *See, e.g.,* SWN-A and DGC DEIS Comments (Apr. 20, 2105), at pp. 6-8 (identifying impacts 700 feet from the Representative ROW). Deviating from the Representative ROW could decrease or increase impacts depending on the specific location, so further analysis would be required for each deviation to determine the level of impacts. *See* DEIS at § 3.1.1 ("For example, the representative ROW avoids many homes and environmental resources, so moving the ROW within the 1,000-foot corridor could result in environmental impacts different from those described for the representative ROW.").

Policy Act of 2005 (42 U.S.C. § 16421).[5] Section 1222(b) authorizes DOE to "design, develop, construct, operate, maintain, or own, or participate with other entities in designing, developing, constructing, operating, maintaining, or owning" electric transmission facilities, in consultation with the Southwestern Power Administration ("SWPA") or the Western Area Power Administration ("WAPA"), provided that the project meets certain criteria.[6] Clean Line revised its proposal in August 2011 and recently submitted a "Part II" application in response to a December 2014 request by DOE for Clean Line "to supplement and update its original [2010] application."[7]

In the April 28, 2015 Federal Register Notice, DOE states that Clean Line's application is "available for public review," and also requests comments on the question of "whether the proposed project meets the statutory criteria and the factors identified within the 2010 RFP."[8] With regard to the statutory criteria, Section 1222(b) requires DOE to determine that the project:

1. "(A) is located in an area designated under section 216(a) of the Federal Power Act [16 U.S.C. 824p(a)] and will reduce congestion of electric transmission in interstate commerce; or (B) is necessary to accommodate an actual or projected increase in demand for electric transmission capacity;"

2. "is consistent with (A) transmission needs identified, in a transmission expansion plan or otherwise, by the appropriate Transmission Organization (as defined in the Federal Power Act [16 U.S.C. 791a et seq.]) if any, or approved regional reliability organization; and (B) efficient and reliable operation of the transmission grid;"

3. "will be operated in conformance with prudent utility practice;"

4. "will be operated by, or in conformance with the rules of, the appropriate (A) Transmission Organization, if any, or (B) if such an organization does not exist, regional reliability organization; and"

5. "will not duplicate the functions of existing transmission facilities or proposed facilities which are the subject of ongoing or approved siting and related permitting proceedings."[9]

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[5] The RFP was announced in the Federal Register in 2010. DOE, Request for Proposals for New or Upgraded Transmission Line Projects Under Section 1222 of the Energy Policy Act of 2005, 75 Fed. Reg. 32,940 (Jun. 10, 2010) (2010 RFP).
[6] 42 U.S.C. § 16421(b).
[7] April 28, 2015 Federal Register Notice at 23,521.
[8] *Id.* at 23,522.
[9] 42 U.S.C. §§ 16421(b)(1)-(5).

The determination made by DOE for each of these criteria must be "based upon findings by the Secretary [of Energy] using the best available data."[10]

DOE adopted an additional set of criteria in the 2010 RFP pursuant to which DOE will determine:

1. "Whether the Project is in the public interest;"
2. "Whether the Project will facilitate the reliable delivery of power generated by renewable resources;"
3. "The benefits and impacts of the Project in each state it traverses, including economic and environmental factors;"
4. "The technical viability of the Project, considering engineering, electrical, and geographic factors; and"
5. "The financial viability of the Project."[11]

II. Interest of SWN-A and DGC in this Proceeding

Southwestern Energy Company is an independent energy company primarily engaged, through subsidiaries, in natural gas and crude oil exploration, development, and production. It has a market capitalization of approximately $9 billion and is currently the fourth largest producer of natural gas in the lower 48 U.S. states. Its subsidiaries SWN-A and DGC have substantial operations and property interests in the Fayetteville Shale region of Arkansas, which is one of the most significant shale plays in the United States. A more detailed description of the Fayetteville Shale, and the extent of SWN-A's and DGC's holdings and operations in the region, is set forth in SWN-A and DGC's attached comments on the DEIS.[12]

As currently configured, the Plains and Eastern Project's proposed route, including all alternative routes identified in the DEIS, would run directly through the Fayetteville Shale region. Without appropriate restrictions, this can produce substantial adverse impacts to natural gas exploration, production, and gathering, and consequent harm to the Arkansas economy. With regard to SWN-A's and DGC's operations only (*i.e.*, not counting other natural gas companies' activities):

- The Representative ROW of the Applicant Proposed Route would directly cross 15 well pads and 1 new well pad planned to be constructed later in 2015. Operations on these wells pads would need to cease if the right-of-way traverses them. These well pads

[10] *Id.* at § 16421(f).
[11] 2010 RFP, at 32,941.
[12] Attachment A at pp. 2-5.

contain 33 existing individual wells, and 13 additional wells are planned to be drilled in the near future.

- An additional 46 well pads, one of which is planned for 2015, are located within 700 feet from the Representative ROW (*i.e.*, 700 feet from the edge of the centered 200-foot right-of-way). The ability to access and conduct normal operations on these pads also could be curtailed dramatically, if not required to cease. These well pads contain 67 existing individual wells, and 11 additional wells are planned to be drilled in 2015-16.

- The Representative ROW of the Applicant Proposed Route crosses over two miles of gathering pipelines. The route would cross DGC's gathering system 87 times.[13]

The alternative segments identified in the DEIS for the Fayetteville Shale region do not mitigate the impacts to natural gas development, but instead raise the same issues. Ten well pads (1 planned) and 23 wells (1 planned) are located within a 200-foot right-of-way centered on the center lines of these segments. Forty-five well pads (1 planned) and 121 wells (17 planned) are within 700 feet of the rights-of-way of the alternative segments.[14]

As noted in SWN-A's and DGC's DEIS comments, the foregoing analysis does not include impacts to the extensive additional infrastructure required for operations, including mobile drilling rigs and cranes, access roads, ponds, impoundments, compressor stations, electric lines, and telecommunications towers.[15] It also does not take into account adverse impacts on future exploration and production activities at sites leased by SWN-A, but not yet planned.

III. SWN-A's and DGC's Comments on Clean Line's Application

SWN-A and DGC hereby request that DOE consider the following comments in assessing whether the Plains and Eastern Project complies with the Section 1222 and 2010 RFP requirements and other applicable federal and state laws. Some of the discussion necessarily addresses operational matters already raised in SWN-A and DGC's comments on the DEIS, as those matters concern cost, feasibility, and other factors relevant to assessing whether the Project is in the public interest and otherwise satisfies the relevant criteria.

A. DOE Must Carefully Weigh the Adverse Impacts of the Project Against the Claimed Benefits

1. Standard of Review

Under the first and the third criteria from the 2010 RFP, DOE must determine "[w]hether the Project is in the public interest" and assess "[t]he benefits and impacts of the

[13] *Id.* at pp. 6-8.
[14] *Id.* at p. 7.
[15] *Id.* at pp. 7-9.

Project in each state it traverses, including economic and environmental factors."[16] While this proceeding represents the first time DOE will apply these standards to a proposal under Section 1222, DOE and the Federal Energy Regulatory Commission ("FERC"), an independent agency within DOE, routinely employ a broad "public interest" standard weighing project benefits against project impacts to evaluate electric and natural gas transmission projects. Because many of these projects also involve long-line infrastructure development requiring extensive rights-of-way, DOE should be guided by these precedents in applying the "public interest" standard to the Project.

In determining whether to issue a Presidential Permit to an electric transmission project crossing international borders with the United States, DOE applies a public interest standard and considers "the environmental impacts of the proposed project pursuant to the National Environmental Policy Act (NEPA), determines the project's impact on electric reliability, and weighs any other factors that DOE may also consider relevant to the public interest."[17] In deciding whether to issue a certificate of public convenience and necessity to construct a natural gas pipeline, FERC "will balance the public benefits of the project against the adverse effects of the project. FERC will approve a project only where the public benefits outweigh the project's adverse impacts."[18] In considering adverse impacts, FERC takes into account "the interests of landowners and the surrounding community, including environmental impacts."[19]

Regardless of the precise "public interest" formulation that DOE adopts for this proceeding, DOE is required at a minimum to sufficiently identify and weigh adverse impacts to landowners (including those with rights to subsurface minerals) and the environment, the latter of which includes, as the DEIS indicates, impacts to all aspects of the human environment such as use of geological resources, land use, socio-economics, and transportation. This conclusion is reinforced by the third criterion from the 2010 RFP, which requires DOE to balance economic, environmental, and other types of benefits and impacts on a state-by-state basis.[20]

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[16] 2010 RFP, at 32,941.

[17] *See, e.g.*, DOE Office of Electric Delivery and Energy Reliability, *Presidential Permit - Champlain Hudson Power Express, Inc.*, Order No. PP-362, at p. 3 (Oct. 6, 2014).

[18] *Minisink Residents for Envt'l Preservation and Safety v. FERC*, 762 F.3d 97, 101-02 (D.C. Cir. 2014) (internal quotation marks and citations omitted).

[19] *Id.* at 102, n.1 (internal quotation marks and citations omitted).

[20] Clean Line's "Part II" application advocates for an interpretation of "[w]hether the Project is in the public interest" which focuses solely on how the Project "promotes the public interest" and excludes any consideration of adverse impacts. Clean Line Plains and Eastern Project 1222 Program - Part 2 Application, at § 3.1 (dated Jan. 2015). This narrow view is at odds with both the third criterion of the 2010 RFP and conducting a reasonable evaluation of the Project under "public interest" precedents. SWN-A and DGC agree, however, that, as required by the 2010 RFP, the "public interest" analysis should include an assessment of whether the Project advances the purpose of the Energy Policy Act of 2005: "To ensure jobs for our future with secure, affordable, and reliable energy." Public Law 109-58, Preamble (Aug. 8, 2005). However, DOE has not limited the evaluation to just that analysis. 2010 RFP, at 32,941 (Applicant should explain "how the Project is in the public interest, including, *but not limited to*, advancing the purposes of EPAct." (emphasis added)).

2. Substantial Adverse Impacts Can Result If the Project Follows the Applicant Proposed or Alternate Routes

As outlined above in Section II and in SWN-A and DGC's comments on the DEIS, the Representative ROW and the rights-of-way of the alternative segments as proposed will adversely impact natural gas activities in the Fayetteville Shale region unless concrete, enforceable, and effective mitigation measures are implemented (see sub-section 3 below). These impacts would be substantial:

- Natural gas production, exploration, and gathering infrastructure and operations will be displaced and disrupted;[21]

- Depending on the precise location, the impacts will not be temporary or minor, but will include the permanent cessation of current and future production from wells on pads within or near the 200-foot right-of-way and interference with other infrastructure necessary for natural gas operations;[22]

- Studies indicate that the operation of the Project may jeopardize pipeline and well casing integrity through corrosion caused by stray electric current, and the Project could interfere with electronic equipment necessary for safe natural gas production operations;[23] and

- Negative impacts to the Arkansas economy inevitably will result from the foregoing impacts if they arise due to the absence of proper mitigation measures. Natural gas development in the Fayetteville Shale is a major driver in the Arkansas economy, contributing to the economic well-being of Arkansas communities and their citizens. Increased unemployment, reduced royalty payments, and declines in tax revenues would result from a reduction in natural gas development in the Fayetteville Shale Region caused by the Plains and Eastern Project. [24]

Each of these impacts must be taken into account by DOE as it considers whether the Project is in the public interest and whether the economic and environmental benefits of the Project outweigh the impacts.[25] To help inform DOE's decision-making, SWN-A and DGC provide below a broad cost analysis of the impacts of the Project as currently proposed on their natural gas exploration and production. To avoid speculation, this analysis does not quantify any direct or secondary impacts for which SWN-A and DGC cannot provide, at this time, a

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[21] Attachment A, at pp. 6-8.
[22] *Id.* at pp. 8-10.
[23] *Id.* at pp. 10-11.
[24] *Id.* at 11-12.
[25] Consideration of these impacts, including the safety risks posed by corrosion resulting from stray current, is also relevant to the fourth criterion from the 2010 RFP: "[t]he technical viability of the Project, considering engineering, electrical, and geographic factors." 2010 RFP, at 32,941. Given the density of natural gas development in the Fayetteville Shale, the project also may not be technically viable due to "geographic factors."

reasonable and supportable figure. SWN-A and DGC also provide below an overview of the rights of natural gas leaseholders, mineral owners, and holders of easements or rights-of-way for underground pipelines, which include SWN-A and DGC. In addition to the magnitude of impacts on operations, the acquisition and accommodation of such property rights should also be taken into account by DOE as part of its review of Clean Line's application.

a. "Magnitude of Cost" Estimate on Natural Gas Operations

The costs to natural gas exploration and production companies and pipeline owners and operators resulting from the Plains and Eastern Project's proposed and alternate routes through the Fayetteville Shale would be in the hundreds of millions of dollars, if not more, if the route is not carefully determined. In the case of SWN-A alone, the Representative ROW of the Applicant Proposed Route crosses 16 wells pads where, by the end of 2015, 46 wells will be located. If the Project is ultimately constructed across these sites, SWN-A would have to close down those 46 wells. Using SWN-A's average cost of drilling and completing a well in the Fayetteville Shale during 2014, which was $3.25 million, simply re-drilling 46 wells to access the same natural gas resources would cost $149,500,000.[26]

There is no assurance the cost per well would be the same as the 2014 average—it could be higher or lower—but the approximately $150 million estimate provides reasonable guidance on the order of magnitude of costs related solely to moving the well locations. This is not a final calculation and does not include all amounts that are relevant in determining the full extent of impacts. The other numerous operators, royalty owners and pipeline companies in the area may also similarly be impacted, depending on how the actual route affects them.

The total costs in connection with re-drilling these wells can be expected to be significantly greater as the approximately $150 million figure does not take into account the following costs:

- Costs of acquiring rights for new surface locations, if available;
- Costs of preparing new surface locations, including building well pads;
- Costs of obtaining new permits for well pads and wells;
- Costs of constructing new access roads, gathering pipelines, electric lines, and other required infrastructure;

[26] As noted in our prior comments, the DEIS failed to take the costs of shutting down wells into account and instead concluded that, "With directional drilling, such areas could be accessed at considerable distances from the project." DEIS at p. 3.6-41, quoted in Attachment A at p. 9. Even assuming that is feasible in each instance—which is far from certain for reasons set forth in SWN-A and DGC's comments to the DEIS (*see* Attachment A, at p. 9 (physical and regulatory constraints may preclude re-drilling))—the cost of using that drilling technique would be enormous.

- Costs of plugging and abandoning existing wells, restoring sites to original condition, and complying with other related permit conditions, lease terms, and industry practices; and

- Lost profits for the period when no production is occurring.

Whether the resources can be accessed by drilling replacement wells from new locations is unknown at this time. When it is not possible or practicable to do so, the entire economic value of that portion of the resources would be lost. That figure could far exceed $3.25 million per well, particularly after taking into account the amounts that would be owed royalty owners, whose mineral rights also would need to be acquired or condemned.

The approximately $150 million figure to re-drill these 46 wells also does not account for other impacts:

- Costs to DGC, whose pipeline infrastructure connected to closed wells would be rendered worthless.

- Additional costs or inability to reach the resources by wells that would be drilled in the future on these pads;

- Any costs related to the 76 existing or planned wells on other pads located within 700 feet of the right-of-way; and,

- Impacts on future exploration and production activities at sites leased by SWN-A, but not yet planned.

In sum, the costs described above are direct costs associated with direct impacts to SWN-A's and DGC's operations and infrastructure. The approximately $150 million figure does not account for all of these costs and is intended only to give a sense of the magnitude of the cost of the impacts that can be expected as a result of the current proposed configuration of the Project. Further, the ripple effects of these impacts would have far-ranging impacts to the Arkansas economy in the form of lost tax revenue, lost jobs, and reduced spending. DOE should take into account all of these costs, quantified or not, when it makes its public interest determination and weighs the benefits of the Project against its costs to Arkansans and the Arkansas economy.

b. Overview of Sub-Surface Property Rights

In addition to the cost of impacts on operations, DOE should also take into account the costs of acquisition and accommodation of sub-surface property rights. While Clean Line's application describes past activities and future plans to obtain rights-of-way from surface landowners,[27] nowhere does it mention any plan, policy, or cost estimate regarding the

[27] Clean Line Plains and Eastern Project 1222 Program - Part 2 Application, at § 9.a.

acquisition or accommodation of sub-surface natural gas leaseholders, mineral owners, and holders of easements or rights-of-way for underground pipelines, which include SWN-A and DGC.

SWN-A, like most energy producers, owns the right to drill for natural gas under a so-called lease which transfers ownership of the natural gas in the ground.[28] A natural gas lease is an interest in land just like the surface owner has, except that it can expire when operations cease. Similarly, DGC, like other pipelines, holds easements or rights-of-way granted by the surface owner or rights of use granted by natural gas developers pursuant to their leases. In both cases, these property rights are preexisting rights in real property, and if Clean Line acquires rights only from the surface landowners, it receives those surface rights subject to the rights previously granted to others, including the subsurface interest holders.

In Arkansas (as in the rest of the country), the right to develop underground resources is the dominant estate, and accordingly, it may displace or disrupt the surface use to the extent necessary to develop the resources during the course of the lease, easement, or right-of-way.[29] Thus, either the Project must be constructed and operated throughout its life so that it does not interfere with the sub-surface property rights (*i.e.*, both existing and future natural gas development activities), or Clean Line must acquire the rights to interfere, through negotiation or, to the extent available, condemnation. If, however, the Project obtains rights from only the surface owner, the Project will hold the right to use the surface subject to the superior rights of SWN-A, DGC, and other holders of leases and pre-existing easements and rights-of-way. Even if the Project can be constructed and operated so that it does not interfere with current activities of parties operating below the surface, the Project would remain subject to the risk that future natural gas or pipeline activities undertaken pursuant to the dominant, sub-surface estate may require moving or modifying portions of the Project.

For these reasons, the Project will require obtaining not just surface rights from property owners, but also rights to interfere, which may include obtaining leases, easements, and rights-of-way from natural gas developers and pipeline owners like SWN-A and DGC.[30] Obtaining those rights will likely be very costly for the condemning authority and the Project depending upon its final configuration, and DOE should be sure the Project can bear these costs, whether in charges to its customers or otherwise. DOE should ensure that it considers the full extent and cost of the property rights the Project requires in conducting its public analysis and considering whether to participate in the project.

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[28] *See, e.g., Hillard v. Stephens*, 276 Ark. 545, 637 S.W.2d 581 (1982).

[29] *See, e.g., Diamond Shamrock Corp. v. Philips*, 256 Ark. 886, 511 S.W.2d 160 (1974); *Wood v. Hay*, 206 Ark. 892, 175 S.W.3d 189 (1943).

[30] *See generally United States v. Welch*, 217 U.S. 333 (1910) (holding that compensation must include not only the value of property rights directly acquired, such as an easement, but also take into account the harm to the dominant estate resulting from the taking).

3. To Mitigate Impacts to Natural Gas Exploration and Production, Clean Line Must Strictly Adhere to Concrete, Enforceable, and Effective Mitigation Measures If DOE Decides to Participate in the Project

Given the extent of the impacts and the magnitude of costs described above, the most certain way to avoid negatively affecting the Fayetteville Shale region is to re-route the project to avoid the region. To date, no analysis has been provided that this is not a feasible alternative. SWN-A and DGC, however, are open to developing with DOE and Clean Line a set of concrete, enforceable, and effective mitigation measures to avoid impacts to SWN-A, DGC, and the Fayetteville Shale region. SWN-A and DGC have engaged in preliminary discussions with Clean Line regarding whether such measures can be developed, and Clean Line has made initial representations that may alleviate many potential issues, including with respect to route adjustments and minimizing the potential for corrosion. SWN-A and DGC remain willing to engage in further discussions with Clean Line, as well as DOE as appropriate, to develop workable solutions acceptable to all parties. These measures would include, at a minimum, the following concepts:

- The Project's final 200-foot-wide right-of-way may not cross any existing or planned well pad, compressor station, or other operation or facility owned or operated by any SWN subsidiary or encroach on these sites so as to preclude development and operations (*e.g.*, prevent the use of cranes and other equipment due to the proximity of the right-of-way or block access to a parcel).

- If an owner of natural gas, oil, or other mineral or sub-surface rights within or adjacent to the final 200-foot right-of-way plans on conducting drilling or other operations in the future (*i.e.*, the operations are not currently under development, in service, or planned prior to the start of construction of the Project), and there is no other reasonable or economically feasible way to develop the resources from the lease the right-of-way crosses or is adjacent to, the owner shall provide a notice to Clean Line describing: (1) the activities to be conducted within the right-of-way, (2) the reasons why it is not reasonable or economically feasible to access the resources from outside of the right-of-way, (3) any portion of the Project that would need to be moved or modified to accommodate the owner's rights in the resources, and (4) the estimated value of the resources to be accessed, net of the costs that would be saved by not drilling. Within 30 days, Clean Line shall respond to the owner whether it: (i) consents to the activity within the right-of-way and commits to relocate any portions of the Project that would interfere with the activity, or (ii) will pay the owner the value of the resources. Failure to timely respond to respond to an owner's notice shall be deemed to be an election to pay the owner the value of the resources. Should any dispute arise, Clean Line shall bear the

burden of showing that there exists an economically feasible alternative for the owner to reach the resource under the owner's lease or other applicable agreement.[31]

- Clean Line shall establish and fund a metallic corrosion monitoring program to ensure the integrity of well casings and pipelines. Clean Line is responsible for the costs of repairing and remediating the consequences of any corrosion resulting from the operation of the transmission line, whether or not detected by the monitoring program.

- Clean Line shall pay the costs of any additional equipment or processes the owner or operator of natural gas, pipeline and other infrastructure installs to avoid interference with radio or other telecommunication transmissions.

These concepts are for discussion purposes only and do not represent any agreement by SWN-A, DGC, or any other SWN entity for Clean Line to site its Project in the Fayetteville Shale region, including on SWN property. Nor does SWN-A and DGC represent that these concepts will mitigate all the adverse impacts discussed in these comments. They are preliminary and provided only as examples. Further, as noted above, any set of mitigation measures would have to be concrete, enforceable, and effective, and not simply consist of vaguely-defined statements that Clean Line will "work with" affected parties. However, SWN-A and DGC believe these concepts are a basis for constructive discussions on potential mechanisms to avoid, minimize or mitigate the impacts of the Project on SWN-A and DGC and the Fayetteville Region more generally.

4. Conclusion

Whether considered alone or together with the potential benefits of the Project, the adverse impacts to natural gas development and the Arkansas economy demonstrate that the Project as currently configured, either as the Applicant Proposed Route or with any of the alternative segments, is not in the public interest.[32] Because of the size and importance of the Fayetteville Shale play to the regional economy and U.S. energy security interests, and the density of natural gas operations in the region, routes outside the Fayetteville Shale should be considered carefully as a primary matter. SWN-A and DGC, however, are willing to engage in discussions with DOE and Clean Line to determine if a set of concrete, enforceable mitigation measures can be developed to avoid adverse impacts on current and future natural gas activities in the Fayetteville Shale region.

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[31] This concept parallels the so-called "accommodation doctrine" in oil and gas law.

[32] It also is inconsistent with the purpose of Energy Policy Act of 2005, which concerns not just "Transmission Infrastructure Modernization" (Title XII, Subtitle B), but also extends to the promotion of natural gas resources and infrastructure (Title III). Certainly, a project that would result in substantial adverse impacts to natural gas exploration, production, and gathering—and the many existing Arkansas jobs associated with those activities—would not advance the Energy Policy Act of 2005's goal of "ensur[ing] jobs for our future with secure, affordable, and reliable energy," Public Law 109-58, Preamble (Aug. 8, 2005).

B. Other Outstanding Issues that Require Further Analysis by DOE

Pursuant to Section 1222, DOE is required to make a number of determinations regarding whether there is need for the Project[33] and whether the Project can be operated safely, reliably, and efficiently.[34] Section 1222 requires that these determinations be made based upon "the best available data."[35] In addition to the criteria addressed above, the 2010 RFP also requires DOE to determine whether the Project is technically and financially viable.[36] Under this framework, DOE is required to address the following issues which arise under the statutory and regulatory criteria:

- Benefits to Arkansas: In its application, Clean Line places significant emphasis on the claim that Arkansas will benefit in various ways from wind energy delivered over the transmission line to the Arkansas converter station. Any benefits from the converter station must be weighed against the substantial adverse impacts of a route based upon the Representative ROW of the currently-configured Project to the Fayetteville Shale region described in SWN-A and DGC's comments.[37]

- Project Demand and Financial Viability: Section 1222 requires DOE to find that the Project "is necessary to accommodate an actual or projected increase in demand for electric transmission capacity"[38] and the 2010 RFP makes clear that the Project must "facilitate the reliable delivery of power generated by renewable resources."[39] DOE also has determined that "[b]efore the Department would commit to participate in the Project beyond entering into an Advanced Funding Agreement for NEPA review, it would need assurance that . . . Clean Line will have a sufficient percentage of its line subscribed to support the Project's financial viability."[40] DOE should address how the Project will satisfy each of these requirements and whether DOE has before it "the best available

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[33] *See* 42 U.S.C. §§ 16421(b)(1) (project must be "necessary" to meet demand); (b)(2)(A) (project must be consistent with transmission needs identified by qualified transmission or reliability organizations; and (b)(5) (project cannot be duplicative of other facilities).

[34] *See id.* at §§ 16421(b)(2)(B) (requiring efficient and reliable operation); (b)(3) (requiring conformity with prudent utility practice); and (b)(4) (requiring adherence to rules of a qualified transmission or reliability organizations).

[35] *Id.* at 16421(f).

[36] 2010 RFP, at 32,941.

[37] Further, to the extent that DOE accords weight to any benefits from the Arkansas converter station, DOE should find, if it participates in the Project, that the station is an integral part of the Project to ensure that the Arkansas converter station is not later dropped from the Project because firm demand for it does not materialize.

[38] 42 U.S.C. §§ 16421(b)(1)(B) (emphasis added). The other part of this provision, Section 1222(b)(1)(A) is not applicable to the Project because it is not "located in an area designated under section 216(a) of the Federal Power Act [16 U.S.C. 824p(a)]." *Id.* at 16421(b)(1)(A).

[39] 2010 RFP, at 32,941.

[40] Letter from the Department of Energy to Michael Skelly, President, Clean Line Energy Partners (Apr. 5, 2012) (available at http://energy.gov/sites/prod/files/Poneman_Letter_April_5,_2012.pdf). Deferring a decision on whether to participate in the Project until this requirement is met would allow Clean Line time to meet with potentially affected parties – like SWN-A and DGC – to discuss route changes and mitigation measures that would reduce adverse impacts, reduce Clean Line's costs, and minimize the risk of litigation.

data" on project need, reliability, and safety (*e.g.*, studies from third-party transmission and reliability organizations).

In addition to evaluating whether the Project meets applicable statutory and regulatory criteria, DOE should address, in detail:

- Eminent Domain: Whether it has authority to exercise federal eminent domain power on behalf of the Project and whether such authority should, as a policy matter, be exercised on behalf of Clean Line. This analysis should include an evaluation of the projected costs of exercising eminent domain authority on behalf of the Project. This analysis should include consideration of the comments raised by SWN-A and DGC and the Southwestern Power Resources Association ("SPRA") in their respective comments on the DEIS.[41]

- State authorizations: Whether Arkansas state authorizations for the siting of the transmission line (*e.g.*, a public utility commission certificate of public convenience and necessity or certificate of environmental compatibility and public need) are needed for the Project in light of Section 1222(d)(2).[42]

- Role of SWPA: Whether SWPA can own or participate in constructing facilities that appear to be unrelated to its authorized statutory mission as a federal marketer of hydroelectric power under the Flood Control Act of 1944, 16 U.S.C. § 825s.

- Funding and Expenditures: Whether and how the funding and expenditure structure envisioned by Section 1222(c) and proposed by Clean Line in Appendix 4-A of its application proposal complies with the Appropriations Clause of Section 9 of Article I of the U.S. Constitution; the Anti-Deficiency Act, 31 U.S.C. § 1341; and the Miscellaneous Receipts Statute, 33 U.S.C. § 3302.

IV. Conclusion

SWN-A and DGC support the development of renewable energy and the electric transmission facilities required to foster that development. The Plains and Eastern Project presents a challenge in this regard because of the substantial adverse impacts that can result from siting the Project through one of the nation's most active natural gas fields. As proposed, the right-of-way and impacts on operations would harm SWN-A and DGC and negatively affect natural gas development, a cornerstone of the Arkansas economy. SWN-A and DGC respectfully request that DOE objectively and thoroughly consider the legal and policy issues raised herein in making its determination whether to participate in the Project. SWN-A and DGC reiterate their willingness to engage in constructive discussions with DOE and Clean Line

[41] SWN-A and DGC DEIS Comments, at pp. 14-15; SPRA DEIS Comments (Apr. 16, 2015), at pp. 3-5.
[42] Section 1222(d) states in part that "nothing in this section affects any requirement of . . . any Federal or State law relating to the siting of energy facilities." 42 U.S.C. §§ 16421(d)(2).

on these issues. Please do not hesitate to contact the undersigned with any questions regarding this matter or if you require additional information.

Very truly yours,

John C. Ale
Senior Vice President, General Counsel & Secretary
SWN Production (Arkansas), LLC and
DeSoto Gathering Company, LLC

Attachment A

SWN
Southwestern Energy®

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April 20, 2015

Plains and Eastern EIS
216 16th Street, Suite 1500
Denver, Colorado 80202
comments@PlainsandEasternEIS.com
Attention: Dr. Jane Summerson,
DOE NEPA Document Manager

By Overnight Mail and E-mail

Dear Dr. Summerson:

Pursuant to the notices published in the Federal Register on December 19, 2014, December 29, 2014, February 12, 2015, and February 13, 2015,[1] SWN Production (Arkansas), LLC (SWN-A) and DeSoto Gathering Company, LLC (DGC and, together with their publicly traded parent Southwestern Energy Company and its other subsidiaries, "SWN")[2] hereby submit comments on the draft Environmental Impact Statement (draft EIS) issued by the Department of Energy (DOE) on December 19, 2014 for the Plains and Eastern high-voltage direct current (HVDC) electric transmission project (Plains and Eastern Project or the Project) proposed by Clean Line Energy Partners LLC (Clean Line).

Southwestern Energy Company is an independent energy company primarily engaged, through subsidiaries, in natural gas and crude oil exploration, development, and production with a market capitalization of approximately $9 billion and is currently the fourth largest producer of natural gas in the lower 48 U.S. states. Its subsidiaries SWN-A and DGC have substantial operations and property interests in the Fayetteville Shale region of Arkansas, one of the most significant shale plays in the United States. The Fayetteville Shale, potentially holding upwards of 20 trillion cubic feet of natural gas, has been in active production since 2004 and currently produces upwards of 2.8 billion cubic feet per day, which is enough to supply approximately 28,000 American homes for one year. Production of domestic natural gas from regions like the Fayetteville Shale has significantly enhanced U.S. energy security and bolstered state and local economies.

The Plains and Eastern Project's proposed route, including all alternative routes under study in the draft EIS, would run directly through the Fayetteville Shale region, resulting in substantial adverse impacts to natural gas production. Disruption or curtailment of existing and future exploration and production operations would, in turn, significantly impact local, regional, and state economies. As explained in the detailed comments below, the draft EIS does not adequately address these impacts and:

[1] 79 Fed. Reg. 75,800 (Dec. 19, 2014); 79 Fed. Reg. 78,088 (Dec. 29, 2014); 80 Fed. Reg. 7,850 (Feb. 12, 2015); 80 Fed. Reg. 8,081 (Feb. 12, 2015).
[2] SWN-A is a natural gas exploration and production company and DGC is a natural gas gathering company. Both are subsidiaries of Southwestern Energy Company.

- Understates the full extent of natural gas infrastructure that will be adversely affected by the Plains and Eastern Project;

- Incorrectly concludes that impacts on natural gas development will be short-term and minimal;

- Fails to identify and analyze potential public safety impacts resulting from the operation of the HVDC line near natural gas infrastructure, including acceleration of corrosion of natural gas pipelines and impacts on electronic equipment; and

- Fails to analyze the socio-economic consequences of adverse impacts on natural gas development to the Arkansas economy on a state, regional, and local level.

SWN-A and DGC support the development of renewable energy sources and do not oppose transmission infrastructure to foster renewable development, but the Plains and Eastern Project should not be routed through the Fayetteville Shale. The size and importance of the Fayetteville Shale play, and the density of natural gas operations in the region, require that DOE consider and recommend as the "preferred alternative" a route outside of the play that would have significantly fewer impacts to shale development and, consequently, local, regional, and state economies.

The draft EIS also discusses matters related to the requirements of Section 1222 of the Energy Policy Act of 2005. SWN-A and DGC provide initial comments on these matters as they are addressed in the draft EIS, with the understanding that DOE will also notice a new public comment period specifically to consider Section 1222 issues.[3] These comments are provided without prejudice to, or limitation on, SWN-A and DGC's rights to submit additional comments on Section 1222 issues in the future or to raise matters related to the Plains and Eastern Project in another forum.

I. SWN-A's and DGC's Interest in the Fayetteville Shale

A. The Fayetteville Shale Generally

The Fayetteville Shale play is an unconventional underground natural gas reservoir spanning across north-central Arkansas within the Arkoma Basin. The play is approximately 9,000 square miles and is very active. Exploration and production activities occur throughout the play, with well pads, construction and production equipment, and an interconnecting web of gathering, intrastate and interstate natural gas pipelines densely deployed. Using the most up-to-date mapping tools available from the U.S. Energy Information Agency (EIA),[4] SWN-A and DGC provide the following maps to illustrate the expanse of the play as it concerns not just SWN but all companies involved in natural gas exploration, production, and transportation:

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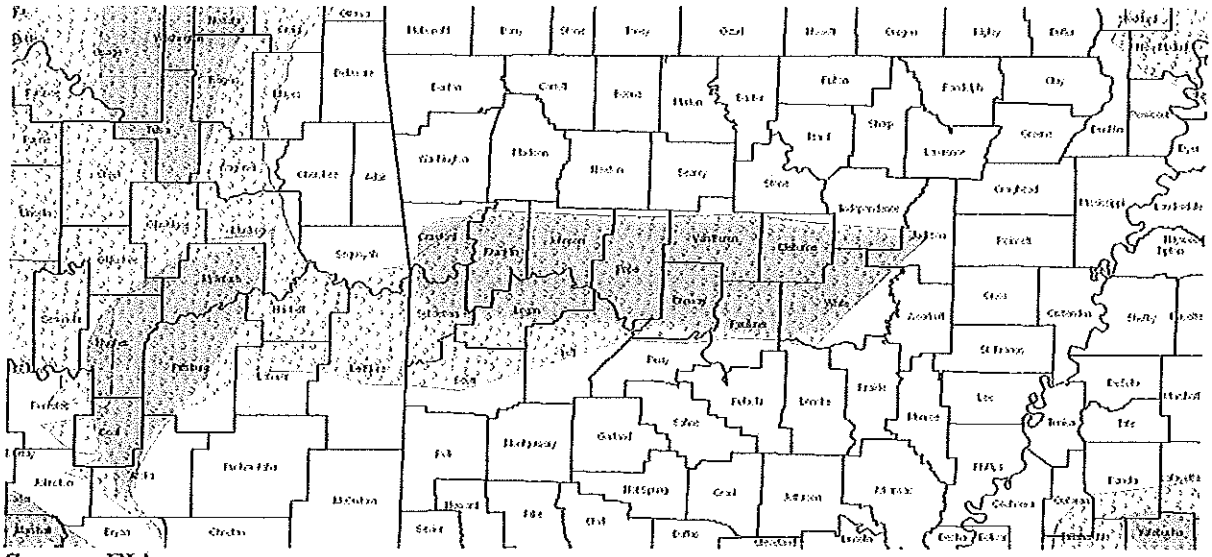
[3] *See* DOE, Plains and Eastern Clean Line Transmission Project Draft EIS Public Hearings Presentation (Jan./Feb. 2015), at slide 24 (announcing the public comment opportunity for Section 1222 issues).

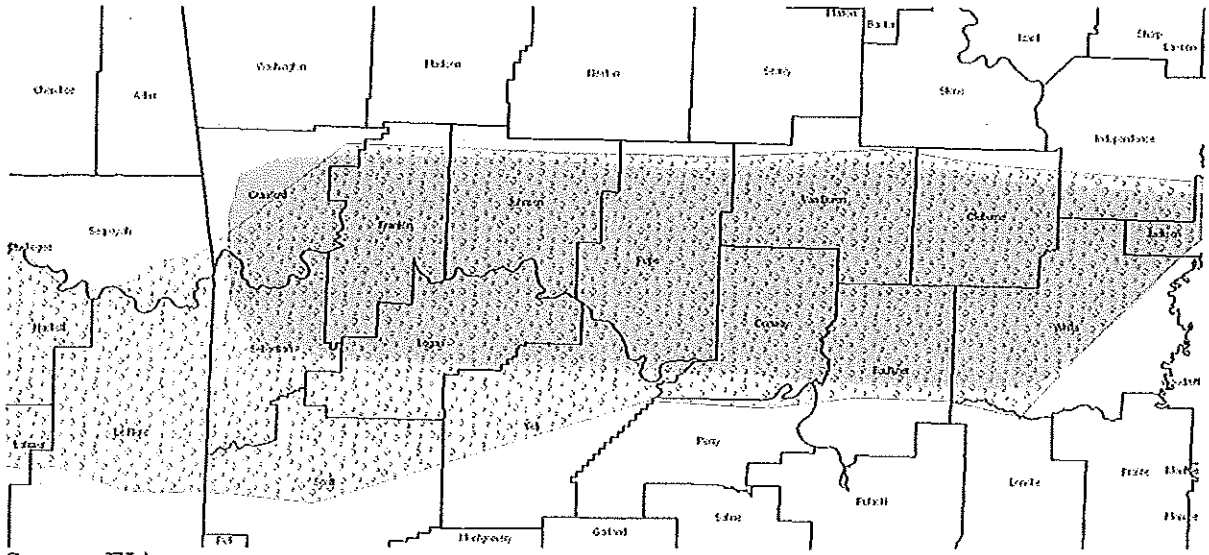
[4] EIA, Arkansas State Profile and Energy Estimates, Profile Overview Map, available at: http://www.eia.gov/state/?sid=AR. The maps provided as Figures 1 through 4 were created by using the Layers/Lend options to display the shale basin, shale play, natural gas wells, and major natural gas pipelines. The EIA indicates that the well data is current through November 2014 and the pipeline data through January 2012.

Figure 1: Fayetteville Shale play (brown shaded region east of the Arkansas-Oklahoma border) within the Arkoma Basin (lighter outline)



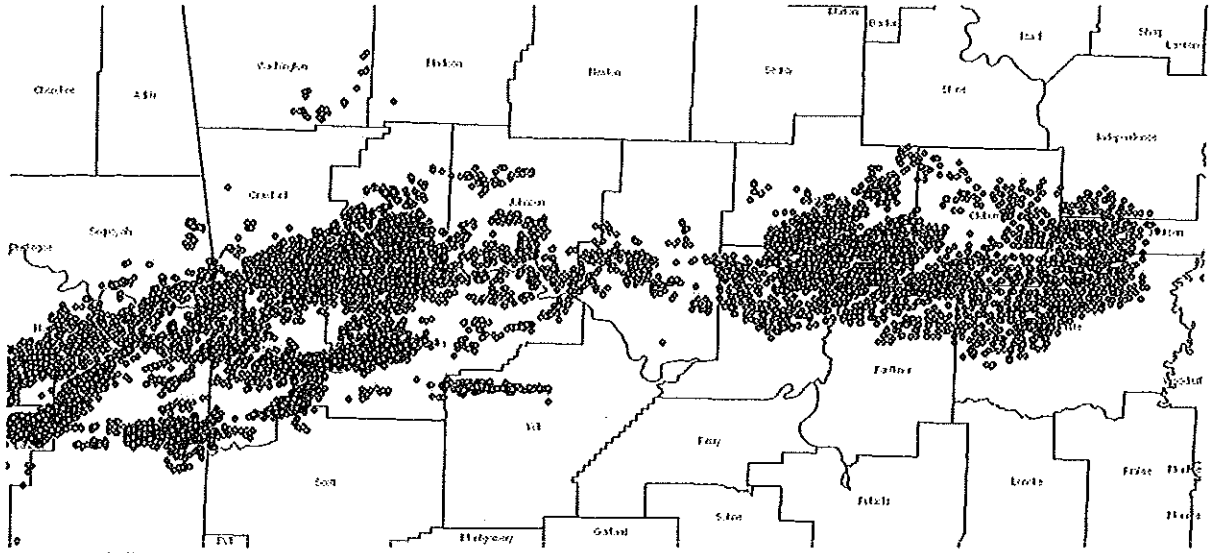
Source: EIA

Figure 2: Fayetteville Shale Play and Arkoma Basin, magnified view focusing on Arkansas.



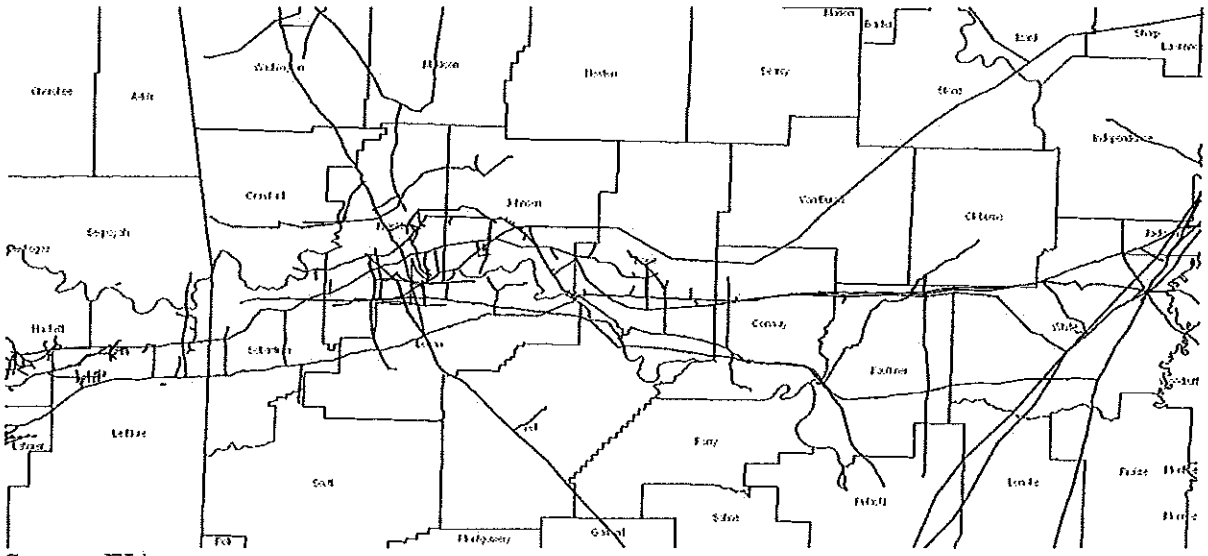
Source: EIA

Figure 3: Location of natural gas wells in the Fayetteville Shale play



Source:.EIA

Figure 4: Major interstate and intrastate natural gas pipelines (excluding gathering lines)



Source: EIA

As depicted in Figure 3, the number and density of wells in the Fayetteville region are substantial, with the EIA estimating a well count of over 3,200 as of May 31, 2011 in just the eastern part of the play.[5] For each well, a significant amount of land, equipment and infrastructure is required, both to drill and set up a producing well and to connect that well to the pipeline network.

[5] EIA, Surface Locations of Fayetteville Shale Wells (May 31, 2011), available at: http://www.eia.gov/oil_gas/rpd/shaleusa3_letter.pdf (depicting locations of wells in the eastern half of the play).

This work is dynamic as new well pads are set up, new wells are drilled on existing or new well pads, and existing wells are maintained or re-drilled.

- A typical well pad can measure 700 feet by 700 feet. Larger well pads may be required depending on site-specific conditions. Multiple wells can be drilled over time from the same well pad.

- Construction and production equipment on-site at a well pad over the course of its operation usually includes wells, 120-foot high drill rigs, tall cranes with 150+ foot booms, electric lines, compressors, pumps, flowlines, separation equipment and tanks, telecommunications towers, and enclosed structures.

- Construction equipment such as drilling rigs, cranes, and other equipment are moved from well pad to well pad through the play as needed and on a daily basis.

- Connecting each well to the natural gas pipeline system is a branch-like network of smaller-diameter gathering pipelines feeding into larger-diameter transmission pipelines, sometimes with the use of compressors. For this reason, Figure 4 above does not depict the full extent of pipeline infrastructure in the region, as it only identifies the transmission facilities which form the trunks to which the branched-out gathering lines are connected.

B. SWN-A's and DGC's Operations in the Fayetteville Shale

SWN-A's total proved reserves in the Fayetteville Shale play are estimated to be 5.1 trillion cubic feet, and SWN has leased approximately 764,287 total net acres to explore for and produce oil and gas. SWN-A has drilled over 4,578 wells since 2004 and as of December 31, 2014, has 4,027 total gross producing wells. Attachment A to these comments provides a map depicting SWN-A's wells in the eastern part of the Fayetteville Shale play. DGC operates over 2,107 miles of gathering lines in the play.

In 2014, SWN-A had a total net production of 494 billion cubic feet of natural gas and drilled 468 new wells, which represents a capital investment of $944 million. DGC gathered 812 billion cubic feet of gas in 2014. In 2015, SWN-A plans to drill 225-235 wells, which represents a capital investment of approximately $560 million. SWN-A has drilled 138 of those wells to date. Currently, 267,456 acres of SWN-A's leased acreage (approximately 34%) in the area remain undeveloped.

SWN-A and DGC emphasize that even a single well represents a significant investment and source of revenue. Taking into account the average cost of drilling and completing a well ($3.25 million), 2014 production costs, and current forward gas prices, an average well should generate considerably more than $2 million in profits. The well pads within the right of way for the Applicant Proposed Route host on average about three wells, which represents a profit of well over $6 million.

II. Description of the Plains and Eastern Project Route in the Fayetteville Shale

The Plains and Eastern Project is a proposed 3,500 megawatt (MW), 600 kilovolt (kV) HVDC transmission line that would run 720 miles from the Oklahoma Panhandle region to

Tennessee through Arkansas. DOE is currently considering whether to "participate" in the project under Section 1222(b) of the Energy Policy Act of 2005, and this potential federal participation requires DOE to prepare an EIS pursuant to the National Environmental Policy Act (NEPA). The EIS will, among other matters, assess the project's potential environmental impacts, identify alternatives and mitigation measures, and inform DOE's determination of whether the Plains and Eastern Project is in the public interest.

Regions 4 and 5 of the proposed transmission line would be located in the Arkansas River Valley and Central Arkansas respectively, passing directly through the Fayetteville Shale play. The draft EIS generally recognizes this fact and the high level of activity in the play, stating that:

> Portions of the Project traverse significant oil and natural gas fields, particularly the Anadarko Basin and Arkoma Basin (GIS Data Source: USGS 2005b). The western portion of the ROI (particularly in Regions 4 and 5) is located within a part of the United States that is experiencing a boom in natural gas production because of the use of hydraulic fracturing and horizontal drilling technologies. This new technology has made the recovery of shale gas economically viable.[6]

In addition to the route proposed by Clean Line, DOE also analyzes a number of alternative segments. Five of these segments are in Region 4 (Alternatives 4A-4E) and six are in Region 5 (Alternatives 5A-5F).[7]

III. The Plains and Eastern Project Will Adversely Impact Natural Gas Exploration, Production, and Gathering Activities in One of the Most Significant Shale Plays in the United States

Although the draft EIS recognizes that the Plains and Eastern Project will directly pass through the Fayetteville Shale, the Project's potential impacts on natural gas exploration, production, and gathering are greatly understated. The draft EIS also fails to identify and assess the adverse safety impacts the operation of a HVDC transmission line could have on pipeline and well infrastructure. The DOE should revise its analysis to incorporate the significant adverse environmental impacts that will likely result from the construction and operation of the proposed Project and assess the feasibility of routing the Plains and Eastern Project outside of the Fayetteville Shale play.

A. The Draft EIS Understates the Extent of Natural Gas Infrastructure in the Shale Play That Would Be Impacted by the Proposed Transmission Line

As a threshold matter, the draft EIS does not adequately identify the full extent of natural gas exploration, production, and gathering facilities that will be impacted by the Project. The draft EIS states that: "[t]he Applicant Proposed Route in Region 4 would traverse 1,929 acres of shale gas plays and six oil and gas wells. Ten oil and gas wells and 2,630 acres of shale gas plays are traversed in the Applicant Proposed Route representative ROW of Region 5."[8] This is a substantial

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[6] Draft EIS at p. 3.6-6.
[7] *Id.* at pp. 2-34 to 2-35.
[8] *Id.* at p. 3.6-25. The draft EIS also identifies infrastructure in a 4,000 foot-wide-corridor for all alternatives in Regions 4 and 5, finding 282 wells and 13,128 shale play acres in this broader corridor for Region 4, and 181 wells and 9,618 acres

understatement of the number of wells and associated infrastructure in proximity to the proposed transmission line.

SWN-A has undertaken an analysis of its own well pads in proximity of the Applicant Proposed Route and determined that 15 existing well pads and one well pad planned to be constructed later in 2015 are located wholly or partly within the 200-foot right of way for the proposed transmission line. SWN-A has drilled *33 wells* on these pads and at present plans to drill another 13 wells in the near future. Another 46 well pads (one of which is planned for 2015) are within 700 feet of the Applicant Proposed Route.[9] SWN-A has drilled 67 wells on those pads and at present plans to drill another 11 wells in 2015 and 2016. SWN-A has performed a similar analysis for the Project's alternate segments through the Fayetteville Shale play, and has found that 10 well pads (1 planned) and 23 wells (1 planned) are located within the 200-foot right of way. The transmission line would directly cross five of these pads and the 15 wells currently located thereon. Furthermore, 45 well pads (1 planned) and 121 (17 planned) wells lie within 700 feet of the right-of-way through these alternate segments along the route.

SWN-A's analysis above does not count either well pads leased or owned by other operators. It also does not include associated facilities such as ponds, impoundments, compressor stations, and telecommunication towers. For these additional reasons, the draft EIS substantially understates the operations that will be impacted by the Project.[10]

As explained above, each well pad is interconnected with a branched network of natural gas gathering and transmission pipelines, including compression facilities. The draft EIS recognizes that "[o]il and gas wells and their appurtenant facilities are very common throughout the ROI in Regions 4 and 5"[11] and that gas pipelines and electric transmission lines are located in or across the proposed right-of-way. These very generalized types of statements do not provide any meaningful assessment of the extent of gas pipeline infrastructure that will be impacted by the Project.

In the Tier IV Routing Study prepared by Clean Line in November 2013 and provided with the draft EIS, Clean Line estimates that, for Region 4, 5.53 miles of "transmission pipelines" are located in the 1,000-foot right of way and that there will be 12 "transmission pipeline crossings."[12] For Region 5, 24.73 miles of "transmission pipelines" and 47 "transmission pipeline crossings" are identified.[13] The dataset used by Clean Line (Ventyx 2013) is described as including interstate and intrastate transmission pipelines, but not gathering pipelines. DGC has undertaken an analysis of its gathering system and found that the proposed right-of-way for the Applicant Proposed Route would cross gathering pipelines *87 times*. Over two miles of DGC's gathering pipelines would fall within

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it places the proposed transmission line in context and more accurately represents the extent of infrastructure that will be affected because an actual right-of-way will typically fall within a variance. While these figures are included in the draft EIS, they are not relied upon in reaching any conclusion regarding the impact of the Project on natural gas development.

[9] SWN-A used a 700-foot distance because it represents the typical distance between a well and the farthest edge of the typically-sized well pad, *i.e.*, the work area/buffer zone required to drill and operate the well.

[10] SWN-A and DGC note that the number of wells, well pads, and associated facilities can be expected to continue to expand. With several years until construction is underway and complete, the extent of natural gas operations the proposed Project would encounter in the Fayetteville Shale at that time would be even greater than today.

[11] Draft EIS at p. 3.10-6.

[12] Clean Line Tier IV Routing Study (Nov. 2013), at pp. 67, 71.

[13] *Id.* at pp. 79, 83.

the 200-foot right-of-way. This analysis does not take into account re-routing of existing pipelines or the installation of new pipelines that may be required in the future. By failing to account for gathering pipelines, the draft EIS substantially underrepresents the extent of natural gas infrastructure that will be impacted by the Project.

B. The Draft EIS Inaccurately Concludes that Impacts to Natural Gas Exploration and Product Operations Will Be Temporary and Minor

While having an accurate count of natural gas infrastructure proximate to the proposed Project is critically important, an assessment of the proposed impacts of the Project on the operation of that infrastructure also is required. The draft EIS lacks this analysis. The draft EIS instead relies on a number of conclusory statements and open-ended and unenforceable "mitigation" measures to conclude that impacts on natural gas exploration and production operations will be minor. For example, the draft EIS states that "[o]ther short-term and local impacts include the disruption to access to local land uses that may occur, such as agriculture, oil and gas development, and residences and businesses during construction. The short-term impacts would be minimized, however, because of multiple [Environmental Protection Measures (EPMs)] incorporated into the Project."[14] These summary conclusions fall short of the level of analysis required by NEPA for three reasons.

First, impacts to natural gas development operations are unlikely to be "short-term and local." Fifteen of SWN-A's current well pads and 33 existing wells (plus one planned well pad and another 13 planned wells) are located within 200 feet of the transmission line along the Applicant Proposed Route. Of these, the transmission line would directly cross over eight of these well pads, which have a total of 17 existing and 13 planned wells. The resulting impact would be permanent cessation of production of the 46 wells on these pads and also to render them useless for drilling future wells.

Moreover, well pads located along the right of way can also be permanently affected. As explained above, construction and production activities are dynamic and involve use of the entire well pad tract. Equipment may be placed anywhere on the well pad depending on safety considerations, well locations, pit location, pipeline location, and road location. Siting a 3,500 MW HVDC line next to a well pad will interfere with drilling rig and crane activities due to the height of the equipment and proximity to the line. Even "a minimum stand-off of 250 feet from the edge of the route [rights-of-way]"[15] would not provide an adequate margin of safety for the operation of equipment, which can exceeds 120 feet in height. It would also not provide an adequate space to conduct operations if, for example, the well were located closer to the edge of the well pad abutting the right-of-way.

The draft EIS also does not acknowledge impacts to natural gas operations from impacts to other infrastructure. For example, the draft EIS indicates that the Project would cross or be located proximate to electric distribution lines and roads,[16] but fails to analyze how this proximity

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[14] Draft EIS at pp. 3.10-78 & 79. *See also* Draft EIS at p. 3.6-18 ("Project infrastructure would avoid impacts to active mineral resources features and would not preclude development of underground mineral resources in most cases.") & p. 3.6-41 ("Any short-term effects to access mineral resources are not expected to cause long-term impairment to the productivity of mineral resources.").

[15] Draft EIS at p. 3.6-41.

[16] *Id.* at p. 3.4-61.

will affect that infrastructure, including the extent that electric distribution lines and roads would need to be re-routed or blocked off. Further, the draft EIS does not consider how these impacts could result in a loss of the electric power source and physical access to a well pad. SWN-A has identified 15 locations where the right-of-way would cross access roads for well pads. Electricity from the local grid will also follow roads going to SWN facilities and will be placed on 20-foot tall poles, raising the potential for displacement or interference.

Second, in support of the conclusion that disruption would be minimal, the draft EIS assumes that:

> Oil and gas resources would be less affected because recovery of the resources would be possible, even with a minimum stand-off of 250 feet from the edge of the route [rights-of-way] and converter station sites using a vertically installed well without the use of directional drilling. With directional drilling, such areas could be accessed at considerable distances from the project.[17]

This conclusion is highly speculative. It assumes that there will be adjacent property available to move the well pad entirely or partly to a new location, or reconfigure the well on the existing well pad. However, many wells are currently sited in areas where the options for placement are constrained by existing development, protected wetlands, and Arkansas state regulatory requirements. Thus, moving or reconfiguring the well pad may be an impossibility or would result in unacceptable environmental, safety, or socioeconomic impacts. The draft EIS addresses none of these issues. Further, even if wells could be moved, SWN-A and other operators would have to obtain agreements from landowners, which would involve a new lease and additional expenditures. For these reasons, the potential use of directional drilling does not support the broad conclusion that impacts to natural gas development will be minimal.

Third, the mitigation measures considered in the draft EIS are inadequate. In the section on geology, paleontology, minerals, and soils, the following applicant-drafted EPMs are identified as ways to "specifically avoid or minimize the potential for impacts" on natural gas operations:

- GE-29: Clean Line will work with landowners and operators of active oil and gas wells, utilities, and other infrastructure to identify and verify the location of facilities and to minimize adverse impacts. Identification may include use of the One Call system and surveying of existing facilities.

- LU-1: Clean Line will work with landowners and operators to ensure that access is maintained as needed to existing operations (*e.g.*, to oil/gas wells, private lands, agricultural areas, pastures, hunting leases).[18]

Requiring Clean Line to "work" with operators falls short of requiring Clean Line to avoid impacts to natural gas operations and ensure access to well pads. Therefore, these EPMs do not provide a basis to conclude that impacts can be avoided or minimized. Even if Clean Line works in

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[17] *Id.* at p. 3.6-41.

[18] *Id.* at p. 3.6-15 to 3.6-16. This section also identifies additional EPMs (GE-1, GE-9, GE-27, GEO-1, and LU-3), but these do not appear applicable to natural gas operations.

good faith with SWN-A and other operators, it cannot be presumed that the transmission line could be re-routed locally to avoid impacts to natural gas operations, given the density of well pads and related infrastructure in the region.

B. The Draft EIS Fails to Identify and Study Critical Safety Issues Raised by the Potential Siting of an HVDC Transmission Line near Natural Gas Gathering Pipelines and Production Equipment

Proposing to site an HVDC transmission line near natural gas exploration, production and gathering infrastructure raises several critical safety issues that are not identified or analyzed in the draft EIS. These issues include pipeline safety considerations that will be of concern to the public and should inform DOE's public interest determination.

Hazards to Pipeline and Well Casing Integrity

The Plains and Eastern Project has the potential to jeopardize pipeline and well casing integrity through corrosion. Specifically, pipelines and well casings are susceptible to corrosion from stray current originating from the operation of HVDC transmission lines. As NACE International, a professional organization in the corrosion prevention field, has observed, "[b]oth the operation of bipolar HVDC transmission systems that use the earth as a conductor of transmission currents and monopolar systems that use earth return currents can have serious repercussions on underground metallic structures. Whenever stray DC interference current discharges directly into the ground, corrosion occurs."[19] Similarly, ASM International, a professional organization of metals engineers and scientists, has noted that "[c]orrosion of underground pipelines can be accelerated by stray [DC] flowing in the soil near the pipeline."[20] This same analysis would apply to other underground metal structures.

Clean Line proposes a metallic return for the entire length of the transmission line.[21] Although this metallic return may reduce stray current, it will not eliminate stray or excess current. As a result, stray current from the Plains and Eastern Project has the potential to adversely affect pipelines and casings by accelerating corrosion even under normal operating conditions. However, during abnormal operations which may be experienced from time to time, creation of grounded "imbalanced" DC currents could even more significantly impact pipelines and well casings.

The draft EIS does not address the potential corrosive impacts of the Plains and Eastern Project on pipelines and well casings nor the potential threat to pipeline integrity and safety that would result from accelerated corrosion. Moreover, the draft EIS does not analyze the potential risk of harm to pipeline facilities that would result if the metallic return is compromised, increasing the magnitude and frequency of stray current conditions. Given that corrosion can lead to pipeline failure, which in turn could result in death and property damage, the draft EIS is incomplete. DOE should require Clean Line to conduct an in-depth engineering study to analyze the impact of the Plains and Eastern Project on pipeline facilities, wells, and other metal conduits, including the levels

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[19] NACE International, High-Voltage Direct Current Interference, at p. 3 (May 2013).
[20] Beavers, J. A., and N. Thompson. 2006. "External Corrosion of Oil and Natural Gas Pipelines: Stray Current Corrosion." IN: ASM Handbook. Vol. 13C Corrosion: Environments and Industries. Materials Park, OH: ASM International, p. 1015–1025.
[21] Draft EIS, Appendix F, at p. 19.

and duration of stray current. SWN-A and DGC believe that the result of this analysis will demonstrate to DOE and the public that the Plains and Eastern Project should be routed outside of the Fayetteville Shale play.

Hazards to Electronic Equipment

With regard to operations equipment, SWN-A and DGC use computer, radio, instrumentation, satellite communications, and telecommunications equipment in the routine course of its activities. Manufacturers of this equipment have been unable to confirm to SWN-A and DGC that a 3,500 MW HVDC transmission line will not adversely impact the equipment's functionality, as it has not been tested under the electrical conditions that will be created by the transmission line. In addition to electrical conditions, telecommunications equipment could also be adversely impacted due to physical line-of-sight obstructions caused by the proposed transmission towers which could block radio signals. Due to the importance of electronic equipment to ensure safe operations, there is no room for interference or interruption from electrical conditions or line-of-sight obstructions.

As one example, a small computer known as a Remote Terminal Unit (RTU) is located on almost every well pad in the field. Among other functions, the RTU monitors the pressure at various points on the production equipment. Should the pressure rise above design limits, the well is automatically shut in. Interference with or failure of this system could result in an over-pressure condition that could lead to an explosion or fire. The RTU also monitors fluid levels in tanks which hold salt water produced from the well or water used to obtain gas production from the well. Interference with or failure of this system could result in an overflow condition that causes the discharge of such water into adjacent areas, including any environmentally-sensitive areas nearby.

Because of the critical importance of electronic equipment to the safety of SWN's personnel and operations, as well as the safety of the public, this issue should be identified and comprehensively studied by DOE. It is unlikely that these safety issues can be satisfactorily mitigated – which, again, would dictate that the Plains and Eastern Project be sited outside of the Fayetteville Shale play.

C. The Draft EIS Fails to Analyze the Socio-Economic Consequences that Would Result from Adverse Impacts to Natural Gas Exploration, Production, and Gathering

The development of the Fayetteville Shale provides significant socioeconomic benefits to the region and the State of Arkansas as documented in a recent report issued by the University of Arkansas Center for Business and Economic Research (Fayetteville Economic Analysis).[22] Specifically, the Fayetteville Economic Analysis estimates that "[i]n 2012, total economic activity of almost $4.0 billion and value added of almost $2.7 billion are projected to occur as a result of Fayetteville Shale in the state."[23] In the period from 2008 to 2011, "almost $2.0 billion in state and local taxes from permit fees and severance, property, income, sales, and other taxes were collected as

[22] U. of Ark. Center for Business and Econ. Research, "Revisiting the Economic Impact of the Natural Gas Activity in the Fayetteville Shale: 2008-2012 (May 2012), available at: http://cber.uark.edu/mwg-internal/de5fs23hu73ds/progress?id=-AeXNFuZll3CjOrY3iorWvb2v2Nw8fmNds7BdamA0EM.
[23] *Id.* at p. ix.

a result of Fayetteville Shale activities."[24] In the same time period, the total economic activity generated from Fayetteville Shale activities was estimated at more than $18.5 billion.[25]

Development of the Fayetteville Shale also has resulted in significant employment growth in this part of the state, and has led to "higher average annual pay, additional income received from mineral leases and royalty payments, and other induced impacts result[ing] in higher personal incomes, which lead to larger personal expenditures."[26] SWN contributed significantly to these regional benefits through, among things, the payment of nearly $2.5 billion in royalty payments, payroll, taxes, and charitable contributions since 2007. As a direct result of these economic benefits, funding for education and social services has increased and local governments have reduced or eliminated budget deficits.

As documented in detail above, the Plains and Eastern Project—as currently routed—could potentially disrupt development activities in the Fayetteville Shale. Among other things, companies like SWN-A would have difficulty siting new well pads or accessing existing well pads which, in turn, would substantially curtail the level of development in this region. Further concerns about the potential of the Plains and Eastern Project to adversely impact gathering pipelines and electronic equipment used in operations also could unnecessarily limit development activities.

As a consequence, the socioeconomic benefits of the Fayetteville Shale development likely would be significantly reduced. This could manifest itself in increased unemployment, reduced royalty payments, and declines in tax revenue. DOE's analysis of the socioeconomic impacts of the Plains and Eastern Project should consider the potential adverse impacts that would occur if the Project is sited through the Fayetteville Shale. In particular, DOE's analysis should address the reduced development that could result from siting an electric transmission line through an area that supports such a robust natural gas exploration and production industry, and quantify the resultant adverse local, state, and regional socioeconomic impacts that would occur as result of reduced shale play development.

D. Conclusion: The Plains and Eastern Project Should be Routed Outside of the Fayetteville Shale Play

DOE's analysis undertaken pursuant to NEPA must take into account potential adverse impacts on natural gas exploration, production, and gathering, including critically important safety issues and the socio-economic benefits that accrue from development of the Fayetteville Shale in Arkansas. As it stands, the draft EIS does not adequately identify and address these issues. Such an analysis also will be central to DOE's public interest review,[27] as DOE must weigh whether locating the proposed Plains and Eastern Project in the heart of the Fayetteville Shale can be justified given the likely adverse economic impacts to the State of Arkansas, local economies, and businesses such as SWN that have propelled economic development and job creation in this region.

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[24] *Id.* at p. viii.
[25] *Id.* at p. v.
[26] *Id.* at p. v. and i.
[27] DOE, Request for Proposals for New or Upgraded Transmission Line Projects under Section 1222 of the Energy Policy Act of 2005, 75 Fed. Reg. 32,940, at 32,941 (Jun. 10, 2010) (referred to herein as the "DOE Notice") (stating that DOE will consider "[w]hether the Project is in the public interest").

SWN-A and DGC appreciate that DOE has analyzed alternative segments in Regions 4 and 5 but, as DOE itself concedes, these alternatives will also impact natural gas exploration, production, and gathering.[28] SWN-A's analysis set forth above at page 7 also demonstrates that substantial natural gas infrastructure is located on the alternative segments. Thus, the fact remains that routing alternatives located in the shale play would still have unacceptable adverse impacts. This is true even for an alternative in the play with comparatively fewer well pads located along the segment because impacts to even just a few well pads can be substantial. As explained above, a well pad hosting an average of three wells generates a profit of well over $6 million. Moreover, the identified routing alternatives cannot avoid shale play acreage. The draft EIS acknowledges that an average of 62% (Region 4) to 95% (Region 5) of the area that would be impacted by both the route proposed by Clean Line and all the alternatives analyzed is part of the "shale gas play."[29]

Because of the size and importance of the Fayetteville Shale play to the regional economy and U.S. energy security interests, and the density of natural gas operations in the region, DOE should consider an alternative route, outside of the play, which would have significantly fewer and smaller impacts to shale play development and, consequently, local, regional, and state economies. Such an alternative also would prevent future conflicts between natural gas operators and Clean Line as new planned wells are drilled and undeveloped areas in the play are developed in the years ahead.

IV. Other Issues Raised by the NEPA Process and the Draft EIS

A. DOE Participation under Section 1222

Section 1222(b) of the Energy Policy Act of 2005 authorizes DOE to "design, develop, construct, operate, maintain, or own, or participate with other entities in designing, developing, constructing, operating, maintaining, or owning, a new electricity power transmission facility and related facilities," provided certain statutory requirements are met.[30] DOE indicates that it will decide whether to participate "in one or more" of those ways.[31]

Based on publicly available information about the Plains and Eastern Project, it appears that Clean Line will own and operate the transmission line on a merchant-basis, retaining all revenues generated, with no ownership or invested capital by DOE or other governmental agencies. In other words, the Project does not appear to be a public-private partnership with a direct exchange of benefits between Clean Line and DOE. SWN-A and DGC request that DOE clarify the manner in which it will "participate" in the Project.

B. Section 1222 Requirements for Proposed Projects

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[28] Draft EIS at p. S-52 (recognizing that all alternatives will have impacts on shale gas deposits, even though particular alternatives may have greater or fewer potential impacts).
[29] *Id.* at p. 3.6-10 to 3.6-11.
[30] 42 U.S.C. § 16421(b).
[31] Draft EIS at p. S-20.

In the draft EIS, DOE acknowledges that the "purpose and need for agency action is to implement Section 1222. To that end, DOE needs to decide whether and what conditions it would participate in the Applicant Proposed Project."[32]

Section 1222 conferred upon DOE new authority to utilize third-party financing for transmission projects. Section 1222(b) of the Act authorizes DOE, acting through and in consultation with the Southwestern Power Administration (SWPA), to participate in new electric power transmission projects with third parties provided certain criteria set forth in the statute are met. Among the statutory criteria, DOE must determine that the Plains and Eastern Project "(A) is located in an area designated under section 216(a) of the Federal Power Act [16 U.S.C. 824p(a)] and will reduce congestion of electric transmission in interstate commerce; or (B) is necessary to accommodate an actual or projected increase in demand for electric transmission capacity."[33]

With regard to this requirement, the Plains and Eastern Project is not located in a Section 216(a) corridor, and thus must demonstrate that it "is necessary to accommodate an actual or projected increase in demand for electric transmission capacity."[34] The demonstration of whether the Plains and Eastern Project is necessary to accommodate increased demand should be explored more fully in the final EIS. Based on available information, Clean Line conducted an open solicitation for the transmission capacity on the Plains and Eastern Project almost a year ago but has yet to announce any contractual commitments evidencing a strong commercial interest in the project. The potential lack of commercial interest in the Project should be a factor analyzed as part of DOE's determination of whether the Project is meeting a defined need for new capacity.

In addition to the statutory criteria that DOE is required to address under Section 1222, the DOE Notice stated that DOE will use additional criteria to evaluate the Plains and Eastern Project. These criteria include a determination of whether the Project is in the public interest and an assessment of the "benefits and impacts of the Project in each state it traverses, including economic and environmental factors."[35] Therefore, the final EIS should specifically identify and assess the impacts of the Plains and Eastern Project on Arkansas, with a specific focus on its proposed route through the Fayetteville Shale. Given the potential for the Project to adversely affect existing and planned shale play development activities, and the attendant socioeconomic impacts that will result from such effects, Arkansas-specific impacts must be analyzed in greater detail. The draft EIS does not adequately assess how the Plains and Eastern Project could justify the potential harm to Arkansas and U.S. energy security interests if routed through the Fayetteville Shale. Further, as stated earlier, DOE's analysis of alternatives should include project routes outside of the Fayetteville Shale.

The DOE Notice also states that DOE will assess the Project's "technical viability" and "financial viability." [36] With regard to the former, DOE should carefully consider the issues raised above regarding the potential adverse impacts of HVDC transmission lines on pipelines, well casings, and electronic equipment. With regard to the latter, in the event DOE and SWPA may permissibly exercise eminent domain authority in connection with the Project, the costs of doing so can be expected to be substantial if the transmission line is routed through the Fayetteville Shale play.

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[32] *Id.* at p. S-2.
[33] 42 U.S.C. § 16421(b)(1).
[34] *Id.* at § 16421(b)(1)(B).
[35] DOE Notice at 32,941.
[36] *Id.*

The interests of both surface and numerous oil and gas and other mineral holders will need to be negotiated or litigated. As a result, the length and complexity of condemnation proceedings will be multiplied. Moreover, the cost of condemning those interests will be far higher than if the line were routed through an area that does not contain a high concentration of valuable oil and gas and other mineral development.

C. Section 1222 and State Siting Requirements

Section 1222(d) also expressly provides that nothing in Section 1222 "affects any requirement of: (1) any federal environmental law, including the National Environmental Policy Act of 1969, [pursuant to which DOE prepares an environmental impact statement]; (2) any Federal or State law relating the siting of energy facilities; or (3) any existing authorizing statutes."[37] Section 1222, therefore, does not preempt state siting requirements. Accordingly, Clean Line will be required to obtain applicable state authorizations for the siting of the transmission line (*e.g.*, a public utility commission certificate of public convenience and necessity or certificate of environmental compatibility and public need).

In a proceeding before the Arkansas Public Service Commission (PSC), the PSC noted that "Clean Line has acknowledged that there will be a future [Certificate of Environmental Compatibility and Public Need (CECPN)] proceeding." Consequently, Appendix C to the draft EIS ("Potential Federal and State Permits and Consultation Required for the Project") should include the CECPN proceeding under the list of Arkansas regulatory proceedings.

D. Notice to Underground Property Interest Holders

SWN-A and DGC appreciate the efforts that the DOE has undertaken to inform the public and other stakeholders about the Plains and Eastern Project following the release of the draft EIS through public meetings, presentations, and other means.

For its part, Clean Line mailed notices to surface property owners adjacent to the Project. No such notices, however, were received by SWN-A or DGC, which are record owners of oil and gas leases and pipeline rights-of-way.[38] In many instances, a surface owner leases its surface or minerals to natural gas operators such as SWN-A, and those operators would not receive notice in such an event. Regardless, oil and gas leases and other conveyances of mineral interests are recorded in each county in Arkansas, and such records are readily obtainable. In a unique region such as the Fayetteville Shale play, Clean Line should have provided early and direct notice to sub-surface interest holders. This raises the question of how many natural gas operators, pipelines, and other parties with sub-surface interests in the vicinity of the Project have not been adequately or timely notified or remain unaware of the Project's existence.

As a practical matter, Clean Line also should have undertaken early, direct outreach to SWN-A, DGC, and other natural gas and pipeline operators in the Fayetteville Shale play. Given the extent of natural gas development in the play, it would have been prudent to hold discussions with the

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[37] 42 U.S.C. § 16421(d).

[38] Another SWN company owns some small tracts of land for surface facilities and did receive notice.

natural gas operators to discuss the feasibility of the proposed routing, safety concerns, and other matters.

V. Requested Actions

SWN-A and DGC appreciate this opportunity to provide DOE with comments on the draft EIS for the Plains and Eastern Project. SWN-A and DGC request that DOE consider and recommend as the "preferred alternative" a route outside of the Fayetteville Shale play that would have significantly fewer impacts to shale play development and, consequently, local, regional, and state economies. Accordingly, DOE should: (1) revise its NEPA analysis to accurately reflect potential impacts on natural gas infrastructure and operations, (2) analyze the potential hazards to pipeline and well casing integrity and electric equipment, (3) study the socio-economic consequences that would result from adverse impacts to natural gas development, and (4) address the Section 1222 and public notice issues raised herein.

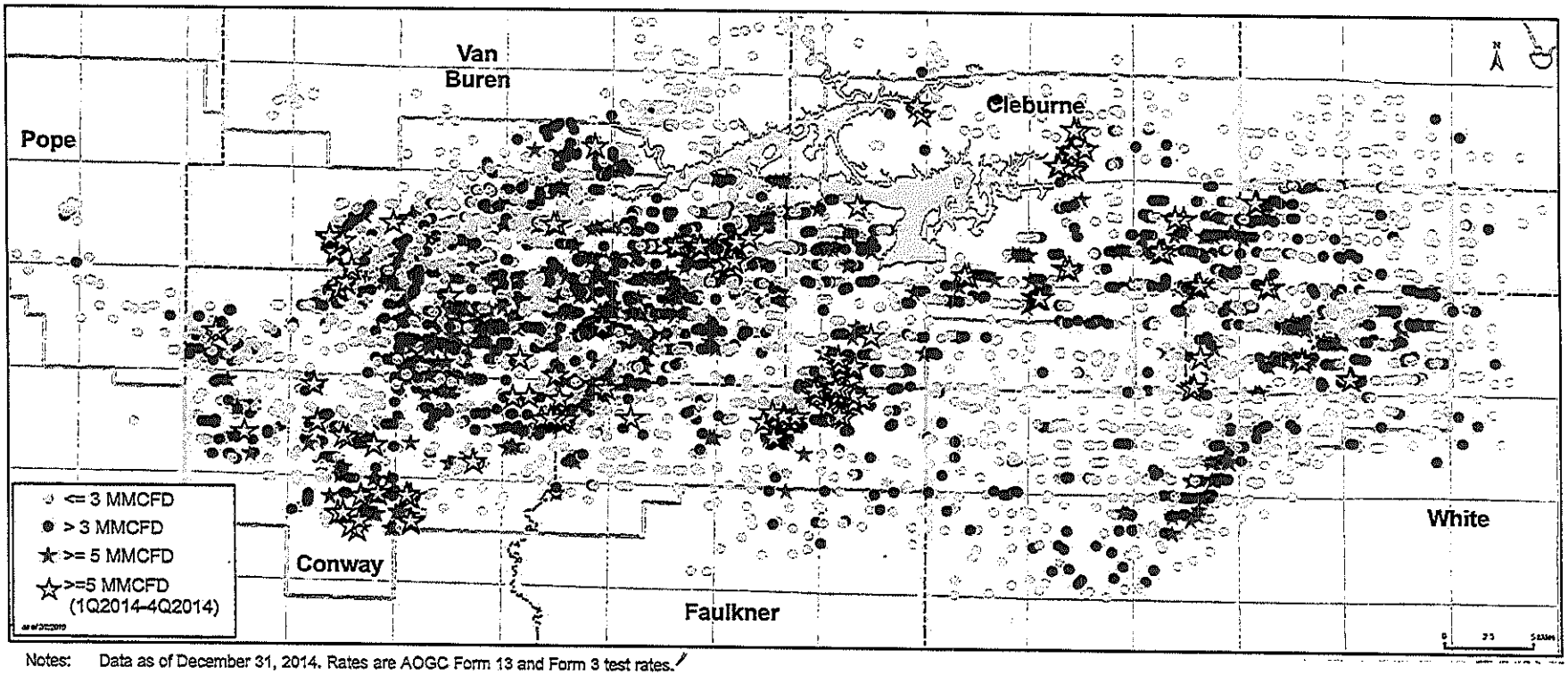
Please do not hesitate to contact the undersigned if SWN-A and DGC can provide further information regarding this matter.

Very truly yours,

John C. Ale
Senior Vice President, General Counsel & Secretary
SWN Production (Arkansas), LLC and
DeSoto Gathering Company, LLC

Fayetteville Shale Focus Area

swn
Southwestern Energy



Notes: Data as of December 31, 2014. Rates are AOGC Form 13 and Form 3 test rates.

- SWN holds approx. 888,000 net acres in the Fayetteville Shale play.
- SWN discovered the Fayetteville Shale and has first mover advantage – average acreage cost of $320 per acre with a 15% royalty and average working interest of 74%.
- 24 of the top 30 wells based on highest initial producing rates were drilled in 2014.
- We plan to drill approximately 225 to 235 operated horizontal wells in 2015.

Forward-Looking Statement

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