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THE UNIVERSITY OF
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Energy & Communications Infrastructure
Growth**

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WORKING PAPER

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Involuntary Cotenants: Eminent Domain and Energy & Communications Infrastructure Growth

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Involuntary Cotenants: Eminent Domain and Energy and Communications Infrastructure Growth

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Federal and state governments' push for renewable electricity generation, rapidly expanding domestic natural gas and unconventional oil production, and the need to strengthen the United States' energy and telecommunications infrastructure against both natural disasters and terrorist attacks, mean that our national networks of transmission lines, pipelines, and telecommunications lines will expand considerably over the next few decades. Much growth is likely to involve the use of eminent domain because utilities often consider eminent domain to be a cheaper and easier alternative for utilities and governments than negotiating with potentially resistant, unhappy landowners for the acquisition of property. Unfortunately, state eminent domain laws are inadequate for coping with this growth in infrastructure, for protecting landowners' rights in the face of expanding utility easements, and for giving utilities inappropriate price signals.

Much attention in recent years has focused on the abuse of eminent domain by governments to benefit private interests by taking property rights under the guise of promoting economic development or addressing "blight", particularly in the aftermath of the Supreme Court's decision in *Kelo v. City of New London*.¹ We argue there is an equally important set of problems caused by inadequacies in state eminent domain laws. Specifically, the taking of easements for power lines, pipelines, and communications

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¹ See Andrew P. Morriss, *Symbol or Substance? An Empirical Assessment of State Responses to Kelo*, 17 S. CT. ECON. REV. 237 (2009); Ilya Somin, *The Limits of Backlash: Assessing the Political Response to Kelo*, 93 MINN. L. REV. 2100 (2009); Jonathan H. Adler & Ilya Somin, *The Green Costs of Kelo: Economic Development Takings & Environmental Protection*, 84 WASH. U. L. REV. 623 (2006).

lines – what we term “large infrastructure easements” (“LIEs”) – essentially creates an involuntary cotenancy between the landowner (the owner of the servient estate) and the utility (the owner of the LIE) because of the increased burdens the easements place on servient estates relative to more traditional easements for rights of way or utility distribution lines.² To a much greater extent than the property interests taken for roads, neighborhood distribution lines, or other more traditional takings, LIEs create an ongoing relationship between the easement holder and the landowner that is far more demanding than the relationship created when a fee estate is condemned. In these instances “the devil is in the details” of the easement – and the easement is written exclusively by the utility taking the LIE without the participation of the landowner or review by a court or other neutral third party. Infrastructure generally poses serious governance problems. Public entities have serious incentive problems in maintaining often-hidden, capital intensive projects, making “the problem of neglect ... pervasive.”³ The grant of eminent domain power to utilities was itself a sign of the political power of a powerful interest group.⁴ Basing the only check on the exercise of that power on price is problematic for a number of reasons. This is particularly so today as utilities were given that power at a time when they were much more heavily regulated.⁵

The absence of many of the protections the law uses to cope with the inevitable conflicts between those who share interests in the same property in LIEs created through eminent domain creates problems. For example, where multiple owners have voluntarily shared property ownership in a fee estate through one of the traditional forms of joint ownership – tenancy in common, joint tenancy with right of survivorship, or tenancy by the entirety – property law generally fences off many of their dealings and leaves these issues to the co-owners to resolve through *ex ante* negotiations or to work out *ex post*. However, property law provides a crucial unilateral exit mechanism for these co-owners in the form of partition, enabling any owner to escape a relationship that has become dysfunctional and to use the courts to equitably divide the property or the proceeds of a sale of the property. The shadow of these exit rights plays a key role in structuring the co-owners’ relationship.⁶ This enables Coasian bargaining in the creation and modification of easements. Since there are neither exit rights for landowners whose property is subject to a LIE or well developed legal principles for coping with conflicts between the LIE

² “Infrastructure” is “the structural assets of the built environment and its physical support networks” and is characterized by “capital intensity, high public investment by all levels of government, and criticality to the economy.” Neil S. Grigg, *INFRASTRUCTURE FINANCE: THE BUSINESS OF INFRASTRUCTURE FOR A SUSTAINABLE FUTURE* 5, 7 (2010).

³ Grigg, *supra* note 2, at 10.

⁴ Richard F. Hirsch, *POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRIC UTILITY SYSTEM* 27 (1999).

⁵ Hirsch, *supra* note 4, at 27 (“monopoly was only the most obvious benefit of regulation. Utilities also earned other special privileges, such as the right of eminent domain.”).

⁶ See Albert O. Hirschman, *EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES* 21 (1970) (“the exit option is widely held to be uniquely powerful: by inflicting revenue losses on delinquent management, exit is expected to induce that ‘wonderful concentration of the mind’ akin to the one Samuel Johnson attributed to the prospect of being hanged.”).

holder and the landowner, there is a problematic gap in the law that requires court intervention where a LIE is poorly defined *ex ante*.⁷

Landowners whose property is taken by a utility for a LIE are at a significant disadvantage under eminent domain law with respect to structuring their relationship compared to the other categories of landowners who are compelled to provide easements to others involuntarily. In some circumstances, courts can create easements by implication or necessity.⁸ When courts create such easements, they have broad equitable powers to shape the terms of the easement to minimize the harms to the burdened landowner while addressing the needs of the easement owner. The court proceeding serves as a substitute for the bargaining process, with a neutral decision maker making the final determination of the terms of the easement.

Because easements generally pose a long-term governance problems for the dominant and servient interest owners, when an easement is created in a voluntary transaction the parties have incentives to address those problems and the means to do so. The incentive stems from the easement's impact on the value of the properties involved. A well-crafted easement will increase the net value of the combined properties by more than a poorly-crafted one. The negotiations between the parties over the terms provide one means to do so; the law governing easements provides another. Since there are generally no negotiations over the creation of a LIE through eminent domain other than over price, getting the background legal principles right is particularly important in

⁷ Not surprisingly, many appellate opinions concerning disputes over easements end with a remand to the trial court for further proceedings to flesh out the exact parameters of the easement once the appellate court has settled the relevant legal principles governing the relationship. *See, e.g.*, *Graves v. Gerber*, 302 N.W.2d 717 (Neb. 1981). *Graves* concerned two neighbors with abutting driveways. Graves' house included an exterior step extending into his driveway which required vehicles to veer for a short distance onto Gerber's driveway while passing the step in order to reach Graves' garage. The parties' predecessors in interest had created an easement permitting this, which stated "a right of way over that portion of their property to the party of the second part, for said purposes of moving vehicles to and from the garage on the property of the party of the second part." 302 N.W.2d 717, 719. Graves and Gerber's relationship deteriorated – including disputes over whether Graves shoveled snow onto Gerber's driveway in clearing the easement, parking by one on the property of the other, noise from air conditioning units, and other matters – and Gerber erected a fence along the property line which prevented this and required Graves to have difficulties in getting to his driveway. The appeals court held that

The easement must be limited to the use as established in practice. Graves' vehicles must enter on his own driveway and remain there until it is necessary to drive onto the Gerber drive to safely pass the obstructions. The vehicles must then return to the Graves drive. This same path should also be followed in making exit to the street. The owners of the dominant tenement in removing snow from their own drive and from the portion of the drive subject to the easement shall pile none of it on the servient tenement. The servient tenement shall not be used for the parking of vehicles by the owners of the dominant tenement or their visitors.

302 N.W.2d 717, 720-21. It also remanded the case for the trial court to "view the premises to determine whether the removal of the fence south of the gap is required by the established use." *Id.* at 721.

⁸ Powell on Real Property §§34.07-34.10; 2 George W. Thompson, COMMENTARIES ON THE MODERN LAW OF REAL PROPERTY §330, 95 (1980).

coping with LIEs. Unfortunately, both eminent domain law and easement law fall short in this regard.

The existing academic literature on expanding LIEs is almost entirely written by proponents of renewable energy, whose main concern is making eminent domain use easier rather than fair treatment of landowners.⁹ There has thus been almost no attention paid to the day-to-day governance problems created by forcibly imposing LIEs on tens of thousands of landowners across the United States.

Currently, state eminent domain laws give sole discretion to the utility in drafting the easement. Accordingly, neither negotiation nor exit is available to landowners when a utility invokes eminent domain to take an LIE. Not only are landowners unable to structure the relationship with the safeguards servient estate owners might include in an easement created through negotiation (as landowners faced with eminent domain proceedings have little bargaining power and the utility can generally be compelled to adjust only the price term), but they are denied the safeguard of judicial crafting of the easement terms applicable in cases of other compulsory easements. Not surprisingly, the landowner is typically not only in an involuntary relationship with the utility but is often in an openly adversarial one. Further, landowners are generally at a significant bargaining disadvantage, as utilities are large firms with considerable political clout.¹⁰ “Giant utilities employ some of the most effective lobbyists, working on many fronts to maintain their monopolistic benefits” and spent over \$21 million in federal campaign contributions in 2002.¹¹ The result is that infrastructure projects create a set of relationships between landowners and utilities that will require repeated interactions on a wide range of issues

⁹ See, e.g., Alexandra B. Klass, *Takings and Transmission*, 91 N.C.L. REV. 1079, 1086 (2013) (“eminent domain authority for transmission lines has always been, and will likely remain, a key legal tool to facilitate the development of such lines.”). In addition, several commentators have argued that states build too few transmission lines because they undervalue the national benefits of the lines. Alexandra B. Klass & Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801, 1803-1804 (2012) (“in light of the current regulatory regime, which consists of small, highly devolved decisionmaking infrastructures, there are significant obstacles associated with creating large-scale systems that span many jurisdictions. Some of these challenges include (1) transmission siting and permitting structures that exist primarily at the state level; (2) lack of robust federal authority or regional coordinating authority to plan and site transmission infrastructure when states fail to approve projects as a result of citizen opposition, politics, or cost; and (3) difficulty in determining which electricity users should pay for new transmission lines, particularly where those lines need to be built in states with significant wind resources, small populations, and low electricity demand.”); Jim Rossi, *The Trojan Horse of Electric Power Transmission Line Siting Authority*, 39 ENVTL. L. 1015, 1048 (2009) (“State transmission siting statutes do not provide an adequate legal mechanism to ensure the consideration of regional benefits and, to the extent in-state benefits predominate as the driving factor for siting decisions, will stand as a significant barrier to planning and constructing new high-voltage transmission facilities to transport power from renewable sources.”).

¹⁰ Richard Munson, FROM EDISON TO ENRON: THE BUSINESS OF POWER AND WHAT IT MEANS FOR THE FUTURE OF ELECTRICITY 3 (2005) (noting that electric utilities have assets of over \$600 billion and annual sales over \$260 billion and are the largest industry in the United States).

¹¹ Munson, *supra* note 10, at 4. The utility industry was involved in political corruption from its start: “Early competition in the electricity industry ... involved bribing aldermen for the permits needed to string wires across or under city streets.” *Id.* at 22.

but deny the landowners the key tools the law provides in analogous situations for ensuring that the bargains reached are welfare enhancing rather than mere wealth transfers from landowners to utilities that accompany the creation of LIEs.

In this Article, we argue that eminent domain laws need to be reformed to address these problems. The simplest reform is to eliminate eminent domain from LIEs entirely, forcing utilities to negotiate easement terms in arms' length transactions and so help equalize the bargaining power between the utilities and landowners. Because the burdened landowners are a dispersed and unorganized interest group, while utilities have considerable political clout, this may be unobtainable through the political process in many states. Similarly, the even more potent "bootleggers and Baptists" coalition of utilities and environmental pressure groups backing expansion of transmission lines for renewable energy, if not natural gas or oil pipelines, mobilizes powerful interests behind maintaining the power. We therefore also suggest reforms that ameliorate some of the more significant problems without eliminating utilities' use of eminent domain entirely. For example, providing courts (and other third parties with roles in eminent domain proceedings) with the opportunity to alter the easement terms proposed by utilities for LIEs would serve as an important step toward solving many of the problems we describe. In addition, states and the federal government can take further steps to improving the LIE acquisition process by gathering and disseminating market data to and providing greater statutory guidance for valuation decisions. Part I sets out the basics of the coming expansion of the U.S. energy and telecommunications grids and the resulting increase in the use of eminent domain. Part II compares the property law framework utilized in other contexts for dealing with easements and covenants with how current eminent domain law treats these problems. Part III proposes a series of legislative solutions to remedy the problems identified.

I. The growing problem of large infrastructure easements

America's energy and telecommunications infrastructure will increase in coming decades. A critical part of this expansion will be the acquisition by electric, gas, and telecommunications utilities of easements for electric transmission lines, pipelines, and other infrastructure. Note that LIEs can be distinguished in several key ways from smaller-scale infrastructure easements ("SSIE") such as electric distribution or telecommunications lines or gas pipelines from a central distribution point to individual homes or businesses, the so-called "last mile" of the networks, which we discuss below.

This expansion of LIEs will occur for several reasons. First, federal and many state governments are promoting growth in renewable electricity production, primarily from wind and solar energy, through subsidies and mandates.¹² The best locations for

¹² See Lincoln Davies, *Tracing U.S. Renewable Energy Policy*, 43 ENV'TAL L. REPORTER NEWS & ANALYSIS 10320, 10325, 10327 (2013) (describing federal renewable policy as a "wide array of legal and regulatory measures, almost too many to document" and noting that 37 states and the District of Columbia have renewable portfolio standards requiring their utilities to include renewables, up from one state in

generating such power are often far from centers of electricity consumption.¹³ In addition, technical considerations often require network expansion to effectively add new power sources to existing grid infrastructure, including many miles of new high voltage lines.¹⁴ The existing transmission infrastructure “is a rickety antique ... Today’s high-voltage transmission lines were designed before planners ever imagined that enormous amounts of electricity would be sold across state lines, and, consequently, the wires are often

1993); Sanya Carleyolsen, *Tangled in the Wires: An Assessment of the Existing U.S. Renewable Energy Legal Framework*, 46 NAT. RESOURCES J. 759, 771-76 (2006). Some energy sector entrepreneurs argue for less reliance on the grid. For example, Thomas Casten has argued in favor of expanding the use of on-site generators as a means of increasing reliability and competition.

On-site generators, according to Casten, offer enormous advantages. First, they reduce the need for unpopular transmission lines. “Remove the ban on private wires that bypass distribution monopolies and the result will be fewer wires,” he says. “If industry met all future load growth with on-site power, the U.S. would not need any new transmission lines.”

Munson, *supra* note 10, at 136. Similarly, Schewe’s history of the grid notes that increasing use of cogeneration and smaller plants is leading to some reduction in long distance transport of electricity. Phillip F. Schewe, THE GRID 198 (2007) (“Why not just build more lines? Because they’re expensive to construct, politically painful to plan (‘Not in my backyard’), tricky to finance (in a volatile business with huge price swings), and difficult to regulate (conflicting state and federal statutes).”). Because distribution lines lose 10-20% of the power transmitted over them, a large scale grid requires more generation capacity than a smaller scale one. Resolving such issues is beyond the scope of our paper, but the issue highlights the interdependence of energy policy decisions and suggests that the scale of LIEs necessary will depend in part on how other issues are resolved.

¹³ Vaughn Nelson, *Wind Power*, in ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION 1-1, 1-1 (Leonard L. Grigsby, ed., 3rd ed. 2012) (“In general, windy areas are distant from load centers, which means that transmission is a problem for large-scale installation of wind farms.”); Ken Zweibel, et al., *Solar Grand Plan*, 298 SCI. AMER. 1, 1 (2005) (“To convert the country to solar power, huge tracts of land would have to be covered with photovoltaic panels and solar heating troughs. A direct-current (DC) transmission backbone would also have to be erected to send that energy efficiently across the nation.”); Math H.J. Bollen & Fainan Hassan, INTEGRATION OF DISTRIBUTED GENERATION IN THE POWER SYSTEM 86-87 (2011) (noting tendency of new power sources to be located away from consuming areas). The Public Utilities Regulatory Policy Act (PURPA) also added to this trend by authorizing the Federal Energy Regulatory Commission (FERC) to mandate interconnection of independent power producers to the grid. Hirsch describes how utilities failed to anticipate FERC’s aggressive use of this authority. Hirsch, *supra* note 4, at 89-117. The 1992 Energy Policy Act furthered this trend. *Id.* at 243-44.

¹⁴ See Matthew Slavin & Jason J. Zeller, *No Grid, No Gain: Untangling the Transmission Tie-Up*, Renewable Energy World (April 15, 2011) available at <http://www.renewableenergyworld.com/rea/news/article/2011/04/no-grid-no-gain-untangling-the-transmission-tie-up> (“one primary hurdle facing renewable developers stems from limitations to the existing transmission grid. Simply put, efforts to integrate renewable generation into the U.S. energy mix have frequently been stymied by the lack of available transmission facilities.”); Munson, *supra* note 10, at 138 (“Most utilities” respond to reliability problems “by trying to construct more centralized power plants, more transmission and distribution lines, and perhaps banks of batteries.”). High voltage transmission lines are more efficient than low voltage lines because increasing the voltage allows reductions in the current for the same amount of power (as Power = Voltage x Current) and because transport losses are a function of the square of current. Steven W. Blume, ELECTRIC POWER SYSTEM BASICS FOR THE NONELECTRICAL PROFESSIONAL 48-49 (2007).

overloaded and subject to blackouts.”¹⁵ Reliability becomes increasingly important as the network expands, because failures affect larger numbers of people.¹⁶ Efforts to boost competition amongst utilities also sometimes lead to increased demand for LIEs.¹⁷ For example, the federal Energy Transmission Act of 2005 authorized the use of eminent domain for “national interest electric transmission corridors.”¹⁸

Second, market forces are also driving changes to energy infrastructure. Fracking has unleashed a natural gas revolution,¹⁹ Not only has this led to greater use of natural gas to generate electricity and industrial uses, but expanding the network of natural gas pipelines into areas with weak gas infrastructure (e.g. New England) will allow shifting industrial and residential users off of fuel oil.²⁰ Just a few years ago, the United States

¹⁵ Munson, *supra* note 10, at 4. See also David E. Nye, WHEN THE LIGHTS WENT OUT: A HISTORY OF BLACKOUTS IN AMERICA 31 (2010) (“In 1960 [the grid] was the most advanced machine of its kind, and half of its components were less than 10 years old. But by 2005 the grid was a patchwork of old and new elements that badly needed an overhaul.”); F. Michael Maloof, A NATION FORESAKEN: EMP: THE ESCALATING THREAT OF AN AMERICAN CATASTROPHE 25 (2013) (“the grid is effectively maxed ... It is far less able to compensate for any potential difficulties than in the past.”); Schewe, *supra* note __, at 244 (“One of the most urgent problems is crowdedness in long-distance interstate power transmission. Everyone recognizes that there isn’t enough superhighway to send all the power that needs sending, at least not enough if you want to have some standby emergency-carrying ability...”); National Research Council, Committee on Enhancing the Robustness and Resilience of Future Electrical Transmission and Distribution in the United States to Terrorist Attack, TERRORISM AND THE ELECTRIC POWER DELIVERY SYSTEM 30 (2013) (“The transmission system is much more stressed, and thus more vulnerable than it was a few decades ago.”). Technological change may also reduce the need for an expanded grid by increasing the capacity of the existing transmission network.

¹⁶ Nye, *supra* note 15, at 27 (“As electricity wove networks together, power failures became less and less tolerable, because they shut down the entire infrastructure.”).

¹⁷ See, e.g., Nye, *supra* note 15, at 156 (citing a utility executive for the proposition that “insufficient transmission [capacity] had protected local power markets, inhibited competition, restricted customer choice, and threatened the reliability of the system.”); 158 (explaining lack of investment in transmission capacity leading up to deregulation of electric utilities).

¹⁸ 42 U.S.C. §19, 824. See also Debbie Swanstrom & Meredith M. Jolivert, *DOE Transmission Corridor Designation & FERC Backstop Siting Authority: Has the Energy Policy Act of 2005 Succeeded in Stimulating the Development of New Transmission Facilities?* 30 Energy L. J. 415, 452-54 (2009) (describing process).

¹⁹ Robert W. Kolb, THE NATURAL GAS REVOLUTION 64 (2014) (noting that after declining and static natural gas reserves from 1970 to 2000, reserves have grown by 90% in a decade). Pipeline construction was “the key step” in making use of natural gas during the twentieth century. MacAvoy, *supra* note __, at 3. Deregulation of natural gas sales played an important role in launching this revolution. Under the pre-deregulation regime, “Wellhead price controls discouraged exploration and gradually cut down the gas reserves available for interstate sale by pipelines to customers. As Stephen Breyer and Paul MacAvoy pointed out, the failure to develop new reserves early in the 1960s was already curtailing production by the end of the decade.” Christopher J. Castenada & Clarence M. Smith, GAS PIPELINES AND THE EMERGENCE OF AMERICA’S REGULATORY STATE: A HISTORY OF PANHANDLE EASTERN CORPORATION, 1928-1993 184 (1996). See also MacAvoy, *supra*, at 10 (“The [Federal Power C]ommission’s start-up effort, from the 1940s to the 1960s, centered on constraining transport prices for service and thus profits of the pipeline companies.”).

²⁰ See, e.g., Tux Turkel, *Maine poised for historic transition to natural gas*, MAINE SUNDAY TELEGRAM (Sept. 29, 2013) available at <http://www.pressherald.com/news/maine-poised-for-historic-transition-to-natural-gas-2013-05-26.html?pagenum=full>; Lori Valigra, *Will natural gas alleviate Maine’s energy woes?*, MaineBiz (Sept. 2, 2013) available at

worried that it was running out of natural gas.²¹ In response, liquefied natural gas (LNG) terminals were built to allow the import of natural gas.²² Some of these terminals are now being converted to export and new export facilities are also being planned.²³ Moreover, cheap natural gas is encouraging the conversion of fleet vehicles to burn LNG and compressed natural gas (CNG).²⁴ In addition, states such as California offer incentives to individuals to use CNG personal vehicles.²⁵ These trends will require increasing pipeline capacity to ensure that sufficient supplies are available at a network of refueling stations.²⁶

<http://www.mainebiz.biz/article/20130902/CURRENTEDITION/308299998/will-natural-gas-alleviate-maine's-energy-woes>; John Kemp, *Connecticut contemplates connecting more to gas: Kemp*, REUTERS (Oct. 19, 2012) available at <http://www.reuters.com/article/2012/10/19/us-column-kemp-connecticut-gas-idUSBRE89IOPT20121019>; *Oil-fired boiler users converting to natural gas*, Plant Engineering (Aug. 31, 2012) available at <http://www.plantengineering.com/single-article/oil-fired-boiler-users-converting-to-natural-gas/82e47ea9b74df17d60328adee24b241b.html>; Jason Notte, *Demand grows in N.E. for natural gas heat*, Boston Globe (Apr. 25, 2012) available at http://www.boston.com/business/articles/2012/04/25/demand_grows_in_ne_for_natural_gas_heat/; Schewe, *supra* note __, at 194-95 (describing growth in demand for natural gas for electric generation).

²¹ See, e.g., Donald L. Barlett & James B. Steele, *Why U.S. Is Running Out of Gas*, Time (July 13, 2000) available at <http://content.time.com/time/magazine/article/0,9171,464406,00.html> (quoting Federal Reserve chair Alan Greenspan that “We are not apt to return to earlier periods of relative abundance and low prices [for natural gas] anytime soon.”).

²² Kolb, *supra* note 19, at 79; Michael D. Tusiani & Gordon Shearer, *LNG: A NONTECHNICAL GUIDE* 33-36 (2007).

²³ Kolb, *supra* note 19, at 88-89. The complete absence of discussion of U.S. exports in Tusiani and Shearer’s 2007 guide is a testament to the rapidity of the change caused by the fracking revolution.

²⁴ Kolb, *supra* note 19, at 91.

²⁵ See California Air Resources Board, *Compressed Natural Gas* available at http://www.driveclean.ca.gov/Search_and_Explore/Technologies_and_Fuel_Types/Compressed_Natural_Gas.php (“There are typically some very enticing incentives for these vehicles. For instance, they are still eligible for HOV stickers.”).

²⁶ See ICF International, *Natural Gas Pipeline and Storage Infrastructure Projections Through 2030* at 3 (Oct. 20, 2009) available at <http://www.ingaa.org/File.aspx?id=10509> (predicting need for 28,900 to 61,900 miles of natural gas pipeline by 2030 in U.S. and Canada); Rodney White, *CNG Startups target end-users far from pipelines*, NG Advantage (August 23, 2013) available at <http://www.ngadvantage.com/news/in-the-news/cng-startups-target-end-users-far-pipelines> (describing challenges of delivering natural gas to customers not connected to pipelines). The growth of natural gas is also causing expanded investment in fueling facilities for the trucking market. Peter Kelly-Detwiler, “Acceleration of the Natural Gas Highway,” *Forbes* (Nov. 11, 2012) available at <http://www.forbes.com/sites/peterdetwiler/2012/11/13/acceleration-of-the-natural-gas-highway/>; Jim Polson, “GE, Chesapeake to Develop Natural Gas Infrastructure,” *Bloomberg* (March 7, 2012) available at <http://www.bloomberg.com/news/2012-03-07/ge-chesapeake-to-develop-natural-gas-car-fueling-service-in-u-s.html>; “Natural Gas Filling Stations: Few and Far Between,” *WSJ* (May 23, 2012) available at <http://online.wsj.com/article/SB10001424052702304707604577422252404819664.html>; Michelle Jarboe McFee, “TravelCenters firms up Shell deal for natural gas fueling stops across the United States,” *Plain Dealer* (April 16, 2013) available at http://www.cleveland.com/business/index.ssf/2013/04/travelcenters_firms_up_shell_d.html. The development of a national network of natural gas pipelines is a comparatively recent development. As recently as 1930, there was only a fragmentary pipeline network, with most gas needs met via synthetic gas plants that converted coal into coal gas. Castenada & Smith, *supra* note __, at 19. By 1936, the network had expanded dramatically so that almost 40% of gas crossed state lines in pipelines. *Id.* at 71.

Further, the discovery of vast quantities of unconventional oil reserves in areas remote from existing refineries has created a need for expansion of the crude oil and refined product pipeline networks.²⁷ The Keystone XL pipeline is a dramatic example of this demand for pipeline expansion but many more miles of other pipelines will be needed to bring these reserves to refineries.²⁸ The demand for expansion of the pipeline network is also driven by concerns that the current system of rail and truck transportation is both more dangerous and more costly than pipelines.²⁹

Similarly, demand for communications bandwidth continues to grow, requiring continuing expansion of the telecommunications network. Forecasts of internet traffic now refer to the “zettabyte era,” with a zettabyte being one billion terabytes.³⁰ The market for fiber optic cable and connectors is forecast to grow by 50 per cent per year until 2017, although technological advances are also increasing existing networks’ capacity.³¹

Third, our existing energy and telecommunications networks are fragile and require infrastructure investment to protect them against a variety of threats.³² The

²⁷ See Kristen Hays, *Oil pipeline crunch shifts U.S. shale race from drillbits to valves*, Reuters (July 30, 2012) available at <http://www.reuters.com/article/2012/07/30/us-oil-usa-pipelines-idUSBRE86T02820120730>; *Crude Oil Pipeline Build Out More Than Just Keystone XL*, AAM Thought Leadership (Third Quarter 2012) available at <http://www.aamcompany.com/wp-content/uploads/AAM-Thought-Leadership-Crude-Oil-Build-Out-More-Than-Just-Keystone-XL-11.28.12.pdf>.

²⁸ Diana Furchtgott-Roth, *Pipelines are Safest for Transportation of Oil and Gas*, Manhattan Institute Issue Brief No. 23 (June 2013) available at http://www.manhattan-institute.org/html/ib_23.htm#.Ukj10xaoJbw (“Rising oil and natural gas production is outpacing the transportation capacity of our inadequate national pipeline infrastructure.”). The existing network of long distance pipelines dates only to the 1930s and really expanded during World War II. John L. Kennedy, *OIL AND GAS PIPELINE FUNDAMENTALS* 3 (1984).

²⁹ Furchtgott-Roth, *supra* note 28 (“pipeline transportation is safer than transportation by road, rail, or barge, as measured by incidents, injuries, and fatalities—even though more road and rail incidents go unreported.”); Edward McAllister, *Train carrying crude oil derails, cars ablaze in Alabama*, REUTERS (Nov. 8, 2013) available at <http://www.reuters.com/article/2013/11/08/us-crude-train-explosion-idUSBRE9A70Q920131108> (describing derailment of train carrying N.D. oil to Alabama); *Canadian hamlet evacuated after oil train crash causes huge blaze*, THE GUARDIAN (19 October 2013) available at <http://www.theguardian.com/world/2013/oct/19/canada-rail-fire-derailment> (describing derailment of train carrying crude oil and liquefied petroleum gas from Edmonton to Vancouver); *Quebec oil train disaster: 24 bodies recovered so far*, The Guardian (12 July 2013) available at <http://www.theguardian.com/world/2013/jul/12/quebec-oil-train-crash-disaster-24-bodies> (describing oil train derailment that killed fifty).

³⁰ Cisco, *The Zettabyte Era*, available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/VNI_Hyperconnectivity_WP.html (forecasting that “In 2015, global IP traffic will reach 1.0 zettabytes per year or 83.8 exabytes per month, and by 2017, global IP traffic will reach 1.4 zettabytes per year or 120.6 exabytes per month” while “IP traffic in North America will reach 40.7 exabytes per month by 2017”).

³¹ Valerie C. Coffey, *Forecast for Fiber Optics; Strong Growth through 2017*, Optics & Photonics News (Aug. 9, 2013) available at http://www.osa-opn.org/home/industry/2013/august/forecasts_for_fiber_optics_strong_growth_through_2/#.UnK38ZEjtG; Anton Troianovski, *Optical Delusion? Fiber Booms Again, Despite Bust*, W.S.J. (April 4, 2012) available at <http://online.wsj.com/news/articles/SB40001424052702303863404577285260615058538>

³² See John G. Kappenman, *Geomagnetic Disturbances and Impacts upon Power System Operation*, in *ELECTRIC POWER GENERATION*, *supra* note 13, at 17-1 (“Recent analysis carried out for the EMP

August 14, 2003 blackout in the Northeast – caused by a constellation of problems occurring at the same time – revealed significant weaknesses in the power grid.³³ Since September 11, 2001, there has been increased concern over the vulnerability of the U.S. electrical and telecommunications grid to terrorists.³⁴

For such reasons, the coming decades are likely to see an expansion of LIEs as utilities attempt to cope with the demands of renewable energy sources, new sources of natural gas and petroleum, increasing demand for telecommunications bandwidth, and the need to protect existing networks against natural disasters and terrorists. Utilities with the power of eminent domain are likely to use it because eminent domain provides them with

Commission, Federal Emergency Management Agency (FEMA), Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC), and the U.S. National Academy of Sciences has determined that severe geomagnetic storms (i.e. space weather caused by solar activity) has the potential to cause crippling and long-duration damage to the North American electric power grid or any exposed power grid through the world. The primary impact to the power grid is the risk of widespread permanent damage to high-voltage transformers and other power delivery and production assets, which are key, scarce, and difficult to replace, of the high-voltage power network.”); Maloof, *supra* note 15, at 35 (“The entire petroleum and natural gas delivery system relies on SCADA [supervisory control and data acquisition systems] and is thus susceptible to dangerous malfunctions that could lead to massive fires and explosions as a result of an EMP event.”). As Kappenman notes, the problem is severe because the footprint of a space weather event can “extend across a continent.” *Id.* at 17-2. Our current national grid magnifies the problem by serving as a potential “large antenna to these storms.” *Id.* at 17-3. Since these events are “inherently instantaneous”, there is little time to react to them when they occur. *Id.* In the March 13, 1989 Quebec blackout, the grid went from normal operation to province-wide blackout in 92 seconds as the result of seven near-simultaneous equipment failures. *Id.* As Kappenman explains, as our power transmission network

has grown in size, it has also grown in complexity and sets in place a compounding of risks that are posed to the power grid infrastructures for GIC [geomagnetically induced current] events. Some of the more important changes in technology base that can increase impacts from GIC events include higher design voltages, changes in transformer design, and other related apparatus. The operating levels of high-voltage networks have increased from the 100-200kV thresholds of the 1950s to 400-765kV levels of present-day networks. With this increase in operating voltages, the average per unit length circuit resistance has decreased while the average length of the grid circuit increases. In addition, power grids are designed to be tightly inter-connected networks, which present a complex circuit that is continental in size. These interrelated design factors have acted to substantially increase the levels of GIC that are possible in modern power networks.

Id. at 17-13.

³³ U.S. House of Representatives, Committee on Energy and Commerce, *Blackout 2003: How Did It Happen and Why?* (2010); Nye, *supra* note 15, at 161 (attributing 2003 blackout to “an under-regulated utility system relying on outmoded monitoring equipment and inadequate transmission lines to meet rising demand.”); Munson, *supra* note 10, at 147 (“The traditional power industry’s knee-jerk reaction to the 2003 blackout was: ‘Expand the grid.’”).

³⁴ National Research Council, Committee on Enhancing the Robustness and Resilience of Future Electrical Transmission and Distribution in the United States to Terrorist Attack, *TERRORISM AND THE ELECTRIC POWER DELIVERY SYSTEM* (2013); Grigg, *supra* note 2, at 307-08; Nye, *supra* note 15, at 180-199; Maloof, *supra* note 15, at 108 (noting that much of the U.S. military’s domestic operations rely on civilian energy and telecommunications grids).

significant advantages in terms of cost and easement language.³⁵ LIEs present unique problems for the legal system. They are distinguishable from SSIEs in three important ways. First, SSIEs provide benefits to the servient estate (e.g. electrical service, phone and cable lines, natural gas service) while LIEs typically provide no direct benefits to the servient estate.³⁶ Second, SSIEs generally require less intrusion onto the servient estate for inspection and maintenance. For example, a typical utility distribution line runs along a property border and is accessible from the adjacent street or alley. Other than tree trimming in the easement, utilities and property owners rarely have any interaction, much less conflicts, in contrast to the industrial sized use and maintenance needs of LIEs. Third, SSIEs involve much smaller scale infrastructure, reducing the potential for conflict between the servient estate holder and the utility.³⁷ Finally, SSIEs are often an integral part of the development of a tract and welcomed by landowners desiring the services the SSIE brings.

³⁵ These advantages are well-documented in the literature on the abuse of eminent domain for economic development projects. *See, e.g.,* Ilya Somin, *Overcoming Poletown: County of Wayne v. Hathcock, Economic Development Takings, and the Future of Public Use*, 2004 MICH. ST. L. REV. 1005, 1022 (2004) (“economic development takings are especially vulnerable” to rent-seeking). Just as in the economic development context, eminent domain allows utilities to acquire property rights at a lower cost than market transactions would.

³⁶ This appears to factor into courts’ analyses of disputes over SSIEs. In a dispute over the addition of cable television lines to existing utility easements, the Missouri Court of Appeals found for the cable company, finding that

The unsurprising fact that the drafters of the 1922 easements did not envision cable television does not mandate the narrow interpretation of the purposes of the conveyance of rights and privileges urged by plaintiffs. The expressed intention of the predecessors of plaintiff trustees was to obtain for the homeowners in the subdivision the benefits of electric power and telephonic communications. Scientific and technological progress over the ensuing years have added an unforeseen dimension to such contemplated benefits, the transmission by electric impulse of visual and audio communication over coaxial cable. It is an inescapable conclusion that the intention of plaintiffs’ predecessors was the acquisition and continued maintenance of available means of bringing electrical power and communication into the homes of the subdivision. Clearly, it is in the public interest to use the facilities already installed for the purpose of carrying out this intention to provide the most economically feasible and least environmentally damaging vehicle for installing cable systems.

Henley v. Continental Cablevision of St. Louis County, Inc., 692 S.W.2d 825, 829 (Mo.App. 1985). Moreover, the extension of utilities into existing neighborhoods provided landowners with a “highly attractive and increasingly affordable” service. *Schewe, supra* note __, at 71.

³⁷ Growing criticism of utility infrastructure from environmental pressure groups from the 1960s onward has made expansions of LIEs controversial. “Blocking [the] Storm King [pumped hydroelectric storage facility in New York in the 1960s] was seen by some as a pivotal step in the evolution of the environmental movement. The critics who had found their voice and the appropriate method for standing up to the giant corporation would hereafter be a regular part of the culture of electricity, whether it concerned the siting of transmission lines, the release of sulfur into the sky from a smokestack, the killing of fish by heated water returning to a river from a power plant, or the falling of coal particles into lungs and onto property.” *Schewe, supra* note __, at 161.

LIEs are – as the name suggests – large. The U.S. natural gas pipeline network is 278,000 miles long;³⁸ the oil trunk line network is 55,000 miles long with another 95,000 miles of refined product pipelines;³⁹ the electrical transmission network has more than 200,000 miles of high voltage lines;⁴⁰ and our fiber optic cable network is extensive and likely to grow.⁴¹ Their terms therefore affect tens of thousands of landowners across the country, and a single project requiring LIEs may stretch across multiple jurisdictional boundaries.

Further, LIEs are critical to the integrity of our nation’s infrastructure. Modern society depends on reliable telecommunications and energy delivery. The chaos that followed the 2003 blackout in the Midwest and Northeast, which was partially due to the network’s lack of redundancy following a small-scale outage in Ohio, illustrates this.⁴²

Faced with important readjustments of legal rights among numerous property owners brought on by the influx of LIEs, the legal system should respond with innovative ways to better protect landowners while allowing creation of needed infrastructure. Eminent domain laws are outdated and fail to recognize that LIEs result in a continuing relationship between the utility and the landowner akin to an imposed cotenancy. Therefore, the current system neither provides appropriate opportunities for input into the terms of the LIEs from landowners nor adequate compensation for their losses when utilities have the power of eminent domain and so can avoid negotiating with landowners. The good news is that these problems are relatively straightforward to fix using traditional legal measures.

II. The Legal Framework

Large-scale infrastructure of the type involved in a typical LIE creates a different relationship between the LIE-holder and the servient estate owner present between the property owners in other easements. In this section we discuss how the demands made by this infrastructure on the property owners fits poorly within the current approach to eminent domain and easements.

A. Easement & non-easement eminent domain

³⁸ *Overview – Natural Gas Pipelines*, Pipeline 101 available at <http://www.pipeline101.com/overview/natgas-pl.html>

³⁹ *Overview*, Pipeline 101 available at <http://www.pipeline101.com/overview/energy-pl.html>

⁴⁰ *Transmission*, Edison Electric Institute, available at <http://www.eei.org/issuesandpolicy/transmission/Pages/default.aspx>.

⁴¹ See FCC, National Broadband Plan xiv-xv (2010) available at <http://download.broadband.gov/plan/national-broadband-plan-executive-summary.pdf> (describing goals of expanding broadband access).

⁴² Munson, *supra* note 10, at 126-128. Munson notes that “[t]he 2003 blackout demonstrated the grid’s complexity ... and vulnerability.” *Id.* at 128.

In many eminent domain cases,⁴³ the public entity acquires full (fee) title to land needed for the project. This is often justified as necessary to avoid holdout problems: if Texas wishes to build a road from Lubbock to Austin, its engineers determine where the optimal road location is (subject to political input), and the state then forces property owners along the route to sell it sufficient land to construct the road.⁴⁴ If the parties cannot agree on the price, the law provides a procedure to determine “fair” compensation.⁴⁵ Proponents of eminent domain authority contend that if the state had to negotiate with each landowner along the route, bilateral monopoly problems would exist in which each landowner attempts to appropriate the surplus created by the project by holding out to be the final seller.⁴⁶ Critics have argued that this overstates the problem, noting that there are generally alternative locations for much infrastructure that enable public authorities to avoid holdout problems⁴⁷ and that the spillover benefits of many infrastructure projects make many landowners welcome routing across their land.⁴⁸ Nonetheless, the key is that once title to the land for the road is taken by the state and the state’s check to the landowner clears, there are almost no issues on which the state and landowner continue to interact that are different from the state’s interaction with others. In other words, the former owner of the site of a road or school taken by eminent domain does not retain a connection with the property that was taken.

By contrast, in a LIE, the utility and landowner are in an ongoing relationship. The LIE significantly constrains the landowner’s use of the servient estate. For example, range management is significantly impacted by the presence of a LIE in ways that inhibit the landowner using standard methods of weed and brush control. This is a serious problem. For example, Florida estimates that weeds in pastures and rangeland generally

⁴³ Infrastructure takings are those done to build utility transmission lines and similar structures. We therefore exclude *Kelo*-type takings from the definition of infrastructure takings (although the property taken in that case was “mysteriously” for “park support”). *Kelo v City of New London*, 545 U.S. 469 (2005) (O’Connor, J., dissenting). There is a problem with eminent domain abuse in *Kelo*-type circumstances (although opinions differ about the extent), but it is a conceptually different problem since the paradigmatic *Kelo*-type taking is simply redistributing property from A to B. A’s complaint is not that A is forced into a continuing relationship with B but that A has lost her property to B.

⁴⁴ Of course, there might be political issues involved in the road’s location as well. However, we set those aside here.

⁴⁵ Tex. Prop. Code Ann. §§ 21.014-21.018 (2013).

⁴⁶ See, e.g., Abraham Bell, *Private Takings*, 76 U. CHI. L. REV. 517, 530-31 (2009) (“Strategic behavior poses the central barrier to successful negotiations overcome by eminent domain. Such behavior includes the closely related problems of holdouts, bilateral monopoly, and asymmetric information.”).

⁴⁷ Bruce L. Benson, *The Mythology of Holdout as Justification for Eminent Domain and the Public Provision of Roads*, 10 INDEPENDENT REV 165, 170-71 (2005). See also John A. Lovett, *A Bend in the Road: Easement Relocation and Pliability in the New Restatement (Third) of Property: Servitudes*, 38 CONN. L. REV. 1, 15-16 (2005) (describing problems with allowing substitution of takings (as liability rules) for negotiated transactions (as property rules) in easement relocation cases)..

⁴⁸ Frank I. Michelman, *Property, Utility and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law*, 80 HARV. L. REV. 1165, 1223 (1967) (suggesting the compensation requirement be relaxed “when there are visible reciprocities of burden and benefit, or when burdens similar to that for which compensation is denied are concomitantly imposed on many other people (indicating that settlement costs are high and that those sustaining the burden are probably incurring relatively small net losses--else, being many, they probably could have been mobilized to deflect the measure which burdens them)”).

cost its ranchers more than \$180 million annually.⁴⁹ Across the nation, noxious weeds cost ranchers more than all other pests combined.⁵⁰ The impacts include “interfering with grazing practices, lowering yield and quality of forage, increasing costs of managing and producing livestock, slowing animal weight gain, reducing the quality of meat, milk, wool, and hides, and poisoning livestock. In addition, infestations can reduce recreational land values and the spiny species can cause human health problems.”⁵¹ Additionally, “weed infestations can reduce plant diversity, threaten rare and endangered species, reduce wildlife habitat and forage, alter fire frequency, increase erosion, and deplete soil moisture and nutrient levels.”⁵²

The presence of a LIE restricts ranchers’ ability to engage in weed control through controlled burns, an important and widely-used technique.⁵³ Moreover, as the utility brings equipment regularly on to the LIE for purposes of inspection and service, ranchers are dependent on the utility’s compliance with burdensome weed control measures concerning vehicles. To see how burdensome these measures are, consider that the Department of Defense and USDA require the use of commercial wash units for vehicles going off-road on different federal sites.⁵⁴ If this is how government agencies treat their own land, why are private land owners unable to insist on similar comprehensive protection? Where utility crews work across broad territories, the

⁴⁹ B. A. Sellers & J.A. Ferrell, *Weed Management in Pastures and Rangeland – 2013*, Univ. of Florida IFAS Extension SS-AGR-08 available at <http://edis.ifas.ufl.edu/pdf/FILES/WG/WG00600.pdf>.

⁵⁰ Joseph M. Ditomaso, *Invasive Weeds in Rangeland: Species, Impacts, and Management*, 48 WEED SCI. 255, 260 (2000). The federal government has designated 112 noxious weeds and state governments have designated many more. See Federal Noxious Weeds, USDA Natural Resources Conservation Service available at <http://plants.usda.gov/java/noxious?rptType=Federal>. For a typical best practices example, see Greater Yellowstone Coordinating Committee-Terrestrial Invasive Species Subcommittee, *Best Management Practices for Controlling the Spread of Noxious Weeds*, available at http://www.weedcenter.org/mrwc/docs/GYCC_final%20ER.pdf

⁵¹ Ditomaso, *Invasive Weeds in Rangeland*, *supra* note __, at 260.

⁵² Ditomaso, *supra* note __, at 260.

⁵³ See Larry D. White & C. Wayne Hanselka, *Prescribed Range Burning in Texas*, Texas A&M University, available at http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0196.pdf; Lorie Woodward Cantu, *Controlled Burn: Focus Group Helps County Leaders Understand Controlled Burns*, THE CATTLEMAN (Feb. 2011) available at <http://thecattlemangazine.com/archives/2011/02/controlled-burn-Feb2011.html> (“Controlled burning can: help control unwanted plants such as Ashe juniper and eastern red cedar; rearrange plant structure for wildlife; improve forage quality for animals; encourage nutrient recycling; increase carbon sequestration in the long term because of improved plant community vigor and health.”).

⁵⁴ See Kimberley Taylor, et al., *Washing Vehicles to Prevent Weed Seed Dispersal*, Montana Extension Service Guide available at <http://msuextension.org/publications/AgandNaturalResources/MT201106AG.pdf>. This is not a trivial undertaking. The Montana Extension Service describes the process as follows:

Commercial vehicle wash units typically clean mud and debris from vehicles using undercarriage washers and high-pressure hand sprayers. ... The wash water is then subjected to an extended filtration and settling process, aimed at removing waste (sediment and other large particles) from the water so that it can either be reused for future washes or discarded.

potential for spreading noxious weeds and other contaminants is large.⁵⁵ Note that these problems would not be addressed where a rangeland parcel was burdened by an easement allowing a neighboring parcel access to a road as a result of an agreement between neighbors. Not only would the neighbors be able to negotiate issues relating to range management in establishing the easement but their interests would be in relative harmony: both would be interested in controlling invasive weed species to protect their properties. By contrast, the utility owning the LIE has little interest in controlling invasive species, except those that threaten their lines (kudzu in the Southeastern United States being a prominent example).⁵⁶

Moreover, LIEs have a significant impact on the long-term development potential of the burdened property. Consider a parcel of unimproved farmland or rangeland. Its current use yields a revenue stream from its agricultural production and possible recreational uses (e.g. hunting leases). But it may also have future potential to be subdivided into smaller parcels suitable for vacation homes. In the western portion of the Texas hill country, for example, an 80-acre parcel can support a cow-calf pair annually. But it could also serve as a recreational site suitable for a residence. Once a LIE is established, the recreational use is either no longer available or has been reduced in value. The impact may appear in both price reduction and increased marketing time. Thus, the landowner has sustained the real loss of potentially converting a portion of the property to recreational use. Since LIEs often parallel roads, they are often imposed on the portions of the property most easily converted to recreational uses. This represents a significant loss for the rancher or farmer. This is not just a pricing issue, since management of the LIE affects the development potential of the remainder of the parcel. In a voluntary creation of a LIE, the terms of the LIE would be structured to maximize the joint surplus. When a utility can unilaterally impose terms, it is unlikely to value the joint surplus unless the development loss can be quantified at the time of the taking.

There are multiple dimensions on which the utility owning an LIE can negatively affect the value of property. The location of a LIE across a parcel can have a significant impact on its future development potential: an easement along one border is quite different from an easement through the center of a property.⁵⁷ The use of different utility structures – monopoles rather than lattice towers, for example – affects the aesthetics of

⁵⁵ Id. at 1 (“once seeds become attached to a vehicle, they can travel for hundreds of miles under dry conditions before falling off.”).

⁵⁶ See William Atkinson, *Taming the Vines*, 69(4) PUBLIC POWER (June 2011) available at <http://www.publicpower.org/Media/magazine/ArticleDetail.cfm?ItemNumber=32120> (describing problems caused by kudzu and some other invasive species for electric utilities). See also Green, et al., *supra* note __, at 12-20 (describing regulatory requirements for vegetation management). Even if the utility cares about an invasive species like kudzu, its crews may not and so there is a serious principal-agent issue even for the subset of invasive species that might have an impact on the utility’s use of the easement. Morriss’ in-laws’ and their neighbors’ experience with LCRA’s failure to remove metal trash from the easement (which the utility promised to do) across their property illustrates this principal-agent problem.

⁵⁷ See, e.g., *Arkansas Valley Electric Cooperative Corporation v. Brinks*, 400 S.W.2d 278 (Ark. 1966) (dispute over location of easement within property).

the LIE and so the value of the property.⁵⁸ The utility's management practices also have an impact. For example, utilities often clear cut the entire easement. In the case of Morriss' relatives' ranch, this resulted in the loss of over 1,000 live oak trees greater than 2 inches in diameter on the three miles of 120' wide clear-cut easement across the property.

When the parties negotiate the terms of the LIE, the landowner can seek accommodations that mitigate these impacts and the utility can offer different price-term combinations to landowners with different preferences. Under eminent domain systems that give the utility the unilateral right to determine the terms of the easement and leave only the price term for third-party resolution, this bargaining process does not occur.

State eminent domain laws as a group largely date to the mid-twentieth century.⁵⁹ Despite a recent flurry of reforms aimed at stopping *Kelo*-type abuses, the basic structure of the statutes remain unchanged by those reforms, which were largely aimed at removing or curbing eminent domain powers to take "blighted" properties or to promote economic development.⁶⁰ For "normal" takings, our review of state statutes shows that 41 states⁶¹ provide for a jury trial on damages, 29 allow 'quick takes' in at least some circumstances before a court-supervised finding of damages is reached, 25 require the taker to negotiate with the landowner, 23 relatively frequently shift litigation costs (including attorneys fees) for other than abandoned or invalidated takings,⁶² 18 require use of a commission or other body before a trial on damages, and 14 require the taker to procure appraisals before negotiating or, if requested by the landowner, before filing a condemnation petition. In general, it appears there was a wave of eminent domain reforms starting in the 1970s that added or restored jury trial rights and added cost shifting provisions to state statutes. Together with the post-*Kelo* reforms after 2005, the 1970's reforms were the last time there were major changes outside of individual states. However, much has changed with respect to LIEs since the 1940's and 1970's.⁶³ Not only have networks vastly expanded, but public attitudes toward energy and

⁵⁸ George C. Karady, *Environmental Impact of Transmission Lines*, in ELECTRIC POWER GENERATION, *supra* note 13, at 20-1, 20-3 (describing monopoles as "less disturbing and aesthetically more pleasing"). Monopoles can be used for non-extra high voltage lines. George G. Karady, *Concept of Energy Transmission and Distribution*, in ELECTRIC POWER GENERATION, *supra* note 13, at 9-1, 9-6.

⁵⁹ We had a research assistant compile a table of changes to state eminent domain laws from World War II to the present. The discussion in this paragraph is based on his work.

⁶⁰ Andrew P. Morriss, *Symbol or Substance? An Empirical Assessment of State Responses to Kelo*, S. CT. ECON. REV. 237 (2009).

⁶¹ We include the District of Columbia in the list of states.

⁶² State statutes are all over the map on this issue, so others might classify the statutes slightly differently. We are confident that any observer would put the range between 20 and 30.

⁶³ Technical progress in the 1940s and 1950s "allowed higher voltages of electricity to be transmitted over longer distances." Munson, *supra* note 10, at 77. In addition, "the system of utility regulation [before deregulation] encouraged expansion. Because a power company's profits rose with the size of its investments, more power plants and transmission lines translated into larger returns." *Id.* at 79. *See also* Andrew P. Morriss, *Implications of Second-Best Theory for Administrative and Regulatory Law: A Case Study of Public Utility Regulation*, 73 CHICAGO-KENT L. REV. 136, 149-156 (1998) (discussing rate of return regulation).

telecommunications infrastructure have changed as population outside cities has expanded and valuation of land unmarred by infrastructure increased.⁶⁴

In short, we contend there is a significant difference between a fee taking and an easement acquisition. The first requires little interaction after the take, while the latter mandates an ongoing relationship between the two property owners sharing ownership of the fee simple bundle of rights to the tract of land under the LIE. One example of how this difference plays out in practice comes from the controversy over railroad land acquisition and later shifts in use of abandoned rail networks.⁶⁵ Where railroads acquired the rights-of-way through voluntary transactions, “most railroad corridors held a wide variety of ... interests, corresponding to the wishes and desires of individual landowners.”⁶⁶ In the early enthusiasm for expanding rail networks, “in most land disputes between the railroads and the original landowners” before the 1880s, “the railroads won because either the land granted was found to be in fee simple absolute, or the railroads’ exclusivity needs required a strong property interest. As public enthusiasm for the railroads waned, however, so did judicial deference.”⁶⁷ Over time, “courts began to interpret the original granting documents strictly and narrowly. If the railroad was still operating, it would be deemed to hold only the smallest property right possible consistent with its operational needs. If it had abandoned its line, courts often found that the grant had conveyed a mere easement that was extinguished by abandonment.”⁶⁸ The continuing controversy over the shift of use of railroad rights-of-way to recreational trails is further evidence of the problems that arise with changed uses.⁶⁹

We now turn to an examination of how the law regulates conflicts among property owners and how this framework operates in the context of LIEs.

⁶⁴ Munson, *supra* note 10, at 87-88 (noting rise of protests over transmission lines in 1970s); Nye, *supra* note 15, at 159 (same).

⁶⁵ See Danaya C. Wright & Jeffrey M. Hester, *Pipes, Wires, and Bicycles: Rails-to-Trails, Utility Licenses, and the Shifting Scope of Railroad Easements from the Nineteenth to the Twenty-First Centuries*, 27 *ECOLOGY L. Q.* 376, 377 (2000) (“Some states ... limited the types of property interests the railroads could acquire through adverse possession or condemnation.”); Darwin P. Roberts, *The Legal History of Federally Granted Railroad Rights-of-Way and the Myth of Congress’s “1871 Shift”*, 82 *U. COLO. L. REV.* 85 (2011).

⁶⁶ Wright & Hester, *supra* note 65, at 378. Railroads also acquired land through adverse possession. *Id.* at 378-379. In a number of instances, records of acquisition were lost. *Id.* at 379. Some states restricted the interests railroads could acquire through adverse possession or by eminent domain. *Id.* at 379-80.

⁶⁷ Wright & Hester, *supra* note 65, at 378.

⁶⁸ Wright & Hester, *supra* note 65, at 378-379.

⁶⁹ Andrew C. Ferster, *Rails-to-Trails Conversions: A Review of the Legal Issues*, 58 *PLANNING & ENV’TAL L.* 3 (2006) (outlining legal issues); Cecilia Fex, *The Elements of Liability in a Trails Act Taking: A Guide to the Analysis*, 38 *ECOLOGY L. Q.* 673 (2011) (same); Preseault v. United States, 494 U.S. 1 (1990) (upholding Congressional power to require “railbanking” of abandoned lines); Preseault v. United States, 100 F.3d 1525 (Fed. Cir. 1996) (plurality holding such efforts a taking under the Fifth Amendment). *But see* Preseault v. Interstate Commerce Comm’n, 853 F.2d 145 (2d. Cir. 1988) *aff’d* 494 U.S. 1 (1990) (holding no taking). *See also* 16 U.S.C. §§ 1241-1251 (National Trails System Act). Another significant set of disputes over the terms of these land grants focused on whether they included mineral rights. Thomas E. Root, *Railroad Land Grants From Canals to Transcontinentals*, ABA Section of Natural Resources Law Monograph Series No. 4 37-41 (1987).

B. Legal frameworks for conflicts among property owners

In many instances, property owners' rights may be limited because of conflicts between neighbors over incompatible uses. As Prof. Casner observes:

The occupancy of neighboring tracts of land by different individuals gives rise to probable conflicts of interests between them. The interest of each, where such a conflict exists, must be reasonably limited in order that the interest of the other shall have reasonable play. In the mutual accommodation that thus takes place each may suffer a curtailment of the protection which would otherwise be given to him. One may find that his interest in the use of water on his premises may be limited so as to protect the interest of his neighbor in the flow of water to his premises. One may be limited in his freedom of excavation on his premises in the protection of a desire or a possible desire by his neighbor to build upon or otherwise improve his premises. One may be prohibited from conducting himself in such a way as to interfere with the normal sleeping habits of his neighbor.

Such mutual accommodations are commonly looked upon as a normal incident of the protection of occupancy of land in a crowded community. They are implicit in general statements respecting the rights of possessors. They arise out of the mere fact of impinging possessions. They do not depend upon anything exceptional in the relationship of the neighboring possessors. That two persons are neighbors is sufficient to produce a qualification of the freedom of each in the interest of the other.⁷⁰

Where neighbors are unable to resolve such disputes through negotiation, the law of nuisance serves as a check on conflicting uses.⁷¹ Nuisance case law may be an “impenetrable jungle”⁷² but it serves the function of enabling courts to resolve conflicts the parties are unable to resolve through negotiation.

Easements and their close relatives, real covenants and equitable servitudes – all of which the Restatement of Property (Third) now lumps into the single category of “servitudes” – are important tools for adjusting neighbors' relations through voluntary transactions. In particular, servitudes resolve a problem that mere contracts cannot, as they enable the embedding of a contractual solution between neighbors into the legal interest in the land itself, ensuring that the agreement will continue to bind the parties'

⁷⁰ II AMERICAN LAW OF PROPERTY: A TREATISE ON THE LAW OF PROPERTY IN THE UNITED STATES (A. James Casner, ed., 1952) § 8.1 at 228.

⁷¹ Robert G. Natelson, MODERN LAW OF DEEDS TO REAL PROPERTY § 13.4 at 350 (1992) (“One response to the unique nature of land is the law of nuisance.”).

⁷² William Prosser, HANDBOOK OF THE LAW OF TORTS 571 (1971). *But see* Keith N. Hylton, *The Economics of Nuisance Law*, RESEARCH HANDBOOK ON THE ECONOMICS OF PROPERTY LAW 326 (Kenneth Ayotte & Henry E. Smith, eds. 2011) (arguing that nuisance is “a coherent body of rules that serves an explainable function.”).

successors.⁷³ Landowners voluntarily agree to impose servitudes on their land when doing so creates value. Thus in general, a servitude on Blackacre for the benefit of Whiteacre must increase the value of Whiteacre by more than it diminishes the value of Blackacre. If it does not, the owner of Blackacre will not agree to it since the owner of Whiteacre will not be able to compensate him sufficiently.⁷⁴

Thus, when private property owner A creates an easement across Blackacre (or other interest in it, such as a real covenant) to benefit Whiteacre, the reason is usually that the combined value of the parcels is enhanced by more than the transaction costs of creating the easement or other interest.⁷⁵ Often A owns both parcels involved at the time the servitude is created and A's motivation is to enhance the combined property values. Suppose A owns Blackacre, which is bounded by roads to the east and west and other properties to the north and south. If A subdivided Blackacre into two new parcels along a north-south dividing line, the western parcel's value might be enhanced by an easement offering access to the road along the eastern parcel's eastern edge.⁷⁶ In creating the easement, A would be mindful of both the increase in value to the western parcel from the access and the decrease in value to the eastern parcel caused by providing the easement. Thus A would locate the easement to find the value maximizing combination of minimizing the harm to the value of the eastern parcel while maximizing the value added to the western parcel.

If at a later date, when the eastern parcel had been transferred to B and the western parcel to C, B and C found themselves in a conflict over the easement, the law provides means for adjusting the relationship. However, such conflicts would only arise *after* the easement's creation. Such conflicts might arise where the easement's terms were less than a perfectly complete contingent contract and circumstances had changed to cause a problem not addressed by the original easement's terms to require an adjustment of the terms. For example, many early railroad easements' terms have proven troublesome in the conversion of old rail right of ways into bike trails.⁷⁷

⁷³ As Prof. Robert Natelson observes, “[t]he law of running covenants permits the original covenantor and covenantee to craft provisions mutually agreeable to them and tailored to the relative situations of their parcels. These covenants are recorded, providing prospective purchasers of dominant and servient estates with more precise notice of their obligations than that afforded by the law of nuisance. ... Thus, the doctrine of covenants running with the land is designed to address the heavy and unique losses that neighboring uses can impose on a dominant owner while preserving relative freedom of contract for the servient owner.” Natelson, *MODERN LAW OF DEEDS*, *supra* note 71, at §. 13.4 at 350-51. *See also* II *AMERICAN LAW OF PROPERTY*, *supra* note 70, § 8.4 at 231 (“When created, [an easement] modifies what would otherwise be the normal right of this possessor. If he is subject to the burden of the easement, his possessory rights are less as against the owner of the easement than they otherwise would be.”).

⁷⁴ This follows from the basic law and economics analysis of contracts and seems so obvious to us as to not require a citation.

⁷⁵ Private property owner A might be motivated by benevolence toward the owner of Whiteacre (as where Whiteacre is a property owned by a family member), but we doubt that is likely to occur with LIEs with any frequency.

⁷⁶ If one parcel was landlocked, the law would generally imply an easement for access. In this hypothetical, neither parcel is landlocked but access to one road is preferable.

⁷⁷ *See* note 69 *supra*.

Where the easement is created by agreement, the parties negotiate the terms to address issues related to their sharing of the use of the portion of the servient tenement covered by the easement. In such cases, it is not surprising that “courts stress the primary control exercised by the language of the creating conveyance.”⁷⁸ Courts have been generally unwilling to allow either servient estate or easement owners to escape the consequences of their choices, forcing them to rely on negotiations to change easement terms that one or the other no longer find convenient.⁷⁹

Easements may also be created through prescription or by implication/necessity.⁸⁰ Even in these instances, however, the terms of the easement are subjected to important checks through the court creating the easement. LIEs created using eminent domain differ from virtually all non-LIE easements in this respect: eminent domain LIEs are created on terms established only by the utility, as current eminent domain law gives the taker the unilateral power to set the terms of the easement without review by a court or other body. Of course, to the extent that such terms can be valued, the servient estate holder may claim compensation for them through the eminent domain process. However, as we

⁷⁸ 4 POWELL ON REAL PROPERTY (Michael Allen Wolf, ed., 2013) § 34.12 at 34-133. This is reinforced by what one court termed the “fundamental principles of the law with regard to easements.” *Stefanoni v. Duncan*, 923 A.2d 737, 745 (Conn. 2007). As the court in that case noted, “In determining the character and extent of an easement created by deed, the ordinary import of the language will be accepted as indicative of the intention of the parties, unless there is something in the situation of the property or the surrounding circumstances that calls for a different interpretation. . . . The use of an easement must be reasonable and as little burdensome to the servient estate as the nature of the easement and the purpose will permit.” (internal quotations and citations omitted). *Id.* at 745.

⁷⁹ For example, in *Tarr v. Watkins*, 180 Cal.App.2d 362, 4 Cal.Rptr. 293 (1960), the court refused to allow a servient estate holder to move an easement providing access to adjacent parcel merely because the location prevented construction of a home on the property. The court stated the legal rule as “Once the location of an easement has been finally established, whether by express terms of the grant or by use and acquiescence, it cannot be substantially changed without the consent of both parties. . . . And the grantor has no right either to hinder the grantee in his use of the way or to compel him to accept another location, even though a new location may be just as convenient.” Cal.App.2d 362, 365. Similarly, in *Merrill v. Manufacturers Light & Heat Company*, 185 A.2d 573 (Pa. 1962), the Pennsylvania Supreme Court refused to allow the owner of mineral rights beneath a pipeline easement to force the pipeline to be removed to permit strip mining where the terms of the easement provided only that the servient estate holder was not liable for the removal of surface support beneath the pipeline. Focusing on the language of the easement (such as the use of the term “thereunder” rather than “thereupon” to describe the obligation with respect to surface support), the common usage of terminology (finding that “[t]he phrase ‘surface support’ is no esoteric word of art known only to the mining engineer, but it is a term generally understood by anyone familiar with the coal-mining regions of this Commonwealth”), the custom of the industry, and the agreement as a whole, the court concluded that the documents referred only to deep mining subsidence and not strip mining and so the servient estate owner could not demand removal of the easement owner’s pipeline. In cases where the creator of the easement fails to reserve rights it later wishes it had kept, courts have been unwilling to expand easements to accommodate the easement holder. For example, where a utility objected to the servient owner’s use of land under its power lines for a restaurant parking lot, the California appeals court found no restriction in the terms of the easement that would prevent such a use. As a result, the court concluded “We see no reason why this court should make a gift to plaintiffs of valuable rights in real property which they did not reserve in their original deed to defendants’ predecessors in interest.” *City of Los Angeles v. Howard*, 244 Cal.App.2d 538, 548, 53 Cal.Rptr. 274 (Cal.App. 1966).

⁸⁰ II AMERICAN LAW OF PROPERTY, *supra* note 70, § 8.3 at 230; 8.32 at 256.

discuss below, many of these are difficult to value and so pushing the issue into the valuation context is problematic.

Where easements are negotiated, the parties to the agreement can address potential conflicts *ex ante* and create solutions to potential problems in advance. For example, where an oil company sought to lay pipelines through marshy land, the contract between the oil company and the servient estate owner provided that if servient estate holder notified the oil company in writing of a breach of the terms of the easement, the easement would terminate if the breach were not corrected within sixty days.⁸¹ Further, if the easement was terminated, the oil company would remove its pipelines and replace the dams the contract required it to construct within 90 days.⁸² Finally, the contract provided for liquidated damages of \$100/day for failure to comply with either of the above provisions, interest on the liquidated damages from the date of termination and payment of any court costs and reasonable attorney's fees ("of not less than \$5,000") necessary for securing compliance.⁸³ The agreement also specified where dredging material would be placed.⁸⁴ When the oil company failed to comply with the agreement by allowing widening the canal due to subsidence of the banks, the servient estate holder sued to enforce the conditions and won.

These provisions were well-crafted responses to problems anticipated by the parties. As the court noted in finding for the servient estate holder, the land was marshy terrain which "was unstable to the extent that for each foot dredged vertically there would eventually be lateral subsidence of each bank so as to increase the width at a rate of 2.75 to 3 feet for each foot of vertical depth dredged."⁸⁵ As a result, the court concluded that the oil company "knew full well that the banks of the canal would slide into the water" and so broaden the canal beyond the permissible scope of the easement unless the oil company "sloped" the banks.⁸⁶ However, the court found that "for its own purposes and knowing full well the probable result, [the oil company] chose to attempt to dredge and excavate ... without the required slope."⁸⁷ The parties had thus constructed an enforceable incentive system, including liquidated damages and termination provisions, with which to govern their relationship that addressed a specific problem anticipated by the servient estate owner. Not every easement involved such well-thought out mechanisms for crafting appropriate incentives for the parties, but if they did not it was as a result of the parties' choices in investing in crafting the terms of their easements.⁸⁸

⁸¹ *Pembroke v. Gulf Oil Corp.*, 454 F.2d 606, 608 (5th Cir. 1971).

⁸² *Pembroke*, 454 F.2d 606, 608-09.

⁸³ *Pembroke*, 454 F.2d 606, 609.

⁸⁴ *Pembroke*, 454 F.2d 606, 609, n.2.

⁸⁵ *Pembroke*, 454 F.2d 606, 610.

⁸⁶ *Pembroke*, 454 F.2d 606, 611.

⁸⁷ *Pembroke*, 454 F.2d 606, 611.

⁸⁸ This can also be determined based on the parties' actions. 2 Thompson, *supra* note 8, at §332, 112 ("Where the terms of the instrument granting an easement are vague or indefinite, the easement may be construed in accordance with the uniform acts of the parties in using and enduring it for many years and so evidencing their intent.")

By contrast, in an LIE created through eminent domain, there are no opportunities for the servient estate holder, who likely has the best knowledge about both physical and financial conditions, to negotiate for incentives to induce the utility to conduct its operations on the easement to minimize the harm to the servient estate or to create a liquidated damages or termination to govern breaches.

Moreover, where an easement is created by negotiation, the servient estate holder may retain more of the ‘bundle of sticks’ than is possible where another dictates the easement terms. For example, where a landowner and a town negotiated an easement allowing the town sewer board to cross the landowner’s property to reach its sewer plant and for a pipeline from the plant to the plant’s lagoon system, the board attempted to grant a right to use the easement to another landowner to allow him to reach his property.⁸⁹ The servient estate holder objected and the court agreed that the sewer board lacked the authority to enlarge its easement by allowing the neighbor to make use of it.

This fact situation is likely to arise with respect to many LIEs involving transmission towers. A utility can expand its use of an LIE to incorporate additional lines or other utilities’ lines (e.g. adding a telecommunications cable to an electrical transmission tower).⁹⁰ The ability to increase the height of towers, the number of towers, or the width of the arms on electrical towers are all powers that utilities regularly include in LIEs created through eminent domain. Valuing a hypothetical future expansion in an eminent domain can be challenging, yet all of these factors have a major impact on the amount of damage to the servient estate. Allowing the utility to unilaterally set the terms of the easement to include expanding the easement allocates more of the benefit of the bargain between the buyer and seller of the easement to the buyer, by preventing the seller from capturing a portion of the value of additional lines.⁹¹ Particularly where

⁸⁹ *Phillips v. Water Works and Sewer Board of the Town of Ariton*, 27 So.3d 1206, 1207 (Ala. 2009). *See also* *Capital Electric Power Association v. Hinson*, 84 So.2d 409 (Miss. 1956) (finding that utility could not expand easement for power distribution line to serve an adjacent property once it had fixed location of easement by building original line, holding “that where there is a grant of a right of way easement which is in general terms as to location, length, or terminal points, and is therefore uncertain and ambiguous, it should be interpreted by reference to all attendant circumstances, including the purposes contemplated by the parties at the time of the execution of the grant; and the extent of the servitude is determined by ascertaining what is necessary to accomplish the purpose contemplated by the parties when the grant is made, as to which consideration should be given to the practice interpretation put upon the grant by the acts of the parties in the use of the grant.”).

⁹⁰ *Oncor Electric Delivery Company, LLC* typically includes the following language in its easements allowing it to install infrastructure:

to excavate, grade, remove obstructions, construct, maintain, and operate electric power and communication lines, each consisting of variable number of wires and cables, and all necessary or desirable appurtenances including supporting structures, foundations, guy wires, and guy anchorages over, under, across, and upon the Easement Property.

See Appendix 3.

⁹¹ *See, e.g., Talty v. Commonwealth Edison Company*, 347 N.E.2d 74 (Ill. App. 1976) (finding utility whose easement was granted by state agency over private property, could expand tower size and voltage of transmission lines within the scope of the easement it had acquired). A Maryland case presents an example

eminent domain compensation rules focus on the loss to the servient estate (e.g. how much does the LIE reduce the value of the property) rather than the benefit of the LIE to the utility (e.g. how much revenue from use of the LIE can the utility generate), an eminent domain award will give the utility more of the surplus than it might receive in an arms' length bargaining situation where its willingness to pay would be a relevant variable.⁹² Further, as the additional damage from expanding a LIE in the future is difficult to value, the landowner will be undercompensated to the extent the eminent domain process cannot fully capture the value of the future damage.

of the servient estate holder possibly unsuccessfully attempting to bargain for additional compensation for expansion of the use of an easement for gas pipelines. *Reid v. Washington Gas Light Company*, 194 A.2d 636 (Md. 1963). The easement provided that the gas company could install up to four additional pipelines within the first ten years of the easement upon paying a specified fee. Rather than add a line, however, the gas company replaced its existing line with a larger line that had an additional 75% capacity. The court rejected the argument that expanding the pipeline to a larger diameter would allow the gas company to indirectly accomplish the expansion without paying the fee. Rather, the court found, the additional fee provision covered creating additional trenches for new pipelines, "would be less area to which the appellants could have free and full use of their property." *Id.* at 639. Given this interpretation of the language of the easement, the court then found there was no violation of its terms to replace the existing pipeline with a larger capacity one. Since the new pipe had additional safety features and "was laid in the same exact location, no additional trench was necessary, and certainly it can not seriously be contended that the extra four inches of space in the ground the new pipe occupies is a substantial burden on the servient estate. It would be a different situation if the trench were much larger or if the pipe were sufficiently close to the surface to adversely affect its use by the servient property owners." However, it noted that "[t]he expiration of the option meant that no more land could be burdened with additional lines in the absence of further negotiations and payment therefor." *Id.*

Note that bundling additional lines into a transmission line is generally cost efficient. *See* Blume, *supra* note 14, at 50. However, in comparing a willing buyer-willing seller transaction to a condemnation award, the seller's willingness to pay (measured by the total capacity the seller believes the LIE can handle taking into account the seller's demand for capacity) should be relevant.

In some instances, legislatures have intervened to allocate those gains to distribution easement holders. *See, e.g.,* *Salvaty v. Falcon Cable Television*, 165 Cal.App.3d 798, 212 Cal.Rptr. 31 (Cal. App. 1985) (finding adding cable television lines to existing utility poles within the scope of the easement despite explicit language requiring servient landowner consent to changes because "Although the cable television industry did not exist at the time the easement was granted, it is part of the natural evolution of communications technology" citing state statute allowing utilities to provide access to their easements as evidence of "a strong public policy in favor of encouraging the type of cable attachments in this case."); *Hoffman v. Capital Cable Television System, Inc.*, 52 App.Div.2d 313, 383 N.Y.S.2d 674 (1976) (finding that adding cable equipment to existing distribution lines would not impose an additional burden, was consistent with the policy of broadly interpreting easements to meet progressive inventions, and that cable television rendered a valuable educational and public service despite explicit language in easement requiring servient landowner consent). Similarly, California permitted the City of Los Angeles to replace a street railway with buses without violating the terms of the easement for the street railway, finding that "Fifty years of technological change, embracing developments in internal combustion vehicles and techniques of highway construction, have undoubtedly produced a situation in which motor buses have won public preference because of their greater flexibility of route and schedule." *Faus v. City of Los Angeles*, 431 P.2d 849 (Cal. 1967). That the plaintiff was an entrepreneur who had obtained assignments of the interests of the original servient tenement owners may have also had an impact on the decision.

⁹² To the extent that eminent domain encourages utilities to pursue LIEs that are profitable only if they can purchase the property at the lower price enabled by eminent domain, it may result in misallocation of capital by the utilities.

Eminent domain thus results in a different outcome than would occur in a voluntary transaction. Where a willing buyer and a willing seller negotiate the terms of a contract, the buyer's willingness to pay is bounded by the benefits it receives from acquiring the property and the opportunity cost of its next best use of the resources in question; the seller's willingness to accept is bounded by the opportunity cost of rejecting the offer and the value of the property in its existing use. The substitution of market valuation of property in the absence of the LIE means that courts will – at best – imperfectly assess the price at which a voluntary contract would occur. This problem is well known in the eminent domain literature.⁹³ It is an inevitable consequence of the substitution of a judicial determination of price for a market determination. The problem is worse in the LIE context than elsewhere, however.

Utilities' unilateral power to shape easement terms that leave the door open to additional uses of the easement in the future are particularly problematic as they are extremely difficult to value today. For example, Oncor included in the easement it condemned on properties in Texas the ability to install "all necessary or desirable appurtenances". This leaves to Oncor's sole judgment the decision of what to place on the easement in the future. The phrase used implies virtually no limit on what Oncor could place on the easement, contrary to the normal practice with respect to easements.⁹⁴ Reducing the future value of this to a current payment is virtually impossible⁹⁵ making it highly likely that the landowner will be undercompensated for ceding significant control over the land to the LIE owner.

This incentivizes utilities to use eminent domain rather than bargaining to create LIEs and avoids efficient solutions to potential conflicts. In a voluntary negotiation over an easement, where a landowner sought an easement provision that the utility could provide more cheaply than the landowner could obtain it elsewhere, the gains from trade would motivate the parties to include the term. For example, landowners may be concerned about potential lawsuits over incidents involving LIEs since the infrastructure placed on the LIE is frequently dangerous. Since the utility has a significant degree of control over the operation of the infrastructure and the risks involved, and since the utility is in the best position to insure against such risks, one would expect that utilities could offer indemnification and insurance to the landowner at a significantly lower cost than the individual landowner could procure elsewhere (if such insurance were even

⁹³ See Thomas W. Merrill, *The Economics of Public Use*, 72 CORNELL L. REV. 61, 68 (1986).

⁹⁴ 2 Thompson, *supra* note 8, at §426, 657 ("The dominant owner cannot increase the burden of the easement without the consent of the servient owner. The owner of a right-of-way cannot materially increase the burden of the servient estate nor impress and new and additional burden thereon. But normal development by the owner of the easement is permissible.").

⁹⁵ The current value would be a function of the probability distribution of future uses as well as the harm caused by such uses in the future. Even if the utility provided good faith estimates of its possible future uses, something we are skeptical would occur, those estimates would be inaccurate. Leaving the valuation damage caused by future uses until it occurs by restricting eminent domain-based LIEs to specified uses or leaving the matter to negotiation, would postpone the valuation until more information was available, reducing uncertainty.

commercially available). It has been our experience that utilities not using eminent domain to procure LIEs often provide indemnification and insurance to the servient estate holder. However, if the cost of procuring alternative insurance is difficult to prove – as it is where the insurance is not commercially available – a utility using eminent domain has little incentive to offer to provide indemnification and insurance. This is so because making the offer will not affect the eminent domain award by much but will increase the utility’s costs. Thus wherever the price of not providing indemnification in the eminent domain proceeding is less than cost of providing it, the utility will not do so even if the benefit to the landowner of the indemnification exceeds the cost to the utility of providing it.

Indemnification is an excellent example because it is such an important factor for landowners, who face significant risk from LIEs on their properties. For example, under Texas law, certain activities are prohibited around high voltage overhead lines. Not only are there criminal penalties for engaging in such activities (including operating certain types of machinery without a statutorily required warning),⁹⁶ but the statute provides civil liability from the property owner in favor of the utility for any contacts with the line in violation of the statute.⁹⁷ In a 1984 federal court opinion, the Fifth Circuit held that the statute’s inclusion of a provision providing that “If a violation of this chapter results in physical or electrical contact with a high voltage overhead line, the person, firm, corporation, or association that committed the violation is liable to the owner or operator of the line for all damages to the facilities and for all liability that the owner or operator incurs as a result of the contact” meant that the utility was completely indemnified by the landowner for any claims arising out of any violation of the statute *even for the utility’s own negligence*.⁹⁸ A subsequent Texas court opinion extended this to include the “violator” being responsible for the power line operator’s attorney’s fees, costs, and interest.⁹⁹ Under the literal terms of the statute, the landowner would also be responsible for damages and attorney’s fees in any lawsuit brought by a customer against the utility for a service interruption caused by the utility’s own negligence.¹⁰⁰

In general, servitudes provide a mechanism by which property owners can create permanent solutions that reallocate property rights to maximize the total value of a bundle of rights. Where a particular use does not require fee ownership, such reallocations are efficient. Recognizing that these reallocations may create future conflicts, the parties to voluntarily negotiated reallocations can create – and courts will enforce – mechanisms to incentivize value-maximizing behavior and compensate for

⁹⁶ Tex. Health & Safety Code § 752.007.

⁹⁷ Tex. Health & Safety Code § 752.008.

⁹⁸ *Moore v. Southwestern Electric Power Company*, 737 F.2d 496, 500 (5th Cir. 1984) cert. den. 105 S.Ct. 1181 (1985).

⁹⁹ *Olson v. Central Power & Light Co.*, 803 S.W.2d 808 (Tex. Civ. App. – Corpus Christi 1991, writ denied).

¹⁰⁰ By contrast, the default rule for easements was traditionally that the “owner of an easement or right-of-way over the lands of another must maintain it in a state of good repair and efficiency so that no unnecessary damage will result from its use to the servient estate.” 2 Thompson, *supra* note 8, at § 428, 674.

failure to deliver on promises. Not all easements are created as the result of negotiation, however, and the next subsection examines the lessons for LIEs of how courts create easements in the absence of negotiation.

C. Courts' capability to address LIEs

Where an easement is created by prescription or implication/necessity, the court deciding the case sets the terms of the easement.¹⁰¹ As a substitute for bargaining, the courts have taken on the role of settling the terms of the easement. Notably, easements by necessity are rarely created simply because “the claimant would have to spend substantial time or money to construct a road on his or her own land.”¹⁰² Rather they require relatively stringent conditions be satisfied, generally including a prior unity between the burdened and benefited parcels.¹⁰³ This reluctance to substitute court-ordering of property relationships for bargaining suggests judicial recognition of the problems created by involuntary easements.¹⁰⁴ When a court has made such a substitution, the authorities generally argue that the easements must be interpreted flexibly, to adapt to the “well-known likelihood of changing property uses.”¹⁰⁵ This is quite different from courts' approach to easements created voluntarily, where they are more inclined to force the property owners to live with the bargain struck. Moreover, at least some courts have claimed the equitable power to alter the terms of easements by necessity after their creation, and specifically distinguished easements created by courts from those created by

¹⁰¹ Even in these cases, the courts historically used the language of intent. 4 Powell, *supra* note 78, § 34.07[1] at 34-47. Powell argues that “[t]hese fictional implications of ‘intent’ are actually rooted in considerations of public policy.” *Id.* See also 2 Thompson, *supra* note 8, at §351, 287 (“Theoretically, an implied easement is based on the presumed intention of the parties as garnered from the surrounding circumstances rather than on the language of the deed.”).

¹⁰² 4 Powell, *supra* note 78, § 34.07[3] at 34-57.

¹⁰³ Gerald Korngold, *PRIVATE LAND USE ARRANGEMENTS: EASEMENTS, REAL COVENANTS, AND EQUITABLE SERVITUDES* § 3.08(a), 3.08(12)-(13) (2d ed. 2004) . See also 2 Thompson, *supra* note 8, at §355, at 342-45 (describing limitations on easements by necessity).

¹⁰⁴ Even with easements created by agreement, where the parties have left terms unspecified, the courts must sometimes step in to craft a solution to a conflict. See, e.g., *McConnell v. Golden*, 247 A.2d 909 (R.I. 1968) (court to designate location for easement where servient estate owner had refused to do so for 15 years and there was no agreement as to location of easement); *Daniel v. Clarkson*, 338 S.W.2d 691 (Ky. App. 1960) (finding that trial court had authority to locate easement in a case where the lack of evidence on the issue because of parties' failure to previously locate easement or use it regularly “taxes the best resources of judicial ingenuity.”). See also *Arkansas Valley Electric Cooperative Corporation v. Brinks*, 400 S.W.2d 278 (court noting in dicta that trial court would have been justified in placing easement for power line where it minimized damage to servient estate.) This role for the courts in handling conflicts caused by changes in land use where the easement is created involuntarily is consistent with our view that a check on unilateral creation of terms in eminent domain proceedings is needed.

¹⁰⁵ 4 Powell, *supra* note 78, § 34.079[3] at 34-56.1. See also 2 Thompson, *supra* note 8, at §366, 420 (The use of an implied way of necessity “must be as reasonable and as little burdensome to the servient estate as the nature and purposes permit. Whenever an easement has arisen from necessity, it is generally held coextensive with the reasonable need, present and future, of the dominant estate for such a right or easement, and to vary with the necessity, in so far as may be consistent with the full, reasonable enjoyment of the servient estate as the nature and purposes permit.”).

the parties through a document, and the Third Restatement adopted this position as well.¹⁰⁶

Indeed, courts are frequently willing to engage in relatively aggressive interpretation of easements to resolve conflicts between the dominant and servient interest owners. For example, “[i]t is often said that the parties are presumed to have contemplated such a scope for the created easement as would reasonably serve the purposes of the grant. This provides a factor of elasticity, which has been most useful. Under this presumption, many courts have liberally read in expansions of the permitted use caused by technological innovations, by subsequent developments of the locality, or by changes in the use of the dominant parcel said to have been ‘contemplated by the parties.’”¹⁰⁷ This willingness to be aggressive to resolve ambiguities or changed circumstances for which the parties did not provide illustrates both the capacity of courts to address the details of easements and the need for them to do so in circumstances where the parties have failed to do so *ex ante*. It is thus a peculiarity that courts with such broad powers to expand easements do not also have a similar power to control the shaping of easements when the easements are taken without negotiation by eminent domain. Granting the courts such power is thus both consistent with existing practice with respect to non-eminent domain, non-LIE easements and the capacity of courts generally to serve as an alternative to bargaining *ex post* where the bargaining did not take place.

D. Joint ownership as a model

Although the interests in LIEs taken by utilities for transmission lines, pipelines, and telecommunications lines are formally easements, we contend that the relationships LIEs create are in many respects closer to a tenancy in common in the underlying land than an easement.¹⁰⁸ Easements often deal with restrictions on a landowner’s use of his land (e.g. restraints on building to prevent blocking views or, more recently, to promote conservation) or with permitting activities that would otherwise be a trespass (e.g. crossing land). Easements were traditionally considered nonpossessory land interests,¹⁰⁹

¹⁰⁶ See, e.g., *Goodwin v. Johnson*, 591 S.E.2d 34, 37 (S.C. App. 2004) (“any of the cases adopting the traditional rule deal with express easements-not with easements created by necessity. We recognize that it *should be* more difficult to relocate an express easement, as it is akin to a contract and is bargained for by the parties.”); *Soderberg v. Weisel*, 687 A.2d 839 (Pa. Super. 1997); *Kline v. Bernadrdsville Association, Inc.*, 631 A.2d 1263 (N.J. Super. 1993); *RFS, Inc., v. Cohen*, 772 S.W.2d 713 (Mo. App. 1989); *Ramsey v. Johnson*, 312 So. 2d 671 (La. App. 1975); *Sedillo Title Guaranty, Inc. v. Wagner*, 457 P.2d 361 (N.M. 1969); *Restatement (Third) of Property: Servitudes* § 4.8. *But see Thomason v. Kern & Co.*, 376 S.E.2d 872 (Ga. 1980); *Edgell v. Divver*, 402 A.2d 395 (Del. Ch. 1979); *Davis v. Bruk*, 411 A.2d 660 (Me. 1980), *Daviess-Martin County v. Meadows*, 386 N.E.2d 1000 (Ind. App. 1979).

¹⁰⁷ 4 Powell, *supra* note 78, § 34.12 at 34-140 to 34-142. 397 SE2d 435, 343 SW2d 367.

¹⁰⁸ One important legal difference between concurrent ownership of interests in land and easements is that concurrent ownership interests “as the term is generally understood, is simultaneously ownership of (the same) *individual interests* in property. Thus, if A and W together own a present interest in land for the life of A, then A and W are co-owners.” Natelson, *Modern Law of Deeds*, *supra* note 71, § 2.7 at 30. The simplest cotenancy is the tenancy in common, which requires only that the cotenants own the same interest in the land. *Id.* at § 2.10 at 37.

¹⁰⁹ 4 Powell, *supra* note 78, § 34.01[1] (noting that easements are “nonpossessory land interests”).

involving only “a *limited* use or enjoyment of the servient tenement.”¹¹⁰ Common law easements were thus “a negative thing, a right or privilege to be immune from action if one made a certain use of another’s realty. It did not contemplate compelling another to take a positive action with respect to his own property for the benefit of the person holding the easement.”¹¹¹ This is less true of LIEs than many easements, as the utility is not only sharing possession of the land with the servient estate holder by physically placing structures on the land which significantly limit the servient estate holder’s ability to use the land, but is also likely to be regularly present physically on the land to conduct inspection and maintenance.

This is particularly true where the existence of the easement compels a change in land management practices or where the utility’s actions have significant impacts on the landowner. For example, controlling invasive weeds requires careful management of vehicle traffic on agricultural land to prevent weed seeds carried from one area from taking hold in another, restoration of land disturbed by activity, periodic inspections of property disturbed, and revegetation of disturbed areas.¹¹² It also requires regular burning of the land, something not possible when there is a LIE.

A similar problem comes with the broad access to the property included in utility-drafted LIEs. For example, Oncor Electric Delivery Company typically includes the right to install as many gates as it wishes in the landowner’s fence to allow access to its easement. This is a significant reduction in rural landowners’ ability to control access to their properties – something that is particularly important in protecting livestock and limiting access to authorized persons during hunting season. Moreover, not only does Oncor claim the right to enter the easement at any time without notice to the landowner, the terms of its easement impose there is no limit on the number of duplicate keys it can distribute for the locks on those gates.¹¹³ This loss of control is particularly difficult to value in the condemnation process as there is no market for access rights.

Property law regularly deals with jointly owned property. A and B may own Blackacre as joint tenants or co-tenants (or, if married and in a state which recognizes the estate, as tenants by the entirety). Joint owners of property have well-defined legal rights and obligations to which courts turn in the event of a disagreement among the joint owners. Moreover, there are well-established remedies, including judicial partition or sale

¹¹⁰ 4 Powell, *supra* note 78, § 34.02[1] at 34-11.

¹¹¹ 2 Thompson, *supra* note 8, at §318, 31.

¹¹² See notes 49 to 53 *supra*.

¹¹³ The valuation of this loss of control is particularly problematic. Rural landowners may be – certainly if our experience is any guide, they definitely are – particularly sensitive to issues of access to their land. But even setting aside any particular sensibility, control of access is both important with respect to protecting livestock from theft and the value of hunting rights. On the former, consider the key role of control of access from the initial settlement of the portion of the Great Plains in Texas compared to the experience in the northern plains, where the presence of public land prevented such control. See Andrew P. Morriss, *Returning Justice to its Private Roots*, 68 U. CHI. L. REV. 551 (2001); Andrew P. Morriss, *Miners, Vigilantes & Cattlemen: Overcoming Free Rider Problems in the Private Provision of Law*, 33 LAND & WATER L. REV. 581 (1998).

of property where the joint owners are in conflict. Generally, the law provides three key methods of resolving conflicts among co-owners of land that would address the problems existing in LIE relationships.

First, and most importantly, co-owners have a right of exit from the relationship available to them. When tenants in common or joint tenants no longer wish to be cotenants, they have the right to partition.¹¹⁴ “Every cotenant has the right to compel partition” unless the cotenants’ agreements or acts modify or eliminate that right.¹¹⁵ The right to partition “is unconditional and cannot be defeated by a mere showing that a partition would be inconvenient, injurious, or even ruinous to an adverse party.”¹¹⁶ The right “is designed to prevent a forced continuation of shared ownership of property.”¹¹⁷ As Powell notes, “[t]o deny it is to effectively expand the property rights of one cotenant at the expense of other cotenants.”¹¹⁸ This is similar to the right of exit in partnerships and reflects similar concerns: where the parties do not share a common objective, forcing them into an economic union is particularly problematic.¹¹⁹

Partitions may be accomplished by judicial division or by sale and division of the proceeds.¹²⁰ Common law partition was equitable in nature, which “suggests that courts should consider all relevant circumstances to ensure that complete justice is done”.¹²¹ In addition, as Prof. Casner notes, partition serves the interests of judicial economy as well, preventing the courts from being drawn into “the many questions which may arise between the cotenants in their use and enjoyment of the common property. The law

¹¹⁴ Indeed, joint tenants (who share a right of survivorship) have an even more powerful right of partition, for any may sever one the four unities required to create a joint tenancy by conveying his or her interest to some other person. Natelson, *MODERN LAW OF DEEDS*, *supra* note 71, § 2.8 at 34.

¹¹⁵ 7 Powell, *supra* note 78, § 50.07[1]. Interests insufficient to create cotenancies do not create the right to partition. II *AMERICAN LAW OF PROPERTY*, *supra* note 70, § 6.22 at 98 (“Persons having interests in the property which do not make them cotenants cannot maintain an action of partition. Therefore a widow having a right of dower cannot enforce partition, nor can her dower be affected by partition between the co-owners of the fee which must be made subject to her dower in the absence of a statute to the contrary.”).

¹¹⁶ 7 Powell, *supra* note 78, § 50.07[3][a].

¹¹⁷ 7 Powell, *supra* note 78, § 50.07[3][a] citing *Eisenberg v. Tuchman*, 892 A.2d 1016 (Conn. App. 2006).

¹¹⁸ 7 Powell, *supra* note 78, § 50.07[3][a] citing *Robinson v. Evans*, 554 A.2d 332 (D.C. 1989).

¹¹⁹ Larry E. Ribstein, *A Statutory Approach to Partner Dissolution*, 65 Wash. U. L. Q. 357, 390 (1987) (“an individual partner who is locked into a partnership after circumstances cause the relationship to become onerous may suffer substantial losses in the value of his financial and human capital over an extended period. A partner’s abusive exercise of the dissociation right may cause all of the non-dissociating partners to give up partnership assets without adequate compensation or to lose the benefit of firm specific human capital. But even if the non-dissociating partners as a group might suffer a greater loss in the event of abusive dissociation than a single locked-in partner might suffer without a dissociation right, each partner is more likely *ex ante* to focus on his risk than on the aggregate. Assuming the partners cannot predict *ex ante* whether they will belong to the dissociating or the nondissociating group, they would want an agreement that minimized the graver costs borne by locked-in partners. Moreover, on a more objective basis, a loss that is spread among individuals has less impact than the same loss borne by one individual.”).

¹²⁰ 7 Powell, *supra* note 78, § 50.07[1], 50.07[3][a]. Partition in kind is the default unless the parties stipulate to a sale, prove a physical division cannot be fairly done or is impracticable. 7 Powell on Real Property, § 50.07[4][b].

¹²¹ 7 Powell, *supra* note 78, § 50.07[3][a].

cannot possibly settle such details where the cotenants do not agree.”¹²² Given the large number of margins on which utilities and many land owners must continually interact as a result of the taking of a LIE, providing a right of exit is both necessary to level the playing field for bargaining and allow landowners to end dysfunctional relationships with utilities. One might object that allowing landowners to exit would cause serious problems for the operation of a transmission line or pipeline. But the most likely consequence of allowing a right of exit as the default would not be idiosyncratic use of exit rights after the utility had constructed its line or pipeline but negotiations at the inception of the relationship over the conditions under which exit might be exercised. Moreover, providing exit rights in involuntary easements would incentivize utilities to negotiate voluntary LIEs rather than use eminent domain.

Second, cotenants owe each other a duty not to commit waste.¹²³ In the past, issues concerning waste arose in the context of a life tenant and remainderman and the courts had some difficulty in specifying the contours of the doctrine where there were co-owners in fee: A review of American precedent led to what Casner termed “hopeless confusion.”¹²⁴ Doing the best he could with the confusion, Casner’s treatise, *The American Law of Property*, concluded “a cotenant in fee is property liable for waste when his use of the property is not in the exercise of his right of reasonable enjoyment, and when such use results in permanent injury to the property.”¹²⁵ Under English precedent, following the Statute of Anne, cotenants must account to other cotenants if the cotenant obtains “more than his just share and proportion” of the rewards of ownership.¹²⁶ In the United States, most states follow a more expansive rule requiring the occupying cotenant to “account for outside rental income received for use of the land, offset by credits for maintenance expenses. If the use, such as extracting minerals, reduces the value of the property, the occupant must account for the income.”¹²⁷ Similarly, where one owner has a right to remove materials from the real property of another, courts have held that each “was entitled to prevent the other from exercising its rights of ownership of the severed estate arbitrarily, capriciously, oppressively or wantonly, but each must engage in reasonable, prudent management.”¹²⁸

Incorporating a duty based on the duty not to commit waste or the duty to “engage in reasonable, prudent management” into LIEs would provide a flexible means to address the myriad issues that might arise between a landowner and a utility over shared access to a LIE without requiring full specification of all issues in advance. For example, many rangeland landowners license hunters to use servient tenements, including the area

¹²² II AMERICAN LAW OF PROPERTY, *supra* note 70, § 6.18 at 78.

¹²³ 7 Powell, *supra* note 78, § 50.03[3].

¹²⁴ II AMERICAN LAW OF PROPERTY, *supra* note 70, § 6.15 at 65.

¹²⁵ II AMERICAN LAW OF PROPERTY, *supra* note 70, § 6.15 at 66.

¹²⁶ 7 Powell, *supra* note 78, § 50.03[3] quoting 4 Anne ch. 16 § 27 (1705)

¹²⁷ 7 Powell, *supra* note 78, § 50.04[1].

¹²⁸ 1A Thompson, *supra* note 8, § 164, at 69-70. Thompson also notes that “In a mineral lease, the surface estate is servient to the mineral estate for the purpose of the mineral grant, but even such right is to be reasonably exercised with due regard to the rights of the owner of the surface.” *Id.* at § 164, at 75. It also must be exercised in light of “the custom of the community.” *Id.* § 164, at 77.

covered by the easement. A utility that scheduled inspection and maintenance work during hunting season would interfere with hunting access, both by scaring game and by limiting hunters' ability to hunt in areas where crews were working. The duty not to commit waste could be used to require a utility that reduced the hunting value of the servient estate compensate the landowner.

Third, at times the law imposes a fiduciary relationship on cotenants, "which may require a cotenant to protect and secure their common interests."¹²⁹ For example, where one cotenant insured a property against fire, she was required to share the proceeds with the other cotenants despite having been the only one to pay the premiums and been the only one named on the policy.¹³⁰ This duty justifies applying "close scrutiny" to dealings between cotenants "to guard against fraud or overreaching."¹³¹ This suggests a rationale for courts to give close scrutiny to dealings between the eminent domain taker and the landowner. In the business law context, fiduciary obligations are often justified as a majoritarian default rule. Larry Ribstein, who took a relatively narrow view of the scope of fiduciary duties, argued that this was justified because "[a] duty of self-abnegation is only rarely appropriate in a competitive marketplace. Such a duty is usually excessively costly when applied to commercial dealings because it undermines the incentives that motivate business people to provide high-quality goods and services."¹³² Ribstein argued that in business the rule should focus "on the particular type of entrustment that arises from a property owner's delegation to a manager of open-ended management power over property without corresponding economic rights."¹³³ This certainly would include the owner of an involuntarily-granted LIE. If we view landowners and utilities which exercise eminent domain to take a LIE as being in an involuntary business relationship, with the problem of maximizing the joint surplus from the simultaneous operation of the LIE and the servient estate, imposing fiduciary obligations on both parties to the easement can substitute for considerable detail in specifying the terms.

Both the duty to avoid waste and fiduciary obligations might address two important issues that arise in LIEs. First, in general, the default rule for easements is that the responsibility for maintenance and repair costs necessary "for the full enjoyment of the easement" rests with the easement owner; "the dominant owner is normally considered to have a *duty* to make such repairs as are necessary to permit the servient owner to have reasonable use of his or her tenement, and to have the privilege of making

¹²⁹ 7 Powell, *supra* note 78, § 50.04[3] citing *Edwards v. Farm Bureau Mut. Ins. Co.*, 823 S.W.2d 903 (Ark. 1992); *Caffey v. Caffey* 625 S.W.2d 444 (Ark. 1981); *Brown v. Brown*, 563 S.W.2d 444 (Ark. 1978). *See also* 1A Thompson, *supra* note 8, §170, at 101-102 ("Like lateral cotenants, tenants in common, joint tenants and tenants by the entirety, vertical cotenants, mineral severances, mineral lessees, purchasers of profits and owners of the freehold have a certain amount of fiduciary relationship.")

¹³⁰ *Edwards v. Farm Bureau Mut. Ins. Co.*, 823 S.W.2d 903 (Ark. 1992).

¹³¹ 7 Powell on Real Property, § 50.04[3] citing *Rose v. Roso*, 204 P.2d 1075 (Colo. 1950); *McArthur v. Dumaw*, 43 N.W.2d 924 (Mich. 1950); *Watts v. Krebs*, 962 P.2d 387 (Idaho 1998); *Howard v. Wactor*, 41 So.2d 259 (Miss. 1949); *Dolan v. Cummings*, 102 N.Y.S. 91 (1907) *aff'd* 86 N.E. 1123 (N.Y. 1908); *Sperry v. Tolley*, 199 P.2d 542 (Utah 1948); *Woodard v. Carpenter*, 195 P.2d 983 (Wash. 1948).

¹³² Larry E. Ribstein, *Fencing Fiduciary Duties*, 91 BOSTON U. L. REV. 899, 901 (2011).

¹³³ Ribstein, *Fencing*, *supra* note 132, at 902.

such repairs as are necessary to effectuate the purposes for which the easement was created.”¹³⁴ Second, utilities make use of contractors for work on easements and sometimes argue they are not liable for harms created by these contractors.¹³⁵

E. Joint ownership issues

Where two or more owners share interests in land, the law sometimes has to confront “[m]ore complex problems”¹³⁶ than when neighbors’ use of land causes conflicts. In this section we discuss how these affect the relationship between utilities and servient estate holders in the context of LIEs in three areas: interpreting the easement terms, modification of the easement, and termination of the easement.

1. Interpreting terms

LIEs are burdensome for the servient estate holder for many reasons. The most obvious – literally – is that the infrastructure placed on LIEs is often unattractive. Reportedly, Frank Lloyd Wright phoned President Franklin D. Roosevelt to demand the removal of high-voltage lines obstructing the view from his Scottsdale, Arizona home.¹³⁷ They interfere with radio and television signals.¹³⁸ They can charge ungrounded nearby objects.¹³⁹ This can be a problem for rural landowners who have metal fencing, gates, and irrigation equipment near LIEs. They produce magnetic fields which may or may not have long-term health effects, but which are controversial¹⁴⁰ and so likely to reduce property values by reducing the number of buyers interested in a property.

Where the terms of any easement are not clearly delineated in the documents creating it (or where one party seeks to press its advantage despite clear terms), there may

¹³⁴ 4 Powell, *supra* note 78, § 34.12 at 34-146 to 34-147.

¹³⁵ See notes 96-99 *supra*.

¹³⁶ 4 Powell, *supra* note 78, § 34.07[1] at 34-49.

¹³⁷ Karady, *Environmental Impact*, *supra* note 58, at 20-1.

¹³⁸ Karady, *Environmental Impact*, *supra* note 58, at 20-15.

¹³⁹ Karady, *Environmental Impact*, *supra* note 58, at 20-13. Interestingly, LCRA grounded the gates it placed on Morriss’ in-laws’ property but not his in-laws’ existing gates, suggesting the utility valued protecting its employees from electric shock but was not concerned about the servient estate owner, its employees, or livestock. Only after this point came up during the commissioner’s hearing did LCRA ground the property owner’s gates.

¹⁴⁰ Karady, *Environmental Impact*, *supra* note 58, at 20-8 (“The health effect of magnetic field remains a controversial topic in spite of the U.S. Environmental Protection Agency report that concluded that the low frequency, low level electric, and magnetic fields are not producing any health risks. Many people believe that the prudent approach is ‘prudent avoidance’ to long-term exposure.”); Peter Dent & Sally Sims, *Introduction*, in *TOWERS, TURBINES AND TRANSMISSION LINES: IMPACTS ON PROPERTY VALUE* 1, 3 (Sally Bond, Sally Sims, & Peter Dent, eds. 2013) (“One important aspect in considering the impact of HVOTLs, cell towers and wind turbines on individual property values is the level of risk that an individual perceives as existing in a set of circumstances.”); Dent & Sims, *Risk Perception*, in *id.*, at 27, 37 (“If factors such as health, aesthetics and nuisance are considered to cause property stigma in specific cases, and these factors are considered to have an impact on the value of a property, then this needs to be incorporated into a valuer’s toolkit and quantified.”). In addition, some studies have shown that voluntariness of exposure influences acceptance of risk. Dent & Sims, *Risk Perception*, *supra*, at 32.

be important conflicts between the easement owner and the servient estate owner. This is so because the existence of the easement requires a balancing of these competing interests as “[t]he scope of any easement finds an outer limit in the privilege of the servient owner to make such uses of the servient parcel as are not incompatible with the use authorized by the easement.”¹⁴¹ Or, as one court put it, “[o]f necessity, the interests of the owner of the easement often conflict with the interest of the owner of the burdened estate. By law, however, each of the parties owes certain duties to the other.”¹⁴²

Courts have dealt with these conflicts on a regular basis. For example, a Kentucky court found that an easement permitting use of the servient estate “for the removal over and through said land, (of) the products taken out of any other land owned or hereafter acquired” by the easement holder did not include the right to process coal and dump refuse on the servient estate. The court noted that “While dumping refuse may be an integral part of the *mining operation* on a particular tract, it is not an authorized incident of *removing* coal from other tracts.”¹⁴³

Similarly, where an easement permitted an adjacent landowner to maintain a drainage ditch across the servient estate, the California Supreme Court held that this did not require the servient estate owner to incur the expense of fencing off or covering the ditch to prevent cattle grazing on his land from damaging the banks, finding that “if the plaintiff’s theory be correct, the defendant cannot use his land as a pasture, though that may be the best and perhaps only profitable use he can make of it, unless he employs men to patrol the ditch and keep the cattle away from it, or goes to the expense of fencing it in or covering it with bridges. It does not seem to us that the plaintiff’s easement on the land can impose any such burden as that on the defendant.”¹⁴⁴

In another case, where the easement owner damaged the underlying estate, the courts took a similar approach. Where the owner of a pipeline easement removed a portion of a flood control dike during construction of its pipeline and did not replace it when construction was completed, the court held that the easement owner was liable for the cost of the repair.¹⁴⁵ More generally, the courts have concluded that where easements fail to be clear about the responsibility for maintenance and repair costs necessary “for the full enjoyment of the easement” then “the dominant owner is normally considered to have a *duty* to make such repairs as are necessary to permit the servient owner to have reasonable use of his or her tenement, and to have the privilege of making such repairs as are necessary to effectuate the purposes for which the easement was created.”¹⁴⁶

Courts have drawn from these cases the general principle that “[t]he owner of an easement has all rights incident or necessary to its proper enjoyment, but nothing

¹⁴¹ 4 Powell, *supra* note 78, § 34.14 at 34-156.

¹⁴² Center Drive-In Theater, Inc. v. City of Derby, 352 A.2d 304, 307 (Conn. 1974).

¹⁴³ Hi Hat Elkhorn Mining Company v. Newman, 352 S.W.2d 71, 72 (Ky. 1961).

¹⁴⁴ Durfee v. Garvey, 21 P. 302, 303 (Cal. 1889).

¹⁴⁵ Center Drive-In Theater, Inc. v. City of Derby, 352 A.2d 304 (Conn. 1974).

¹⁴⁶ 4 Powell, *supra* note 78, § 34.12 at 34-146 to 34-147.

more.”¹⁴⁷ At the same time, “[t]he owner of the servient estate may not use the property subject to the easement in a way that would lead to a material increase in the cost or inconvenience to the easement holder’s exercise of his rights.”¹⁴⁸ Applying these principles in an LIE case involving transmission lines, where the utility sought to block construction of a parking lot beneath the line, the court held a reasonableness standard applied to balancing the rights of the two parties.¹⁴⁹

Because there are often design issues with respect to many LIEs that impact the servient estate, this reasonableness standard will prove critical in resolving conflicts likely to arise between utilities and servient estate owners. However, these issues would be better dealt with through negotiations in creating the easement, which the current structure of eminent domain law precludes. For example, high voltage lines can produce an unpleasant audible noise.¹⁵⁰ This noise can be minimized during design, generally by increasing conductor size and/or the “air-gap spacing”.¹⁵¹ Both such measures increase the utility’s costs. Similarly, design of a high voltage line influences the types of inspection and maintenance activities necessary to maintain it.¹⁵² And improper design can cause problems as lines sag and elongate due to weather and loading. Preventing these problems requires technical knowledge landowners are unlikely to possess¹⁵³ and suggests that the burden of avoiding these problems is efficiently placed on the utility.

Further, a check on utility-drafted LIE documents is needed because utilities often do a poor job of drafting the easement terms. For example, Oncor included in its easement (imposed via eminent domain) a requirement that landowners comply with all applicable laws before installing streets, water lines, sewer lines, telephone cables, “etc.” within the easement. Checking “all applicable laws” is absurd. Similarly, Oncor’s easement required that landowners not make any change in grade, elevation or contour of the land without written permission from the utility, specifically prohibiting terraces, road work, drainage ditches, excavations, or “soil disturbing activities.” Exempted were

¹⁴⁷ *Center Drive-In Theater, Inc. v. City of Derby*, 352 A.2d 304, 307 (Conn. 1974).

¹⁴⁸ *Texon, Inc. v. Holyoke Mach. Co.*, 394 N.E.2d 976, 978 (Mass. App. 1979).

¹⁴⁹ *Western Massachusetts Electric Co. v. Sambo’s of Massachusetts, Inc.*, 398 N.E.2d 729, 735 (Mass. App. 1979).

¹⁵⁰ Karady, *Environmental Impact*, *supra* note 58, at 20-14. Karady states that the audible noise “produced in fair weather conditions is negligible”, *id.*, although the authors have observed audible noise under fair weather conditions.

¹⁵¹ Blume, *supra* note 14., at 56-57.

¹⁵² See Joe C. Pohlman, *Transmission Line Structures*, in *ELECTRIC POWER GENERATION*, *supra* note 13, at 10-1, 10-4-10-5; Jim Green, et al., *Transmission Line Construction and Maintenance*, in *id.*, at 12-1, 12-10-12-14 (describing maintenance procedures).

¹⁵³ See Dale A. Douglass & E. Ridley Thrash, *Sag and Tension of Conductor* in *ELECTRIC POWER GENERATION*, *supra* note 13, at 15-1 (“The energized conductors of transmission and distribution lines must be placed to totally eliminate the possibility of injury to people. Overhead conductors, however, elongate with time, temperature, and tension, thereby changing their original position after installation. Despite the effects of weather and loading on a line, the conductors must remain at safe distances from buildings, objects, and people or vehicles passing beneath the line at all times. To ensure this safety, the shape of the terrain along the right-of-way, the height and lateral position of the conductor support points, and the position of the conductor between support points under all wind, ice, and temperature conditions must be known.”).

“normal agricultural activities,” a term left undefined in the easement. Notably, the easement included no provision requiring Oncor to respond within a reasonable time or specified time to a request from the landowner. Landowners need a mechanism by which they can request courts to adjust the terms of easements at the time of the taking to clarify the rights and obligations of the parties. This will not only facilitate proper valuation of the interest taken but will also reduce future transactions costs. Allowing a utility to unilaterally impose poorly drafted terms needlessly increases future transactions costs and complicates the valuation exercise.

Finally, many conflicts among landowners in a community are resolved informally, without the need for litigation.¹⁵⁴ Utility LIE owners lack the incentives necessary to make such informal resolutions work, and also have the resources to out-lawyer individual landowners with the threat of costly litigation.

2. Modification

Power and communications technologies change over time, as do population patterns and needs. Anticipating change in these industries suggests that LIEs should be limited to specific periods to allow renegotiation in the future when more is known about the future needs. Long-lived LIEs are more problematic than many other easements. Barring the development of personal jetpacks or Star Trek-style transporters, landlocked parcels will require access to transportation networks. However, the same is not true of utilities and LIEs. For example, thirty years ago, LCRA was heavily invested in developing lignite coal resources in the Austin area, enraging environmental activists.¹⁵⁵ Today, it is investing heavily in wind power in the Texas panhandle, delighting the environmental activists and upsetting rural landowners along the transmission corridor.¹⁵⁶ In addition, one LIE attracts another. Once a utility easement crosses a property, other utilities seek to make use of the easement as well as and they argue that a second easement’s damage to property values is minimal. In Texas, the Public Utilities Commission encourages new LIEs to parallel existing ones. Providing a means for the modification of LIEs to cope with changes in technology and population patterns as well as the potential for additional LIEs is thus important. Courts will thus need to be able to cope with changes in LIEs over time. Of course, better drafting in the creation of the LIE would reduce the number of instances in which a court would be called on to do so, but

¹⁵⁴ See, e.g., Robert C. Ellickson, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1994).

¹⁵⁵ See Bureau of Land Management, *Proposed Camp Swift Lignite Leasing, Bastrop County, Texas*, vol. 1, 1-1 (1980); Bill Oliver, *Not So Fast, LCRA, TEXAS OASIS*, Track 1-5 (Live Oak Records LP-101, 1982).

¹⁵⁶ See American Council on Renewable Energy, *Renewable Energy in Texas*, available at <http://www.acore.org/files/pdfs/states/Texas.pdf> (“Texas leads the nation in wind power generation, with more than twice the installed capacity as the next closest state. In addition, Texas has more biodiesel capacity than any other state in the nation.” and summarizing state efforts to boost renewables); Bill Peacock, *Texas Wind Power: New Record, Bad Economics (and capacity inhibitor for future reliability)* MasterResource (March 12, 2013) available at <http://www.masterresource.org/2013/03/setting-the-record-straight-on-renewable-energy-subsidies/> (describing Texas’ renewable energy programs); Sam Pakan, *The Great Texas Wind Hoax: Property Owners vs. the State (Part 1)*, Patriot Update (April 8, 2011) available at <http://patriotupdate.com/articles/the-great-texas-wind-swindle-property-owners-vs-the-state-part-i/> (describing landowner objections to transmission lines).

the need for some modifications in light of changed circumstances is virtually certain to occur no matter how carefully the initial easement is drafted.

One example that suggests how courts might approach modifications to LIEs as circumstances change comes from a Kentucky transmission line case. The servient estate owner graded the land under the lines, raising the ground level by seven feet. The utility sought to recover the cost of raising the lines.¹⁵⁷ The court began the analysis by noting that “[f]rom the very nature of an electrical transmission line and its occupancy of air space rather than surface area, the scope of the easement is somewhat fluid. Neither the rights of the Company nor of the defendants are absolute, but each must be defined in terms of the rights of the other. Our ultimate criterion is therefore the reasonableness of use by each party.”¹⁵⁸ In assessing that reasonableness, the court looked to “present day conditions” both with respect to the utility’s use and the servient estate owner’s use. Making that assessment, the court concluded that

[t]he increased use of the automobile and the construction of an important highway adjacent to defendants' property may be considered normal developments in our dynamic society which have made appropriate the proper and reasonable use of the surface for the passage of vehicular traffic. In order to utilize the surface for this change in use, defendants [landowners] find it necessary to level their property and thereby raise the surface of their land a relatively insignificant height. It is true they have invaded 7 feet of air space which the Company claims the right to appropriate. However, assuming the rights of the parties do conflict (which is not clear in this record), we are of the opinion that defendants now have a better right to utilize this air space as appurtenant to a proper use of their land than plaintiff has to appropriate it exclusively as a cushion against a highly speculative hazard.¹⁵⁹

One way to reduce the need for court intervention is to provide for binding arbitration by neutral third parties where either party to the LIE seeks to change the use. A second method of reducing such conflicts is to limit the LIEs to a specific period, reducing the chance that technological change will require altering the terms.

Finally, utilities often claim the right to assign their rights under an LIE. For example, most utilities claim the right to transfer their easement rights to any other person or legal entity without the necessity of consent, permission, or even notice to the landowner. This leaves the landowner with no control over the identity of the entity with which the landowners is sharing the land. It is uncommon for landowners to lease land and allow the lessee an unlimited right to assign the lease without the landowner’s

¹⁵⁷ *Westphal v. Kentucky Utilities Co.*, 343 S.W.2d 367 (Ky. App. 1961).

¹⁵⁸ *Westphal*, 343 S.W.2d 367, 370.

¹⁵⁹ *Westphal*, 343 S.W.2d 367, 371. Analogously, courts have held that oil and gas leases are made contemplating existing technology, and so “the lessee is responsible for damages to the land ruined by his use of new drilling methods.” 1A Thompson, *supra* note 8, §170 at 104.

approval. In particular, this raises the specter that the utility might assign its rights to a judgment proof entity, leaving the landowner unprotected. A negotiated solution, which might provide landowners with an option to reject transfers under a financial responsibility standard, notice of proposed transfers, or other accommodations, would address such concerns. Where courts are overseeing LIE creations, they should have the power to add such terms. Restricting utilities' eminent domain powers would also force the issue into negotiations.

3. Termination

Easements may be created as perpetual or for limited periods of time, including either a fixed period or "subject to conditions which provide for its termination upon the happening of certain contingencies."¹⁶⁰ When utilities use eminent domain to take perpetual easements, as they generally do, they are taking the maximum durational interest they can. Since the burden on the servient tenement increases with duration, a more appropriate duration may often be less than infinite. Particularly where technological and demographic change is likely to affect the future usefulness of an easement, an infinitely lived easement precludes the parties bargaining over how to adapt to new circumstances. Because courts are an inferior substitute (albeit one that is superior to no outside review at all) to arms' length bargaining, encouraging the parties to negotiate is superior to having terms set by outsiders. In the case of lines designed to serve wind farms with a useful life of approximately twenty years, permanent easements seem particularly inappropriate and unlikely to be the result of arms' length bargaining.

Perpetual easements are particularly problematic in the LIE context because there are few remedies available to landowners seeking to end a dysfunctional relationship involving an easement. The relationship created by an eminent domain LIE whose terms are dictated by a utility include neither exit nor voice. Where there is a lack of responsiveness by an organization to exit and voice, Hirschman argues that "thought must be given both to making exit more easy and attractive by appropriately redesigned institutions and to making the organization more responsive to voice."¹⁶¹ To do that in the utility LIE case requires giving servient estate owners both exit rights and a means of exercising voice during the easement's existence.

¹⁶⁰ II AMERICAN LAW OF PROPERTY, *supra* note 70, § 8.87 at 298. *See also* 4 Powell, *supra* note 78, § 34.18 at 34-176 – 34-177 ("An easement can terminate either by expiring in accordance with the intent of the parties manifested in the creating transaction, or by being extinguished by the course of events subsequent to its creation. Termination by extinguishment includes a wide variety of methods, some resting primarily upon conduct of the dominant owner, as for example, release and abandonment; some resting primarily upon conduct of the servient owner, as for example, prescription and conveyance to a third person having no actual or constructive notice of the easement's existence; some resting upon conduct in which both parties must participate, as for example, merger, and estoppel; and some resting upon the conduct of outside entities, as for example, mortgage foreclosures, eminent domain and tax sales.").

¹⁶¹ Hirschman, *supra* note 6, at 123.

In general, easements may be terminated by action of the dominant owner (e.g. release and abandonment), through prescription, or through merger, estoppel, eminent domain, mortgage foreclosures, or tax sales.¹⁶² Crucially, there is no general method for the servient owner to escape the easement analogous to a co-tenant's ability to force a partition or sale. The only method by which servient estate owners have escaped easements through the courts is through the "liberal application of the estoppel doctrine." As Powell's treatise notes, this is an unusual application of the concept of estoppel:

In most branches of the law an estoppel arises only through reliance upon a misrepresentation of a present or past factual situation. The persons estopped must have caused, in such a way that they are responsible for having done so, the persons claiming the benefit of an estoppel to believe something to be true that is not true. In the extinguishment of easements, however, the required basic misrepresentation is really as to the future, instead of as to the past or present. It consists in the creation of a reasonable believe that in the future the dominant owner intends not to make use of the servient tenement authorized by the easement. As phrased, this misrepresentation concerns a present intent as to future conduct. Thus verbally, this case is brought within the theoretical scope of estoppel, but such conformity is more verbal than real.¹⁶³

Given the extremely limited circumstances in which a court might be willing to stretch estoppel to fit such circumstances, there is effectively almost no remedy for the servient estate owner available at law.

III. Solving joint ownership issues in LIEs

We propose five statutory reforms to eminent domain law by which states could address the problems we have identified with LIEs. The simplest is to end the eminent domain powers of utilities and require them to negotiate terms for easements with landowners. While we recognize there may be occasional hold-out issues, the existence of multiple routes for most utility infrastructure suggests to us that this is unlikely to be a major problem for expanding and improving our energy and telecommunications infrastructure. Short of ending utility eminent domain powers, we suggest four other reforms designed to cope with the problems a unilateral power to control easement terms creates. These are described below.

A. Limit eminent domain powers of utilities

The simplest solution to the problems described above is to remove the power of eminent domain from utilities for LIEs. Utilities argue that they need eminent domain

¹⁶² 4 Powell, *supra* note 78, § 34.18 at 34-176 to 34-177.

¹⁶³ 4 Powell, *supra* note 78, § 34.22[2] at 34-206 to 34-207

power to avoid hold out problems.¹⁶⁴ However, the successful record of utility acquisition of LIEs without the use of eminent domain suggests this is overstated. For example, the LCRA line which crosses Kimble County, Texas en route from the Texas Panhandle to Austin is the second such line to be constructed on that route. The first was built roughly 20 miles to the east by Florida Power & Light (FPL), which does not have the power of eminent domain in Texas. FPL reportedly paid much higher prices for its easements than LCRA (although the exact amounts are protected by contracts prohibiting the landowners from revealing what they were paid). In addition, FPL easements contain significantly different provisions from the LCRA easements. For example, FPL indemnified its servient estate owners.

There is some evidence that the process by which risks are imposed affects risk perception which also suggests that eminent domain is particularly inappropriate for LIEs, as determining reasonable compensation is particularly difficult in such instances.¹⁶⁵ As Dent and Sims conclude in their study of risk perception involved in wind energy and cell phone towers,

Professionals working in the field of value impacts of facilities such as HVOTLs, cell towers and wind turbines need to appreciate that those opposing any particular technologies, or specific sites, are not necessarily acting irrationally. Nor can their actions be categorized simply as NIMBYism (not in my back yard). ... There are often more complex issues surrounding such opposition, such as power relations, democracy, personal histories, etc.¹⁶⁶

¹⁶⁴ The grant of eminent domain powers to electric utilities traces in part to famed early twentieth century utility executive Samuel Insull, who

was one of the few business leaders to join Robert LaFollette and other progressive politicians to oppose municipal corruption, to advance “scientific” approaches for managing government and business, and to argue that electricity companies constituted natural monopolies that required public oversight. ... Insull’s less vocalized motivation was a desire to deal with only one state agency rather than hundreds of city councils with whom his expanding empire was doing business. ... Although criticized by many of his utility colleagues who wanted no government intervention, Insull became the chief proponent of regulation and monopoly. He understood that public oversight meant utilities would gain protection from competitors as well as the right of eminent domain, which previously was reserved for the state.

Munson, *supra* note 10, at 55. The transformation of utilities from “a hodgepodge of competitive businesses into centralized utility monopolies” helped turn the industry into one dominated by “holding companies and power pools” which “demanded an increasingly sophisticated and costly transmission system” which required more investment in equipment during the 1920s than “the transcontinental railroads during the decade of their most rapid expansion.” *Id.* at 56-57.

¹⁶⁵ For example, some Japanese research has found that “a new social system involving active participation and ‘ownership’ within the decision-making process can change the risk-benefit distribution balance and the role of all in the community through a more inclusive approach and greater transparency in risk communication.” Dent & Sims, *Risk Perception*, *supra* note 140, at 34-35. This suggests that eminent domain is particularly inappropriate for such facilities.

¹⁶⁶ Dent & Sims, *Risk Perception*, *supra* note 140, at 40.

Most importantly, terminating utilities' eminent domain powers would not end the creation of LIEs but instead require condemning entities to negotiate with landowners for easements. If particular features of LIEs led to landowners insisting on greater compensation, utilities would be incentivized to develop means of abating the problems. If negotiations resulted in higher costs for utilities, this would lead to more accurate social cost pricing of transmission – a feature, not a bug. Indeed, forcing utilities to pay the full cost of building transmission lines would create incentives to adopt innovative technologies and pricing formulas that could reduce the need for additional transmission lines.¹⁶⁷ As Munson notes generally,

The fact that more efficient technologies are available or just on the horizon does not mean they will be adopted, or that continued technological development will be a priority of a restructured electricity industry. Whether power innovations are boosted depends a great deal on how policy barriers are removed and open markets are advanced.¹⁶⁸

Nonetheless, we recognize that utilities are politically powerful and unlikely to quietly yield a valuable power to redistribute rights in their favor.¹⁶⁹ We therefore also suggest alternative means of making the eminent domain process more likely to yield improved LIEs.

B. Empowering neutral decision makers to structure easements

As discussed above, a key difference between LIEs and other easements is the absence of either arms' length bargaining over the easement terms or a neutral third party to craft the easement. Eminent domain proceedings in all states include neutral third parties to determine the price. For example, Texas law provides for an initial commissioners hearing using a panel of three area residents appointed by the local district judge followed by appeal to the district court.¹⁷⁰ A small change to most states' statutes would be sufficient to enable these same neutral decision makers to have the power to alter the easement terms proposed by the utility for the LIE.¹⁷¹ Not only would this

¹⁶⁷ Munson, *supra* note 10, at 149 (noting potential for improved conductors that can carry more power than existing materials); 150 (noting potential for congestion charges to improve efficiency of networks). Innovation is a problem in electric utilities because as a group they spend relatively little on research and development, devoting just 0.03% of revenue to R&D. *Id.* at 152. *See also* Nye, *supra* note 15, at 159 (noting lack of investment in R&D and advanced transmission line technology).

¹⁶⁸ Munson, *supra* note 10, at 152.

¹⁶⁹ Utilities are aided by environmentalists' "myopic focus on Renewable Portfolio Standards", which helps create a 'bootleggers and Baptists' coalition in favor of expansion of transmission lines. Munson, *supra* note 10, at 164; Bruce Yandle, *Bootleggers and Baptists-The Education of a Regulatory Economist*, REGULATION 12 (May/June 1983). "Soft" energy gurus, Amory and Hunter Lovins, have long advocated for greater reliance on dispersed generation systems but the overall response has been greater centralization. Nye, *supra* note 15, at 132.

¹⁷⁰ Tex. Prop. Code Ann. § 21.014.

¹⁷¹ Asking a neutral third party to make such decisions may require additional skills beyond valuation but we think courts and the sorts of lay panels often asked to play a role in such disputes (as in Texas) are

provide a useful check on potential abuse of the eminent domain process, but it would also enable the eminent domain proceeding to better cope with hard-to-value characteristics of easements, such as indemnification clauses. Moreover, this would likely induce more bargaining by utilities prior to the contest stage as they bargain in the shadow of the law.

C. Create exit rights

Utilities should not be able to take perpetual easements. The useful life of the infrastructure installed on LIEs is predictable. If utilities are allowed to retain eminent domain rights, they should be limited to taking easements no longer than the current industry standard for the useful life of the infrastructure to be installed or twenty years, whichever is shorter.¹⁷² And, of course, the default rule should be that a utility would be obliged to remove any structures it had placed on the easement. While this is less than the unilateral right of exit allowed co-owners of property, it recognizes that infrastructure investments are lumpy and the utilities must be able to recover their fixed costs if they are to be viable. Of course, utilities and landowners should be free to negotiate for longer easements if they can reach an agreement on the term, but the power of eminent domain should be limited in recognition of the extraordinary burdens being forced into an involuntary relationship with a utility carry for the landowners.

D. Create better data on LIE costs and provisions

One problem for landowners is that they compete on unequal ground with utilities seeking to create LIEs. The utilities have the benefit of knowing what they paid for easements elsewhere; the landowners have only the information their appraisers and attorneys are able to gather from public records and other sources. Utilities not only do not share this information with each other or landowners, but they do not always use it themselves. For example, a LCRA representative stated in a commissioners' hearing that "there was no budget" for land acquisition for the transmission line it was constructing, implying the utility could spend as much as it wished. Developing a database of LIE terms and prices would enable appraisers to provide decision makers and the parties to eminent domain proceedings with better estimates of the impact of LIEs.

If states are going to allow utilities to exercise eminent domain powers, they ought to seek to ensure that landowners receive a fair market price for the easements. Creating a statewide, publicly available database of LIE terms and prices would be a significant step in this direction and aid appraisers, fact finders, property owners, and utilities in properly costing out proposed LIEs.

capable of determining the terms of easements as well as the value of interests taken. The parties would be able to propose language to the decision maker(s) as well.

¹⁷² If the length of the easement depended on the utility's declaration of the useful life of its equipment, we suspect the claimed useful life of equipment would improve dramatically. Thus we suggest that a maximum life be included to prevent the utility from overinvesting in (or claiming) extending equipment's life span to procure longer easements.

E. Establish standards to guide determination of value

There are significant and complex issues involved in valuing the affect of an LIE on a property. One is how to assess the negative impact on a property's remainder. A variety of methods have been used, including surveys and hedonic pricing studies based on actual sales.¹⁷³ While hedonic pricing has significant advantages because it relies on revealed preference data, the optimal approach involves multiple methods to “triangulate” the real effect.¹⁷⁴ Effects can go beyond price issues as well. Some US and UK studies showed reluctance by banks to lend for properties located near or under HVOTLS;¹⁷⁵ there is a lack of studies on whether there are longer times to sale for properties near or burdened with LIEs.¹⁷⁶

Another such issue is the impact of public perception of the health impacts or other dangers of the LIE. There is a large and contested literature on most LIE uses, from cell phone infrastructure to power lines.¹⁷⁷ Whether these dangers actually exist is irrelevant, however, if they have an impact on the market price of the burdened land.¹⁷⁸

Current practice leaves these decisions to be resolved on a case-by-case basis. Developing a framework for compensable impacts and guidelines could be done by state public utility commissions through the regulatory process or by other bodies, including legislatures. Of course, these are open to regulatory capture by utilities, but most states have law firms which regularly represent landowners in eminent domain and negotiations over LIEs and so there would be a repeat player counterweight to utilities.

IV. Conclusion

Over time, the size, scope, and number of LIEs are likely to expand significantly to meet the demand for incorporating renewable energy and unconventional sources of fossil fuels into our national energy networks, as well as to meet the demand for greater telecommunications bandwidth. In addition, hardening our networks against natural disasters and terrorists require network expansions that will require LIEs. If we do not

¹⁷³ Dent & Sims, *Introduction*, *supra* note 140, at 5-6.

¹⁷⁴ David Wyman, Peter Dent, & Sally Sims, *Methods*, in TOWERS, TURBINES AND TRANSMISSION LINES, *supra* note 140, at 11, 21-22.

¹⁷⁵ Dent & Sims, *Risk Perception*, *supra* note 140, at 36-37.

¹⁷⁶ David Wyman & Elaine Worzala, *A Review of HVOTL Studies in North America*, in TOWERS, TURBINES AND TRANSMISSION LINES, *supra* note 140, at 101, 111.

¹⁷⁷ TOWERS, TURBINES AND TRANSMISSION LINES, *supra* note 140; Munson, *supra* note 10, at 176 (“Proposals for high-voltage wires often provoke heated reactions from homeowners worried about falling property values and illnesses caused by electromagnetism.”).

¹⁷⁸ Peter Dent & Sally Sims, *Risk Perception, Stigma, and Behavior*, TOWERS, TURBINES AND TRANSMISSION LINES, *supra* note 140, at 27, 37 (“If factors such as health, aesthetics and nuisance are considered to cause property stigma in specific cases, and these factors are considered to have an impact on the value of the property, then this needs to be incorporated into a valuer’s toolkit and quantified.”).

wish to disproportionately burden those landowners on whose properties the LIEs will be located, we need to improve the process by which LIEs are created.

The most important reform is to push more LIEs into negotiations. The unilateral creation of LIEs on all dimensions other than compensation is problematic in many ways. Since LIEs rarely involve exit rights, non-negotiated LIEs place landowners into an often adversarial relationship with a new co-owner of their land. Absent negotiation, giving courts and other bodies the power to set easement terms during contested LIE creations would at least partially address these problems. Other steps, as outlined above, that better inform landowners and courts and other decision makers about the impacts of LIEs and the prices set in both voluntary and involuntary LIE creations would also improve the eminent domain process.

Appendix 1 – TYPICAL INDEMNIFICATION LANGUAGE USED IN ARMS’ LENGTH AGREEMENTS

Grantee hereby agrees to defend, indemnify and hold grantor and its agents, successors and assigns harmless from and against, and to reimburse, grantor and its agents, successors and assigns with respect to any and all liabilities, claims, demands, damages, expenses or causes of action of whatever nature, specifically including, but not limited to, reasonable attorneys’ fees and costs of suit paid or incurred by Grantor, its agents, successors and assigns, asserted by others and related, directly or indirectly, to Grantee’s use of the easement property, construction or operation of the pipeline; breach of this agreement, and/or that are caused by or arise in any manner out of acts or omissions of Grantee, its agents, employees, representatives or any other person under Grantee’s control or acting at Grantee’s direction. The terms of this indemnity provision as it applies to environmental matters shall survive the termination or expiration of the easements.

Appendix 2 – TYPICAL ABANDONMENT CLAUSE LANGUAGE USED IN ARMS’ LENGTH AGREEMENTS

Abandonment. If Grantee discontinues to use the Transmission Facilities for a period greater than one (1) uninterrupted year, after receiving a written request from Grantor, Grantee shall remove all of the Transmission Facilities on the Land and restore the Land to its approximate original condition that existed before Grantee constructed its Transmission Facilities all at Grantee’s sole cost and expense. Such removal by Grantee shall be accomplished within one (1) year after receiving a written request from Grantor and include any Transmission Facilities to a depth of one (1) foot beneath the surface of the Land.

Appendix 3 - ONCOR EASEMENT (taken with eminent domain)

EASEMENT AND RIGHT OF WAY

STATE OF TEXAS

§

§ KNOW ALL MEN BY THESE

PRESENTS:

COUNTY OF LAMPASAS

§

That, EVAN GEORGE EVANS and BONNIE KIM EVANS, HUSBAND AND WIFE, hereinafter called "Grantors", whether one or more, for and in consideration of Ten and no/100 Dollars (\$10.00) and other valuable consideration to Grantor In hand paid by Oncor Electric Delivery Company LLC, a Delaware limited Liability company, 1601 Bryan St., Dallas, Texas 76201, hereinafter referred to as "Grantee", has granted, sold and conveyed and by these presents does grant, sell and convey unto said Grantee, its successors and assigns, an easement and right-of-way for one double circuit electric transmission power line consisting of a variable number of wires and cables, including communication wires to be used solely In connection with the transmission of electricity, together with all necessary or desirable appurtenances Including supporting structures, foundations, guy wires and guy anohorages (the "Facilities") over, under, across and upon all that certain tractfs) of land located in Lampasas County, Texas, more particularly described in Exhibits A and B, attached hereto and made part hereof.

Together with: (1) the right of Ingress and egress over and along the easement and right-of-way and over Grantor's adjacent lands to or from the easement and right-of-way, for the purpose of and with the right to construct, operate, improve, reconstruct, replace, repair, inspect, patrol, maintain and add or remove such electric power and communications lines or other Facilities as the Grantee may from time to time find necessary, convenient or desirable to erect thereon during the initial construction of the Facilities or at any time thereafter; (2) the right to Install gates In all existing and future fences crossing the easement and right-of-way, provided such gates will be Installed in a manner that will not weaken such fences; (3) the right to relocate its facilities along the same general direction of said lines; (4) the right to trim and cut down trees and shrubbery on the easement and right-of-way, including by use of herbicides or other similar chemicals approved by the U. S. Environmental Protection Agency, to the extent, In the sole judgment of the Grantee, necessary to prevent possible interference with the operation of said lines or to remove possible hazard thereto; and (5) the right to remove at Grantor's expense or to prevent the construction on the easement and right-of-way of any or all buildings, structures and obstructions.

Grantor shell not make or cause any changes In grade, elevation, or contour of the land (except those activities, excluding terracing, associated with normal agricultural activities) within the easement and right-of-way described herein without first providing advance notice and obtaining prior written consent to do so from Grantee. If written consent Is not obtained prior to any action by Grantor that causes any changes In grade, elevation, or contour of the land within the easement and right-of-way, Grantor shall,

upon demand from Grantee, at Grantor's expense, restore the easement and right-of-way to Its previously existing condition, or reimburse Grantee fully for the cost of adjusting its Facilities as necessary to accommodate the change in grade, elevation, or contour of the land within the easement and right-of-way. In the event Grantor fails to promptly restore the grade, elevation, or contour to its previously existing condition.

Grantor shall not perform any excavations, trenching, or other soil disturbing activities (except those activities, excluding terracing, associated with normal agricultural activities) that, in the sole judgment of Grantee, will endanger the integrity of the supporting structures and/or foundations or other Facilities, as applicable, or perform any other activities that may, in the sole judgment of Grantee, remove, reduce, or adversely affect or impact the lateral support of the supporting structures and/or foundations or other Facilities, as applicable, without first providing advance notice and obtaining prior written consent to do so from Grantee. If prior written consent is not obtained by Grantor prior to performing any excavation, trenching or other soil disturbing activity that endangers the integrity of the supporting structures or foundations or other Facilities, as applicable, Grantor shall, upon demand from Grantee, at Grantor's expense, restore the easement and right-of-way to Its previously existing condition, or reimburse Grantee fully for the cost of adjusting its Facilities as necessary to accommodate the excavation, trenching, or soil disturbing activity in the event Grantor fails to promptly restore the easement and right-of-way to Us previously existing condition or cannot do so.

Grantor reserves the right to use the easement and right of way area provided such use shall not include the growing of trees thereon or any other use that might, in the sole judgment of the Grantee, interfere with the exercise by the Grantee of the rights hereby granted. Grantor further reserves the right to lay out, dedicate, construct, maintain and use across said strip such roads, streets, alleys, railroad tracks, underground telephone cables and conduits and gas, water and sewer pipe lines as will not interfere with Grantee's use of said land for the purpose aforesaid, provided all such facilities shall be located at angles of not less than 45 degrees to any of Grantee's lines, and shall be so constructed as to provide with respect to Grantee's Facilities the minimum clearances provided by law and recognized as standard in the electrical industry, as same may change from time to time. Grantor also reserves the right to erect fences not more than 8 feet high across said land, provided all such fences shall have gates, openings, or removable sections at least 16 feet wide which will permit Grantee reasonable access to all parts of said land. Should Grantee later determine that a width greater than 16 feet is necessary, then Grantee shall have the right granted above to install additional or wider gates at Its sole discretion, but the installation of such additional or wider gates shall be at the sole expense of Grantee.

Grantor retains all right, title, and interest in and to all oil, gas, and other minerals (whether by law classified as part of the mineral estate or the surface estate) and groundwater in, on, and under the strip or land described herein; provided, however, that Grantor shall not be permitted to drill for oil, gas, and other minerals, and groundwater from and under said strip of land but Grantor may extract oil, gas, and other minerals, and groundwater from and under said strip of land by directional drilling, mining, or other

means, so long as Grantee's use of said strip is not disturbed, which use shall include the right of Grantee to physical and/or lateral support for the Facilities, as well as the right that the Facilities shall not be endangered, obstructed, or Interfered with by such operations. In addition to the consideration above recited for the easement and right-of-way hereby granted, the Grantee will pay to the owner of the land, and, if leased, to his tenant, as they may be respectively entitled for actual damages to fences and growing crops and Improvements located on the easement and right-of-way caused by reason of the construction, maintenance, addition or removal of said lines; provided, however, that no such payment will be made for trimming or removal of trees growing on the easement and right-of-way, nor for removal of buildings, structures, or obstructions erected upon the easement and right-of-way after granting of this easement and right-of-way.

TO HAVE AND TO HOLD the above described easement and right-of-way unto the said Grantee, Its successors and assigns, until all of said lines and other Facilities shall be abandoned, and In that event said easement and right-of-way shall cease and all rights herein granted shall terminate and revert to Grantor or Grantor's heirs, successors or assigns; and Grantor hereby binds Grantor and Grantor's heirs, successors, assigns, and legal representatives, to warrant and forever defend the above described easement and right-of-way unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof. This easement may be assigned In whole or in part.

Appendix 4 - FPL EASEMENT (negotiated without eminent domain)

TRANSMISSION EASEMENT

THIS TRANSMISSION EASEMENT ("Agreement") is made and entered into this 31st day of March, 2009 by and among Stacy Loth, as her sole and separate property, as to an undivided 50% Interest, and Stephanie A. Iglor, as her sole and separate property, as to an undivided 50% Interest (collectively, the "Grantor"), and Horse Hollow Generation Tic, LLC, a Delaware limited liability company ("Grantee"), who are sometimes individually referred to as a "Party" and collectively as the "Parties".

RECITALS

A. Grantor is the owner of a certain tract of real property located in Kimble County, Texas and more particularly described on Exhibit A attached hereto and made a part hereof ("Land"); and

B. Grantor desires to grant and convey to Grantee an exclusive easement for the erection, installation and maintenance of certain facilities for the transmission of electric power over and across a certain portion of the Land.

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. Transmission Easement. Grantor grants to Grantee an irrevocable, exclusive easement for the construction, installation, maintenance, use, operation, repair, replacement, relocation and removal of Transmission Facilities and Telecommunication Facilities on, over, across, along and under the Land or such portions thereof that may be described in the attached Exhibit A and depicted in the attached Exhibit B ("Transmission and Telecommunication Easement"). "Transmission Facilities" shall mean all improvements whose purpose is to deliver electrical power to an electrical power grid or other system, including without limitation transformers and overhead and underground electrical transmission lines, and interconnection facilities. "Telecommunication Facilities" shall mean all improvements whose purpose is to provide telecommunication services, including telephone, closed-circuit television, microwave, internet, computer data and other telecommunication services related to the operation of the Transmission Facilities. Grantor shall also grant to Grantee the right to investigate, inspect, survey, and conduct tests on the Land relating to the Transmission and Telecommunication Easement, including, but not limited to, environmental, archeological and geotechnical tests and studies. This easement is limited to one hundred twenty-five (125) feet in width, There shall be no more than one 345 KV electric line and reasonably necessary accessories structures for said 345 KV line. The poles utilized shall be single spun concrete poles.

2. Access Easement. Grantor grants to Grantee an irrevocable, non-exclusive easement for vehicular and pedestrian ingress and egress over, across and along the Land

or such portions thereof that may be described in the attached Exhibit A ("Access Easement") by means of any existing roads or lanes thereon, or otherwise by such route or routes as Grantee or Grantor may construct from time to time. If Grantee needs to construct a road on the Land, it shall coordinate the location of the road with Grantor. Grantee agrees to maintain and repair all roadway improvements located on the Access Easement for the joint use thereof by Grantor and Grantee for ingress and egress over, across, and along the Access Easement; provided, however, Grantor shall reimburse Grantee for any costs and expenses incurred by Grantee to repair any damage or perform any special maintenance of the roadway caused by any person using the roadway with Grantor's permission.

3. Construction Easement and Guy Easement. Grantor hereby grants to Grantee, for the benefit of Grantee and its successors and assigns, a temporary easement on, over, along and under that portion of the Land located within the four hundred thirty foot (430*) area as measured from the point of intersection of the center line of the Transmission and Telecommunication Facilities as depicted on the attached Exhibit C ("Construction Easement") (1) to construct and install guy stub(s), anchors and necessary guy wires (collectively "Guy Facilities") to support the Transmission Facilities and Telecommunication Facilities to be constructed on the Transmission and Telecommunication Easement adjacent to the Construction Easement; (2) to store material and equipment during construction of the Guy Facilities and during construction of the Transmission Facilities and Telecommunication Facilities; and (3) to construct and install the Transmission Facilities and Telecommunication Facilities to be constructed on the Transmission and Telecommunication Easement adjacent to the Construction Easement. The Construction Easement shall terminate upon completion of construction of the Guy Facilities and the Transmission Facilities and Telecommunication Facilities constructed on the Transmission and Telecommunication Easement adjacent to the Construction Easement. Grantor hereby grants to Grantee, for the benefit of Grantee and its successors and assigns, a permanent, exclusive easement on, over, along and under the Land located within the one hundred and sixty-five foot (165') area as measured from the point of intersection of the center line of the Transmission and Telecommunication Facilities as depicted on the attached Exhibit C ("Guy Easement") to maintain, use, operate, repair, replace, relocate and remove the Guy Facilities.

4. Ownership. Grantor is the holder of fee simple title to all of the Land, and has the right, without the joinder of any other party, to enter into this Agreement and grant Grantee the Easements. As used herein, the Transmission and Telecommunication Easement and Access Easement shall collectively be referred to as "Easements". Grantor agrees to warrant and defend its ownership of the Land and Grantee's interest in this Agreement against any other party claiming to have any ownership interest in the Land.

5. Relocation of Facilities. The exact locations and routes of the Easements may not be determined until the completion of Grantee's inspection, testing, study and surveying of the Land and the locations and routes of such Easements as shown on the attached Exhibit B may be relocated or rerouted by Grantee, after obtaining written consent from Grantor, at any time during the term of this Agreement, so long as the

nature and extent of any such relocated or rerouted Easements are not materially different and impose no greater burden on the Land than the original locations or routes, and so long as Grantee takes appropriate actions to minimize any disruption or inconvenience to Grantor and the uses of the Land reserved to Grantor; PROVIDED, HOWEVER, once the 345 KV line has been constructed, Grantee shall have no further right to change the location of the easement without the prior written consent of Grantor, Grantee shall provide Grantor an "as built" survey of any such relocated or rerouted Easements after receiving a written request from Grantor.

6. Uses Reserved by Grantor. Grantor expressly reserves the right to use the Land for all other purposes not granted to Grantee under this Agreement, including oil and gas exploration and production, ranching and agricultural uses, hunting and other recreational uses that do not interfere in any way with Grantee's use of the Land under this Agreement, and including the joint use of the roadways now or hereafter located on the Access Easement, subject to the following conditions, requirements and limitations:

i. Oil and Gas Exploration and Production. Grantor agrees to provide Grantee with current information concerning the status and location of all oil and gas exploration and production activities on the Land. Any new oil and gas leases or renewals of existing oil and gas leases entered into by Grantor must include a surface use agreement that will prevent the oil and gas exploration and production activities from interfering with Grantee's use of the Land.

ii. Ranching and Agricultural Uses. Grantor and Grantee agree to cooperate with each other in a manner that will allow Grantor to continue the current ranching and agricultural uses of the Land in a manner that does not unreasonably interfere with Grantee's use of the Land.

* There is included a temporary easement as shown on Exhibit C until installation of the 345 KV line has been completed and used in a commercial manner.

iii. Hunting and Other Recreational Uses. Grantor and Grantee agree to cooperate with each other in a manner that will allow Grantor to use the Land for hunting and other recreational purposes in a manner that does not unreasonably interfere with Grantee's use of the Land or impact the safety of its employees or contractors, provided however, during hunting season, Grantee will not enter the Land without providing Grantor or Grantor's attorney notice, as provided in Section 13 of (his Agreement, of their intentions to enter the Land.

7. No Interference. Grantor covenants and agrees that neither Grantor nor its agents, lessees, invitees, guests, licensees, successors or assigns will (i) interfere with, impair or prohibit the free and complete use and enjoyment by Grantee of its rights granted by this Agreement; (ii) take any action which will in any way interfere with or impair the transmission of electric, electromagnetic or other forms of energy to or from the Land; or (iii) take any action which will interfere with or impair Grantee's access to the Land for the purposes specified in this Agreement. Grantee shall have the right,

without compensation to Grantor, to cut, prune and remove or otherwise dispose of any foliage or vegetation on or near the Land that Grantee deems a threat or potential threat to the Transmission Facilities or its rights hereunder.

8. Right to Mortgage. Grantee may, upon notice to Grantor, but without Grantor's consent or approval, mortgage, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in the Land. These various security interests in all or a part of the Land are collectively referred to as a "Mortgage" and each holder of the Mortgage, is referred to as "Mortgagee." Any such Mortgage shall use the Land only for the uses permitted under this Agreement. Whenever Grantee has mortgaged an interest under this Section, it will give notice of the Mortgage (including the address of the Mortgagee for notice purposes) to Grantor; provided that failure to give this notice shall not constitute a default under this Agreement, but rather shall only have the effect of not binding Grantor with respect to such Mortgage until notice is given. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Agreement, Grantor shall give written notice of the default to each Mortgagee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. To the extent permitted by the Mortgage at issue, any Mortgagee shall be permitted to exercise or perform any and all of Grantee's rights and obligations hereunder and Grantor shall accept such exercise and performance thereby. Any Mortgagee under any Mortgage shall be entitled to assign its interest or enforce its rights thereunder, as permitted by applicable law, without notice to or approval of Grantor.

9. Assignment and Sublease. Grantee shall have the right, without Grantor's consent, to sell, convey, lease, or assign all or any portion of its interest in the Land, on either an exclusive or a non-exclusive basis, or to grant subleases, subcasements, co-easements, separate leases, easements, licenses or similar rights with respect to the Land (collectively, "Assignment"), to one or more persons or entities (collectively "Assignee"). Any such Assignee shall use the Land only for the uses permitted under this Agreement. When Grantee has assigned its interests under this Section, or has conveyed a sublease, subeasement or other interest, Grantee shall give notice of the assignment or conveyance (including the address of the Assignee for notice purposes) to Grantor; provided the failure to give such notice shall not constitute a default under this Agreement, but rather shall only have the effect of not binding Grantor with respect to such assignment or conveyance until such notice is given. Any such assignment by Grantee of its interests in this Agreement shall release Grantee from all obligations accruing after the date that liability for such obligations is assumed by the Assignee.

10. Hazardous Materials. Grantor represents and warrants that, to the best of Grantor's knowledge, the Land is not and has not been in violation of any federal, state or local environmental health or safety laws, statute, ordinance, rule, regulation or requirement ("Environmental Laws"), and Grantor has not received any notice or other communication from any governmental authorities alleging that the Land is in violation of any Environmental Laws. "Hazardous Materials" shall mean any asbestos containing materials, petroleum, explosives, toxic materials, or substances regulated as hazardous

wastes, hazardous materials, hazardous substances, or toxic substances under any federal, state, or local law or regulation. Grantor represents and warrants that, except as disclosed to Grantee in writing, to the best of Grantor's knowledge, no underground storage tanks and no Hazardous Materials are or were located on the Land during or prior to Grantor's ownership of the Land. Grantor shall not violate in a material way any Environmental Law relating to the Land.

11. Indemnity by Grantee. Grantee shall defend, indemnify, protect and hold Grantor harmless from and against all liabilities, costs, expenses, obligations, losses, damages, claims, (collectively "Liability") resulting from the negligence, willful misconduct, or breach of this Agreement by Grantee, its agents, contractors or employees, invitees, licensees and permittees; provided, however, that such Liability is not due to any negligence, willful misconduct, or breach by Grantor, its agents, contractors or employees, invitees, licensees or permittees.

12. Removal. If Grantee discontinues to use the Transmission Facilities for a period greater than one (1) uninterrupted year, after receiving a written request from Grantor, Grantee shall remove all of Transmission Facilities on the Land and restore the Land to its approximate original condition that existed before Grantee constructed its Transmission Facilities all at Grantee's sole cost and expense. Such removal by Grantee shall be accomplished within one (1) year after receiving a written request from Grantor and include any Transmission Facilities to a depth of one (1) foot beneath the surface of the Land.

13. Notice. All notices given or permitted to be given hereunder shall be in writing. Notice is considered given either (i) when delivered in person to the recipient named below, (ii) upon receipt after deposit in the United States mail in a sealed envelope or container, postage and postal charges prepaid, return receipt requested or certified mail, addressed by name and address to the party or person intended, or (iii) twenty-four (24) hours from proper and timely delivery to on overnight courier service addressed by name and address to the party or person intended as follows:

Notice to Grantor: [Grantor's name and address]

Notice to Grantee: [Grantee's name and address]

Either party may, by notice given at any time or from time to time, require subsequent notices to be given to another individual person, whether a party or an officer or representative, or to a different address, or both. Notices given before actual receipt or notice of change shall not be invalidated by the change

14. Severability. If any term or provision of this Agreement, or the application thereof to any person or circumstance shall, to any extent, be determined by judicial order or decision to be invalid or unenforceable, the remainder of this Agreement or the

application of such term or provision to persons or circumstances other than those as to which it is held to be invalid, shall be enforced to the fullest extent permitted by law.

15. Governing Law. Except as otherwise provided herein, this Agreement be [sic] governed by the applicable laws of the State of Texas, and the County where the Land is located shall be considered the proper forum or jurisdiction for any disputes arising in connection with this Agreement.

16. Successors and Assigns. The terms and provisions of this Agreement shall be binding upon and shall inure to the benefit of the heirs, successors, assigns and personal representatives of the Parties.

17. Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed the original, and all of which together shall constitute a single instrument.

18. Easement Area Restoration. Within ninety (90) days after installation of the 345 KV electric line has been completed and electricity in commercial quantities is being transmitted, the Grantee, without contribution from Grantor, will clean the easement area, and as much as practical, restore the land to the condition in which it was found before said installation, including the removal of all rocks having a diameter of greater than twelve inches (12") which Grantee has unearthed.

19. Title Commitment Requirement. This Agreement is executed in good faith by the Grantor as the holder of one hundred percent (100%) of the ownership interests of the Land. Grantor and Grantee agree that this Agreement is contingent upon (i) receipt by Grantee of a title commitment from Stewart Title Guaranty Company or other national title insurance company authorized to do business in Texas and (ii) compliance with and completion of all requirements of any such title company, as set forth on "Schedule C" of such title commitment, which act to clarify record ownership of the Land and allow the title company to issue a title policy based upon such title commitment. In the event the title commitment and other supporting documents list vested ownership interest in the Land in people or entities other than the people and entities collectively named as "Grantor" in this Agreement and signatories hereto, upon which Grantee has relied in entering into this Agreement, this Agreement shall be null and void. Grantor and Grantee also agree that the division of ownership percentages or interests, if any, indicated in the title commitment shall be determinative for the purposes of compensation paid by Grantee under the separate Compensation agreement to this Agreement, unless the Grantee is otherwise unanimously directed by all applicable Grantor individuals and entities. Notwithstanding anything to the contrary herein, in the event the ownership percentages or interests as determined by a title commitment differ from that stated in the separate Compensation agreement, but the people or entities named as having an ownership interest in the title commitment is the same as the people and entities collectively named as "Grantor" herein, this Agreement shall be in full force and effect and the Parties agree to enter into an amendment to the separate Compensation agreement to this Agreement to reflect proper payment allocation. In the event that there are parties

or entities listed in the title commitment as having an ownership interest in the Land (including fee simple, remainder and life estate interests) not a party to this Agreement, then this Agreement shall be null and void, provided, however, all entities and individuals currently identified as a Grantor in this Agreement shall diligently cooperate with Grantee to execute a similar new agreement with all entities and individuals having an ownership interest in the Land properly included. Grantor shall diligently cooperate with all requirements that a title company may set forth (in a "Schedule C" to a title commitment, or reasonably otherwise) in order to determine, clarify and/or correct the record title to the Land.

Appendix 5 - LCRA EASEMENT (Taken with eminent domain)

ELECTRIC LINE EASEMENT AND RIGHT-OF-WAY

EASEMENT PROPERTY: Two tracts of land consisting of approximately 14.35 acres and 16.88 acres, both of which are in Kimble County, Texas, being more particularly described on the plat and field notes attached hereto as Exhibit A and Exhibit B, which exhibits are incorporated herein for all purposes.

ACCESS EASEMENT: A tract of land consisting of approximately 1.13 acres in Kimble County, Texas, being more particularly described on the plat and field notes attached hereto as Exhibit C, which exhibit is incorporated herein for all purposes.

PROJECT: Electric transmission line or lines not to exceed a nominal voltage of 345 kV, consisting of a variable number and sizes of wires and circuits, and all necessary or desirable appurtenances (including insulators and above ground supporting structures made of wood, metal, or other materials). The Project may also include communication lines and appurtenances used solely in connection with electric system operations.

GRANTOR, for the CONSIDERATION paid to GRANTOR, hereby grants, sells, and conveys to GRANTEE an easement and right-of-way in, over, across, under, upon, through, and above the EASEMENT PROPERTY and in, over, across, and upon the ACCESS EASEMENT, together with all and singular the rights and appurtenances thereto in anywise belonging, to have and hold it to GRANTEE and GRANTEE'S successors and assigns forever. The easement, right-of-way, rights, and privileges herein granted over the EASEMENT PROPERTY shall be used for the purposes of locating, constructing, placing, operating, maintaining, reconstructing, replacing, rebuilding, upgrading, removing, inspecting, patrolling, repairing, protecting, or altering the PROJECT, or any part of the PROJECT, and making connections therewith.

GRANTEE shall have the right of ingress and egress at all times upon and across the EASEMENT PROPERTY for the above stated purposes and upon and across the ACCESS EASEMENT to and from the EASEMENT PROPERTY to provide vehicular and pedestrian access to and from the EASEMENT PROPERTY for GRANTEE and its agents or contractors. GRANTEE shall have the right to construct and maintain a right-of-way on the ACCESS EASEMENT suitable for such access, but GRANTEE shall not be responsible for the condition, repair, or maintenance of such right-of-way, except that GRANTEE shall repair any actual damage done to such right-of-way by GRANTEE or any of its agents or contractors or any actual damage done to any existing roads of GRANTOR located within the ACCESS EASEMENT. GRANTEE shall have the right to install and maintain appropriate gates along and in any fence, as necessary or appropriate for the exercise of GRANTEE'S right of ingress and egress on the EASEMENT PROPERTY and ACCESS EASEMENT.

GRANTEE shall have the right to place poles, towers, guys or other ground-based support structures permanently on the EASEMENT PROPERTY. GRANTEE shall have

the right to place new or additional wire or wires within the EASEMENT PROPERTY and to change the sizes and transmission voltages thereof not to exceed nominal 345 kV. GRANTEE shall have the right to locate, relocate, or reconstruct the PROJECT within the EASEMENT PROPERTY. GRANTEE shall have the right to trim, chemically treat, and/or remove from the EASEMENT PROPERTY and ACCESS EASEMENT all trees, shrubs, and parts thereof, and the right to remove any structure, building, object, equipment, or obstruction within the EASEMENT PROPERTY and ACCESS EASEMENT. GRANTEE shall limit chemical treatment of vegetation to spot application to treat stumps resulting from removal of trees and to keep undergrowth clear from gates, fences, and transmission line support structures and appurtenances. GRANTEE shall follow all applicable local, state, and federal laws, ordinances, rules, and regulations in the application and use of chemicals on the EASEMENT PROPERTY and ACCESS EASEMENT.

GRANTOR shall not place or construct any structure in or on the EASEMENT PROPERTY or ACCESS EASEMENT. GRANTOR may not plant any trees or shrubs on the EASEMENT PROPERTY or ACCESS EASEMENT, nor retain or impound surface waters within the EASEMENT PROPERTY or ACCESS EASEMENT, nor change the grade of the EASEMENT PROPERTY or ACCESS EASEMENT without the prior written approval of GRANTEE. GRANTOR shall not place or operate any temporary or permanent equipment or object within the EASEMENT PROPERTY without fully complying with all applicable laws and regulations. GRANTEE shall have the right to place temporary poles, guys, and supporting structures on the EASEMENT PROPERTY for use in erecting, maintaining, or repairing the PROJECT.

GRANTOR reserves the right to use and enjoy the surface of the EASEMENT PROPERTY for all purposes, including the right to cultivate and grow crops; to cultivate gardens, grass, and landscaping; to pasture livestock on the EASEMENT PROPERTY; to build fences across; to temporarily park cars, trucks, and equipment on the EASEMENT PROPERTY, and to place across the EASEMENT PROPERTY, or on or along the length thereof, roads, streets, driveways, and sidewalks, so long as such use or uses do not interfere with or interrupt the exercise of the easement rights granted to GRANTEE herein.

GRANTEE agrees that upon completion of construction of the PROJECT, GRANTEE shall remove and dispose of all debris, trash, and litter resulting from construction on the EASEMENT PROPERTY and ACCESS EASEMENT and shall restore the surface of the EASEMENT PROPERTY, as nearly as reasonably practicable, to the condition in which the EASEMENT PROPERTY was found immediately before construction was begun; however, GRANTOR understands and agrees that vegetation cleared from the EASEMENT PROPERTY will not be replaced, and areas modified by GRANTEE for access or erosion control will not be restored to their prior condition.

It is understood and agreed that the CONSIDERATION herein paid includes payment for all physical damages for the initial construction and ordinary operation and maintenance of the PROJECT, but does not include payment for physical damages, if

any, to GRANTOR'S remainder property, which may occur in the future after the original construction of the PROJECT, directly resulting from the reconstruction or repair of the PROJECT. GRANTEE shall not be liable for damages caused by keeping the EASEMENT PROPERTY and ACCESS EASEMENT clear of trees, undergrowth, brush, structures, and obstructions. All parts of the PROJECT installed on the EASEMENT PROPERTY shall remain the exclusive property of GRANTEE.

GRANTOR expressly reserves all oil, gas, and other minerals owned by GRANTOR, in, on, and under the EASEMENT PROPERTY and ACCESS EASEMENT, provided that GRANTOR shall not be permitted to drill or excavate for minerals on the surface of the EASEMENT PROPERTY or ACCESS EASEMENT, but GRANTOR may extract oil, gas, or other minerals from and under the EASEMENT PROPERTY or ACCESS EASEMENT by directional drilling or other means which do not interfere with or disturb GRANTEE'S use of the EASEMENT PROPERTY or ACCESS EASEMENT.

The rights granted to GRANTEE in this Easement and Right-of-Way are assignable in whole or in part. This instrument, and the terms and conditions contained herein, shall inure to the benefit of and be binding upon GRANTEE and GRANTOR, and their respective heirs, personal representatives, successors, and assigns. GRANTOR warrants and shall forever defend the Easement and Right-of-Way to GRANTEE against anyone lawfully claiming or to claim the EASEMENT PROPERTY or ACCESS EASEMENT or any part thereof, subject to the following:

- i. visible and apparent easements not appearing of record ;
 - ii. any discrepancies, conflicts, or shortages in area or boundary lines or any encroachments or any overlapping of improvements which a current survey would show;
- and,
- iii. easements, restrictions, reservations, covenants, oil and gas leases, mineral severances, and encumbrances for taxes and assessments (other than liens and conveyances) presently of record in the Official Public Records of Kimble County, but only to the extent that said items are valid and in force at this time.

When the context requires, singular nouns and pronouns include the plural. When appropriate, the term "GRANTEE" includes the employees and authorized agents of GRANTEE. This instrument may be executed in duplicate originals, and each counterpart shall be deemed an original and all such counterparts together shall constitute one and the same instrument.