

**STATE OF IOWA
DEPARTMENT OF COMMERCE
IOWA UTILITIES BOARD**

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Executive Secretary
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IOWA UTILITIES BOARD**

IN RE:

DOCKET NO. HLP-2014-0001

DAKOTA ACCESS, LLC

**DIRECT TESTIMONY OF
CHARLES A. FREY, JR.
ON BEHALF OF
DAKOTA ACCESS, LLC
DAKOTA ACCESS EXHIBIT CAF DIRECT**

SEPTEMBER 8, 2015

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1 **I. WITNESS INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, PRESENT POSITION AND BUSINESS**
3 **ADDRESS.**

4 A. My name is Charles A. (Chuck) Frey, Jr., and I am the Vice President – Engineering for
5 Energy Transfer Partners (ETP), the parent company of Dakota Access, LLC, the
6 Applicant in this docket. My business address is 1300 Main Street, Houston, Texas,
7 77002.

8 **Q. WHAT ARE YOUR DUTIES AND RESPONSIBILITIES AS VICE PRESIDENT --**
9 **ENGINEERING OF ETP?**

10 A. Specifically as it related to Dakota Access, I am responsible for engineering and
11 engineering related work pertaining to the design and construction of the Dakota Access
12 Pipeline (DAPL or “the Project”).

13 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
14 **BACKGROUND.**

15 A. I received a Bachelor’s of Science degree in Civil Engineering from Texas Tech
16 University. I am a Registered Professional Engineer in four States, and I have over 36
17 years of experience in the energy industry with roles of increasing responsibility and
18 leadership for the engineering design, construction and operation of midstream and
19 downstream facilities and pipelines. I began work for Energy Transfer in 2011 as Vice
20 President – Liquids Engineering which is my current position. Prior to Energy Transfer, I
21 began work in the industry as a project engineer and moved through a variety of
22 engineering and operations positions before becoming Director of Southwest Operations
23 for TEPPCO in 2000 where I was responsible for all operations in a four state region. In
24 2007, through an acquisition I moved to the role of Vice President of Texas Operations
25 for LDH Energy where I served until moving to Energy Transfer in 2011. In addition to

1 engineering design, construction and operations, at times my roles and responsibilities
2 have included project development, joint venture formation and management and asset
3 acquisition, integration and optimization.

4 **II. PURPOSE AND COVERAGE OF TESTIMONY**

5 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

6 A. I am testifying in support of Dakota Access's petition for a hazardous liquids pipeline
7 permit pursuant to Iowa Code § 479B and 199 Iowa Administrative Code chapter 13,
8 which was filed in January 2015. Dakota Access seeks the requested permit to construct,
9 install, operate, and maintain the Iowa portion of the DAPL, to be comprised of
10 approximately 347 miles of new 30-inch outside diameter crude oil pipeline running
11 underground from a point on the South Dakota/Iowa border west-northwest of Inwood,
12 Iowa, in Lyon County, Iowa, and extending southeasterly to a point just north of Keokuk,
13 Iowa, in Lee County, Iowa, on the Iowa/Illinois border. Dakota Access further seeks
14 authority to acquire easements for the construction of the DAPL in Iowa by the use of
15 eminent domain to the extent necessary.

16 My testimony includes a description of the corporate organization of Dakota
17 Access and its affiliates; Dakota Access's request for authority to construct the Project
18 and to use eminent domain if necessary; and a discussion of the project itself and the
19 benefits it will provide.

20 **Q. IN ADDITION TO YOUR PREPARED TESTIMONY, ARE YOU SPONSORING**
21 **ANY EXHIBITS?**

22 A. Yes, I am also sponsoring exhibits identified as CAF-1, CAF-2, and CAF-3. These
23 exhibits were prepared by me or under my supervision and direction, or I have direct and
24 firsthand knowledge of their contents.

1 **III. CORPORATE ORGANIZATION OF DAKOTA ACCESS AND ITS AFFILIATES**

2 **Q. WHERE IS DAKOTA ACCESS INCORPORATED AND WHAT IS ITS**
3 **BUSINESS ADDRESS?**

4 A. Dakota Access is a Delaware limited liability company with its principal offices at 3738
5 Oak Lawn Avenue, Dallas, Texas 75219. Dakota Access is authorized to transact
6 business in Iowa.

7 **Q. WHAT IS THE CORPORATE STRUCTURE AND OWNERSHIP OF DAKOTA**
8 **ACCESS?**

9 A. Dakota Access, LLC is a Delaware limited liability company with its principal offices at
10 3738 Oak Lawn Avenue, Dallas, Texas 75219. The membership interest of Dakota
11 Access, LLC is owned 75 percent by Dakota Access Holdings, LLC and 25 percent by
12 Phillips 66 DAPL Holdings LLC.

13 Dakota Access Holdings, LLC is owned 100 percent by Energy Transfer Partners,
14 L.P. (“ETP”), a master limited partnership publicly traded on the New York Stock
15 Exchange (“NYSE”). Energy Transfer Equity, L.P. (“ETE”), also a master limited
16 partnership publicly traded on the NYSE, indirectly owns the general partner of ETP and
17 certain of that partnership’s limited partner units. ETP owns the general partner of
18 Sunoco Logistics Partners, L.P. (“SXL”) and certain of its limited partner units. (ETE and
19 ETP are together referred to herein as “Energy Transfer”). Energy Transfer maintains its
20 corporate headquarters at 3738 Oak Lawn Avenue, Dallas, Texas 75219. ETP and SXL
21 have reached an agreement in principal for the transfer to SXL of an indirect 30 percent
22 interest in Dakota Access, LLC.

23 Phillips 66 DAPL Holdings LLC is owned 20 percent each by Phillips 66 DE
24 Holdings 20A LLC, Phillips 66 DE Holdings 20B LLC, Phillips 66 DE Holdings 20C
25 LLC, Phillips 66 DE Holdings 20D LLC, and Phillips 66 DE Holdings Primary LLC. The

1 five Phillips 66 entities are owned 100 percent by Phillips 66 Project Development Inc.
2 Phillips 66 Project Development Inc. is owned 100 percent by Phillips 66 Company.
3 Phillips 66 Company is 100 percent owned by Phillips 66, a Delaware corporation.
4 Phillips 66 is publicly traded on the NYSE as PSX, and maintains its corporate
5 headquarters at 3010 Briarpark Drive, Houston, Texas 77042.

6 **Q. PLEASE DESCRIBE THE BUSINESS OPERATIONS AND ASSETS OF THE**
7 **ENERGY TRANSFER COMPANIES.**

8 A. In the aggregate, Energy Transfer (including its subsidiaries and affiliates) owns and
9 operates approximately 71,000 miles of crude oil, refined products, natural gas, and
10 natural gas liquids (“NGL”) pipelines. Energy Transfer and its affiliates comprise the
11 second largest pipeline company in the U.S. by volume transported and the second largest
12 U.S. pipeline company measured by infrastructure. Energy Transfer’s business is
13 characterized by extensive industry and safety experience and strong financial
14 fundamentals. Energy Transfer and its affiliates employ approximately 28,000 people in
15 the United States. ETE has a total capitalization of approximately \$30.8 billion, while
16 ETP has a total capitalization of approximately \$22.8 billion.

17 ETP owns, operates, and maintains a diversified portfolio of energy assets. ETP
18 has pipeline operations across the United States and owns the largest intrastate pipeline
19 system in Texas. Collectively, ETP’s subsidiaries currently have operations that include
20 approximately 35,000 miles of natural gas and NGL pipelines, 5,400 miles of crude and
21 refined product pipelines and storage assets, as well as treating and processing assets and
22 three storage facilities located in Texas.

23 ETP owns the general partner of, and certain limited partnership interests in,
24 Sunoco Logistics, L.P. (“SXL”). SXL is a NYSE-listed publicly traded partnership that

1 owns, operates, and maintains a diverse mix of crude oil and refined products pipelines,
2 terminal and storage facilities, and crude oil acquisition and marketing assets in more
3 than 30 states throughout the United States. SXL's crude oil pipelines extend over 5,400
4 miles throughout the United States. SXL also owns, operates, and maintains 39 active
5 refined products terminals with an aggregate storage capacity of 8 million barrels, and
6 two crude oil storage facilities, with an aggregate capacity for approximately 27 million
7 barrels of crude oil storage, and related terminalling facilities. Additionally, SXL owns a
8 2 million barrel refined product terminal, and one inland and two marine crude oil
9 terminals with a combined storage capacity of 3 million barrels and related refined
10 products pipelines, in the Philadelphia, Pennsylvania, area. In total, SXL's refined
11 products segment consists of approximately 2,500 miles of refined products pipelines.
12 Three of SXL's refined products pipelines operated as joint-venture facilities have
13 facility operations in the Midwest: West Shore Pipe Line Company, Wolverine Pipe Line
14 Company, and Explorer Pipeline Company.

15 Lone Star NGL LLC ("Lone Star") is owned by ETP and owns, operates, and
16 maintains logistical assets to serve the NGLs market, including the West Texas Pipeline,
17 a long-haul intrastate pipeline that is 1,066 miles long and transports mixed NGLs from
18 the Permian Basin and Barnett Shale production centers to the NGL logistical hub in
19 Mont Belvieu, Texas. The West Texas Pipeline has a total capacity of 144,000 bpd and
20 connections with 20 injection points. Lone Star's West Texas Gateway NGL Pipeline, an
21 approximately 570 mile pipeline, placed in service in December 2012, has a total
22 capacity of 209,400 bpd of capacity from west Texas to Lone Star's storage facility in
23 Mt. Belvieu through its connection to another ETP pipeline.

1 ETP recently acquired Regency Energy Partners, L.P. (“Regency”), a midstream
2 energy partnership engaged in the gathering and processing, contract compression,
3 treating and transportation of natural gas and the transportation, fractionation and storage
4 of NGLs. Assets from the Regency acquisition include over 27,000 miles of natural gas
5 gathering and transportation pipelines, including its interest in the Midcontinent Express
6 Pipeline.

7 Another ETP company, Panhandle Eastern Pipe Line Company (“Panhandle
8 Eastern”), which is wholly owned by ETP Holdco Corporation, is primarily engaged in
9 the transportation and storage of natural gas. Panhandle Eastern is one of the nation’s
10 leading diversified natural gas companies. Panhandle Eastern owns and operates one of
11 the nation’s largest interstate natural gas pipeline systems. Two of Panhandle Eastern’s
12 interstate natural gas units, Trunkline Gas Company, LLC and Panhandle Eastern Pipe
13 Line Company, LP, have extensive facility operations in the state of Illinois. In addition,
14 the Waverly Storage underground natural gas storage field located in Morgan and
15 Sangamon Counties, Illinois is owned by Southwest Gas Storage Company, a direct
16 wholly-owned subsidiary of Panhandle Eastern.

17 The aforementioned information provides a snapshot of ETP’s operations,
18 highlighting the extent and diversity of ETP’s experience and its presence in the
19 Midwest, but is not an exhaustive list of the assets and pipelines or facilities operated by
20 Energy Transfer or the various members of its corporate family.

21 **Q. PLEASE DESCRIBE THE BUSINESS OPERATIONS AND ASSETS OF**
22 **PHILLIPS 66.**

23 A. Phillips 66 is a NYSE-listed company that is focused on energy manufacturing and
24 logistics, with more than 130 years of experience, with midstream, chemicals, refining,

1 and marketing and specialties businesses. Phillips 66 has approximately 13,500
2 employees. Phillips 66 has a market capitalization of approximately \$40.4 billion, annual
3 revenues of \$154.7 billion, and an enterprise valuation as of December 2014 of
4 approximately \$43.5 billion.

5 Phillips 66's midstream segment transports crude oil, refined products, natural gas
6 and NGLs. It also gathers, processes and markets natural gas and NGLs to power
7 businesses, heat homes and provide feedstock to the petrochemical industry. The
8 midstream segment consists of Phillips 66's NGL business; Phillips 66's transportation
9 business, including Phillips 66 Partners LP, a master limited partnership formed in 2013;
10 and DCP Midstream, LLC, a 50-50 joint venture with Spectra Energy Corp.

11 Phillips 66's refining segment transforms crude oil into petroleum products such
12 as gasoline, diesel and aviation fuel. Phillips 66 is one of the largest refiners in the U.S.
13 and worldwide, with 15 refineries and a net crude oil processing capacity of 2.2 million
14 bpd.

15 Chevron Phillips Chemical Company LLC ("CPChem"), a 50-50 joint venture
16 between Phillips 66 and Chevron, manufactures and markets petrochemicals, polymers
17 and plastics found in cars, electronics and other everyday goods. CPChem is North
18 America's largest producer of high-density polyethylene and the fourth-largest North
19 American ethylene producer. CPChem has a large global presence with 35 manufacturing
20 sites and 33 billion pounds of net annual processing capacity. Phillips 66's marketing and
21 specialties segment includes its global fuel marketing and lubricants businesses.

22 Phillips 66's U.S. marketing business markets fuels under the brands Phillips
23 66®, Conoco® and 76®. It also markets lubricants in 65 countries, and has several other

1 specialty businesses, including base oil, petroleum coke, waxes, solvents and
2 polypropylene.

3 **IV. DESCRIPTION OF THE DAKOTA ACCESS PIPELINE PROJECT**

4 **Q. WHAT IS THE PURPOSE OF THE DAKOTA ACCESS PIPELINE PROJECT?**

5 A. The purpose of the Project is to deliver reliable supplies of crude oil from the
6 Bakken/Three Forks production area of North Dakota to refinery markets in the Midwest
7 and Gulf Coast region of the United States. The DAPL will establish a direct link
8 between the Bakken/Three Forks production area of North Dakota and the Patoka Hub,
9 which is a major crude oil logistics hub near Patoka, Illinois.

10 The DAPL and facilities with proposed or existing connection at the Patoka Hub
11 will provide the major U.S. refinery markets in and near the Gulf Coast with access to the
12 increasing supply of crude petroleum from the Bakken/Three Forks production area. In
13 addition, crude oil shipped from the Bakken region to the Patoka Hub via the Dakota
14 Access Pipeline can be off-loaded at the Patoka Hub to terminal and storage facilities for
15 ultimate shipment to Illinois and other Midwestern refineries.

16 The testimony of Guy Caruso and Damon Rahbar-Daniels describe the recent
17 development of the Bakken/Three Forks region of North Dakota as a major domestic
18 crude oil production area, the need for the development of new pipeline infrastructure to
19 efficiently and economically move crude oil from the Bakken region to refinery markets
20 in the Midwest, Gulf Coast and other areas of the country, and the public need and
21 commercial drivers for the Project.

22 **Q. PLEASE DESCRIBE THE PROPOSED ROUTE OF THE DAKOTA ACCESS**
23 **PIPELINE.**

1 A. The starting point of the pipeline is near Stanley, North Dakota. The planned ending point
2 of the pipeline is at the existing Patoka crude oil hub near Patoka, Illinois with multiple
3 third party terminals and pipelines. The pipeline will cross the states of North Dakota,
4 South Dakota and Iowa to reach Illinois. Dakota Access Exhibit CAF-1 is a map
5 depicting the entire route of the Dakota Access Pipeline from Stanley, North Dakota, to
6 Patoka, Illinois. The anticipated overall scope of the Project will include approximately
7 1,168 miles of pipeline for the transportation of crude oil.

8 In Iowa, the Project consists of a new 30-inch outside diameter mainline pipeline
9 that will run from a point on the South Dakota/Iowa border west-northwest of Inwood,
10 Iowa, in Lyon County, Iowa, and extending southeasterly for approximately 347 miles to
11 a point just north of Keokuk, Iowa, in Lee County, Iowa, on the Iowa/Illinois border.
12 One pump station will be constructed in Iowa, in Story County. In terms of above-
13 ground appurtenances, there will be 66 mainline valves and 4 launcher/receiver stations
14 for providing remote inspection tools access to the pipeline. Four of the valve sites are in
15 conjunction with launcher/receiver stations.

16 **Q. WHAT COUNTIES WILL THE PIPELINE TRAVERSE IN IOWA?**

17 A. The pipeline will traverse parts of the following Iowa counties: Lyon, Sioux, O'Brien,
18 Cherokee, Buena Vista, Sac, Calhoun, Webster, Boone, Story, Polk, Jasper, Mahaska,
19 Keokuk, Wapello, Jefferson, Van Buren and Lee. An overview map of the route in Iowa
20 is Exhibit CAF-2.

21 **Q. WHAT WILL BE THE CAPACITY OF THE DAKOTA ACCESS PIPELINE?**

22 A. The DAPL has an initial planned transport capacity of approximately 450,000 barrels per
23 day (“bpd”), with 90 percent of system capacity subscribed by committed shippers under
24 long-term transportation and deficiency contracts and 10 percent of system capacity

1 reserved for walk-up shippers. Utilization of the Project may expand up to approximately
2 570,000 bpd as a result of on-going discussions with market participants. Any expansion
3 of the Project's capacity will not affect the facilities in Iowa.

4 **Q. WHAT IS THE ANTICIPATED IN-SERVICE DATE OF THE PROJECT?**

5 A. Assuming the receipt of necessary regulatory approvals, construction of the Project is
6 anticipated to commence in the fourth quarter of 2015 or early in 2016, with an in-service
7 date of the fourth quarter of 2016.

8 **Q. WHAT WERE DAKOTA ACCESS'S OBJECTIVES IN DETERMINING THE**
9 **ROUTE OF THE PIPELINE?**

10 A. Additional details on the specific route are provided in our Application and by other
11 witnesses, but at a general level the primary objective in the determination of the
12 proposed route of the pipeline, including the Iowa section, is to traverse the shortest
13 distance from the origin to the terminus. All other things equal, minimizing the length of
14 the pipeline is more efficient and would be expected to minimize the number of
15 interactions with residences, businesses, communities, other structures, and
16 environmentally sensitive areas. Deviations from this objective have been made to avoid
17 or minimize interaction with a number of factors including high consequence areas, as
18 defined by the U.S. Department of Transportation, Pipeline and Hazardous Materials
19 Safety Administration ("PHMSA"), more heavily-settled areas, public lands, and other
20 environmentally sensitive areas.

21 **V. REQUESTS FOR AUTHORITY UNDER IOWA CODE § 479B.9, 479B.16 AND 199**
22 **IOWA ADMINISTRATIVE CODE 13.7.**

23 **Q. SPECIFICALLY, WHAT IS DAKOTA ACCESS SEEKING FROM THE IOWA**
24 **UTILITIES BOARD IN THIS PROCEEDING?**

1 A. Pursuant to Iowa Code § 479B.9, Dakota Access asks the Board to grant a permit and
2 determining the requested route to be just and proper. To do so, the Board should make a
3 finding that the services proposed to be provided by the Project promote the public
4 convenience and necessity, and Dakota Access believes its application, and the testimony
5 being filed today, establish that the Project meets that criteria. If such a permit is granted,
6 my understanding is that Iowa law provides that Dakota Access would be vested with the
7 right of eminent domain, and Dakota Access requests that the Board find the extent to
8 which such right is necessary is as set forth in our Exhibit H documents, which will be
9 discussed more fully in subsequent testimony under the Board's staggered Exhibit H-
10 related schedule.

11 **Q. DAKOTA ACCESS IS REQUESTING AUTHORITY TO ACQUIRE**
12 **EASEMENTS, IF NECESSARY, THROUGH THE EXERCISE OF EMINENT**
13 **DOMAIN, PURSUANT TO IOWA CODE § 479B.16?**

14 A. Yes, it is also Dakota Access's understanding that Iowa Code § 479B.16 authorizes an
15 applicant to request, and the Board to grant, authority to acquire easements for the
16 pipeline using eminent domain in the same proceeding as the pipeline permit.

17 **Q. DOES DAKOTA ACCESS PREFER TO OBTAIN ALL NECESSARY**
18 **EASEMENTS FOR THE PROJECT THROUGH NEGOTIATED AGREEMENTS**
19 **RATHER THAN EMINENT DOMAIN AUTHORITY?**

20 A. Yes. Energy Transfer, and Dakota Access as a subsidiary of Energy Transfer, prefer to
21 acquire necessary land rights through good faith negotiations with landowners. Energy
22 Transfer prefers to avoid condemnations because they are costly, inefficient, and can
23 delay the progress of a project. Dakota Access has no desire to condemn the permanent
24 and temporary workspace easements and other interests in land it requires for the Project,
25 unless circumstances render the use of eminent domain authority absolutely necessary.
26 Mr. Hoyer describes, in his direct testimony, the specific easements that Dakota Access

1 needs and the programs and procedures that Dakota Access has used and continues to use
2 in contacting and negotiating with landowners to acquire easements through voluntary
3 transactions. The efforts to date have been successful; Dakota Access has obtained
4 approximately 66% of the easements on the route through voluntary agreements.

5 **Q. IN LIGHT OF DAKOTA ACCESS'S OBJECTIVE TO ACQUIRE ALL**
6 **EASEMENTS THROUGH VOLUNTARY TRANSACTIONS, WHY IS DAKOTA**
7 **ACCESS REQUESTING EMINENT DOMAIN AUTHORITY IN THIS**
8 **PROCEEDING FOR THE PROJECT?**

9 A. As previously stated, Dakota Access does not intend to rely upon eminent domain to
10 acquire easements unless absolutely necessary and as a last resort. However, to ensure
11 that the pipeline is built in an efficient manner, and to meet the Project objectives and
12 commercial obligations to go into service in the fourth quarter of 2016, Dakota Access
13 may have to employ eminent domain authority to acquire land from unwilling or hold-out
14 landowners. While we have been pleased with the number of voluntary easements, and
15 continue to pursue such voluntary agreements, if there is any chance that there will be
16 parcels on the route that cannot be obtained voluntarily it is prudent for us to seek
17 authority from the Board to use eminent domain.

18 As described further in the direct testimony of Mr. Damon Rahbar-Daniels,
19 Dakota Access has secured long-term transportation service agreements from multiple
20 shippers under which the full committed volume of the pipeline system has been
21 subscribed at the capacity of approximately 450,000 barrels per day. To move this crude
22 oil and to meet the commercial in-service date and delivery expectations, Dakota Access
23 must proceed at a fast pace on the Project. So, although Dakota Access does not wish to
24 rely upon eminent domain, it is very important to have eminent domain authority in the
25 event that a hold-out landowner will not negotiate in good faith and thereby would delay

1 the overall Project and its in-service date. Furthermore, without the authority for eminent
2 domain, it would be difficult or impossible to design and route the pipeline with any
3 certainty of location, or in consideration of the safety and environmental requirements.
4 The pipeline must be contiguous; its route cannot be disjointed. If a landowner refuses to
5 negotiate in good faith, and Dakota Access did not have eminent domain authority,
6 Dakota Access would have to change the pipeline route. This would increase the
7 construction time, increase costs, increase impacts on the environment, and potentially
8 impact more landowners than would the optimum route. It also becomes much more
9 difficult as the percentage of easements already acquired increases.

10 In short, although Dakota Access does not anticipate or desire to have to use
11 eminent domain authority, it is critical that Dakota Access have the option of using
12 eminent domain in order to ensure that the Project is developed efficiently and on time.

13 **Q. CAN YOU DISCUSS DAKOTA ACCESS' QUALIFICATIONS TO CONSTRUCT**
14 **THE PROJECT?**

15 A. The Energy Transfer family of companies has a well-established and proven track record
16 of safely and reliably designing and constructing some of the largest logistical
17 infrastructure projects in the United States to serve producers, refiners, marketers, end
18 users, and other customers in the oil and gas industry. Recent examples of such projects
19 include Lone Star NGL LLC's 570-mile West Texas Gateway Natural Gas Liquids
20 ("NGL") Pipeline from west Texas to Jackson County , Texas (Lone Star NGL LLC is
21 owned by ETP). ; Florida Gas Transmission Company's 483-mile Phase VIII Expansion
22 Project from near Mobile, Alabama, to south Florida (Florida Gas Transmission
23 Company is owned 50 percent by Energy Transfer and 50 percent by Kinder Morgan
24 Inc.); and the recently completed SXL Mariner East NGL pipeline of Sunoco Logistics,

1 L.P. extending approximately 350 miles from the Marcellus Shale area in western
2 Pennsylvania to the Marcus Hook Facility in Marcus Hook, Pennsylvania (Energy
3 Transfer owns the general partner of, and certain limited partnership interests in, Sunoco
4 Logistics, L.P.).

5 **Q. WHAT ENGINEERING AND CONSTRUCTION FIRMS WILL BE USED TO**
6 **CONSTRUCT THE PROJECT, AND WHAT ARE THEIR RESOURCES,**
7 **EXPERIENCE, AND CAPABILITIES?**

8 A. Engineering design work for the DAPL in Iowa and the other states is being performed
9 by Mustang Engineering, a highly regarded, Houston-based engineering firm that has
10 extensive experience in the pipeline industry. Engineering work for the pump stations is
11 being performed by Project Consulting Services, Inc., a Metairie, Louisiana, engineering
12 and consulting firm that also has extensive experience in the pipeline industry.

13 The General Contractors for DAPL are both based in Wisconsin with ready access
14 to and familiarity with the Midwest: Michels Corporation and Precision Pipeline, both of
15 whom have extensive experience with pipeline projects and are familiar with both the
16 resources available in and the concerns specific to such construction in the Midwest. It is
17 likely that Dakota Access and its general contractors will contract with different
18 construction contractors to do the construction work for different segments of the Project.
19 However, it is Energy Transfer's practice to hire only experienced, highly-qualified
20 contractors for its pipeline and other infrastructure projects.

21 **Q. WHAT CRITERIA DOES DAKOTA ACCESS TAKE INTO CONSIDERATION**
22 **IN EVALUATING POTENTIAL CONSTRUCTION CONTRACTORS FOR THE**
23 **PROJECT?**

24 A. Dakota Access has performed and will continue to perform "pre-qualification"
25 evaluations of each proposed contractor for the Project. This evaluation is mandated by
26 Energy Transfer policy and ensures that only qualified third party service providers work

1 on the Project. The prequalification evaluation addresses three broad categories including
2 financial ability and capacity, capability, and performance. These three categories are
3 then broken down into subcategories for assessment, including factors such as, without
4 limitation, safety scores, 3 year work history, cash flow, size of the company, lawsuits
5 and liens, OSHA violations, and qualified labor. This prequalification evaluation is
6 performed by an independent team of professionals, managed by the legal department,
7 and is an integral part of Dakota Access's contractor selection process.

8 **Q. WILL UNION CONSTRUCTION TRADES BE USED IN THE CONSTRUCTION**
9 **OF THE PROJECT IN IOWA?**

10 A. Yes. Dakota Access will utilize a union contractor or contractors to perform construction
11 in Iowa.

12 **Q. WILL THE PIPELINE BE DESIGNED AND CONSTRUCTED IN**
13 **ACCORDANCE WITH APPLICABLE GOVERNMENTAL REQUIREMENTS**
14 **AND INDUSTRY CODES AND STANDARDS?**

15 A. Yes. Energy Transfer's pipelines are designed, built and maintained in accordance with
16 governmental requirements and industry codes and standards, and often exceed
17 applicable requirements and standards. The principal government regulations applicable
18 to the design and construction of the Dakota Access Pipeline are those promulgated by
19 the federal Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of
20 Pipeline Safety, at 49 C.F.R Parts 194 and 195. As are all Energy Transfer pipelines, the
21 DAPL will be designed to withstand pressures over and above its normal operating
22 pressure.

23 The construction and installation of the Project will also meet all applicable
24 federal and state environmental protection statutes and regulations along the Project's
25 route. Agencies with jurisdiction over applicable environmental protection considerations

1 include the U.S. Army Corps of Engineers and the Iowa Department of Natural
2 Resources.

3 **Q. AT WHAT OPERATING PRESSURE WILL THE PIPELINE BE DESIGNED**
4 **AND CONSTRUCTED TO OPERATE?**

5 A. The pipeline will operate at 1,440 pounds psig, with a 0.72 safety design factor for the
6 mainline portions and a 0.5 safety design factor at road and waterbody crossings. These
7 safety design factors meet or exceed federal regulatory requirements.

8 **Q. PLEASE EXPLAIN WHAT IS MEANT BY A “SAFETY DESIGN FACTOR.”**

9 A. Safety design factors are part of the standard pipe sizing engineering calculations
10 required to be performed per PHMSA regulations at 49 C.F.R. Part 195 to ensure the
11 correct wall thickness and grade of pipe are selected based on the maximum operating
12 pressure for the pipeline. As I said above, the safety design factors used for DAPL will
13 meet, and in many locations exceed, federal requirements.

14 **Q. WILL THE PIPELINE HAVE A CATHODIC PROTECTION SYSTEM?**

15 A. Yes. The pipeline will be equipped with cathodic protection systems to prevent external
16 corrosion. The cathodic protection system is in addition to the fusion bonded epoxy
17 coating that will be applied to the exterior of the pipe.

18 **Q. WHAT MATERIAL WILL BE USED FOR THE PIPELINE?**

19 A. The pipe material for the Dakota Access Pipeline will be manufactured of high strength
20 carbon steel of grade X-70, with a specified minimum yield strength of 70,000 psi, and
21 will comply with API 5L-PSL2 with a nominally 0.429 inch wall for the majority of the
22 new pipe in non-sensitive areas and up to 0.625 inch wall in unusually sensitive areas,
23 road crossings and waterbody crossings.

24 **Q. PLEASE EXPLAIN WHAT IS MEANT BY “UNUSUALLY SENSITIVE AREAS”**
25 **AND “NON-SENSITIVE AREAS” AND WHY THE PIPELINE WALL**

1 **THICKNESS IS DIFFERENT FOR “UNUSUALLY SENSITIVE” AND “NON-**
2 **SENSITIVE” AREAS.**

3 A. An unusually sensitive area is defined by 49 C.F.R. Part 195 as a drinking water or
4 ecological resource area that is unusually sensitive to environmental damage from a
5 hazardous liquid pipeline release. The PHMSA regulations at 49 C.F.R. Part 195 do not
6 require increased wall thicknesses in unusually sensitive areas, at road crossings, or at
7 waterbody crossings. However, Dakota Access will exceed minimum federal
8 requirements and install thicker wall pipe in these areas as a proactive approach to help
9 address potential environmental concerns and to address any dynamic loading condition
10 concerns at roadways.

11 **Q. AT WHAT DEPTH WILL THE PIPELINE BE BURIED?**

12 A. The minimum installation depth of the pipeline will be a minimum of three feet in soil
13 and two feet in consolidated rock. However, in agricultural areas, the pipeline will be
14 installed at a minimum depth of four feet (or 48 inches) below grade (thus exceeding the
15 federal requirement of three feet). The pipeline will be installed at minimum depths of
16 five feet under roads and water bodies and at greater depth where required for other
17 specific conditions. Additionally, there will be a separation of at least two feet between
18 the pipeline and existing infrastructure such as drainage tiles, which again exceeds
19 regulatory requirements.

20 **Q. PLEASE DESCRIBE THE MANUFACTURING PROCESS THAT WILL BE**
21 **USED FOR THE DAKOTA ACCESS PIPELINE.**

22 A. As I stated earlier, the pipe material will be manufactured of high strength carbon steel
23 which is appropriate for a crude oil pipeline, nominally 0.429 inch wall for the majority
24 of the new pipe in non-sensitive areas and up to 0.625 inch wall in unusually sensitive
25 areas, road crossings and waterbody crossings. The new pipe will be coated at the factory

1 with external fusion-bonded epoxy to protect against corrosion. Coating in the controlled
2 environment of a pipe plant greatly enhances the efficacy of the process. The factory
3 coating will be re-inspected in the field. Additionally, coating will be applied to all pipe
4 welds. Further, all new pipe will be inspected and integrity-tested at the factory to assure
5 quality and adherence to standards. All of the mainline pipe being installed in Iowa will
6 be rolled in the United States and purchased from U.S. suppliers, and approximately 80%
7 of the steel inputs for this pipe will be sourced in the United States.

8 **Q. HOW WILL THE MANUFACTURED PIPE BE TRANSPORTED TO THE**
9 **INSTALLATION LOCATIONS IN THE FIELD?**

10 A. The new pipe will be transported to the installation locations via rail and truck and in
11 accordance with federal regulations and industry standards.

12 **Q. PLEASE DESCRIBE THE INSTALLATION TECHNIQUES THAT WILL BE**
13 **USED TO INSTALL THE NEW PIPELINE IN THE FIELD.**

14 A. Advanced installation and excavation, soil-separation, decompaction and restoration
15 techniques will be employed to preserve soil productivity and profiles. Installation
16 techniques will include, where appropriate, trench-less installation technologies such as
17 conventional bores or horizontal direction drills, to avoid the need to excavate a trench. In
18 most areas, conventional installation techniques using trackhoes and backhoes will be
19 utilized to excavate the ditchline, and sidebooms will be utilized to string, weld, and
20 lower the pipeline into the excavated ditch. The welding of the pipeline will be performed
21 through the use of automatic welding machines, and each weld will be 100 percent x-
22 rayed. Coating of the weld will occur after x-ray. Once the pipeline has been carefully
23 lowered into the excavated ditchline, the pipeline will be buried, cleaned, filled with
24 water and hydrostatically tested to 125 percent of the maximum operating pressure.

1 Additional steps will be taken in agricultural areas. While these are set forth in
2 more detail in the Agricultural Land Mitigation Plan filed with Dakota Access' Petition,
3 some of the additional steps are as follows. To avoid soil mixing, for those portions of the
4 work area where there is a chance of soil mixing, the top soil will be segregated, stripped
5 and stored separately, and then will be replaced after installation of the pipeline is
6 completed. All disturbed areas will be restored to reflect pre-construction conditions and
7 grades or otherwise mitigated. Dakota Access will meet or exceed the requirements of
8 199 Iowa Administrative Code chapter 9.

9 **Q. WILL REMOTELY CONTROLLABLE SECTIONALIZING VALVES BE**
10 **INSTALLED?**

11 A. Yes. Along the pipeline route, numerous remotely controllable sectionalizing valves will
12 be installed, including 66 in Iowa (note that these can also be operated manually). As a
13 planning guideline, we design to have valves at intervals that never exceed 30 miles. We
14 also place valves to isolate major waterbody crossings, population centers, and the pump
15 station which, as a practical matter, reduced the average interval. In Iowa, based on
16 present design, no interval between valves will exceed 17 miles. The average distance
17 between valves will be approximately 6 miles. This allows rapid isolation of impaired
18 line segments in the event of an emergency. These valve sites will be linked to the
19 Project's Operations Control Center by modern communication facilities. Mr. Todd
20 Stamm's direct testimony explains the functions, operations and capabilities of the
21 Operations Control Center.

22 **Q. WHAT TESTING AND INSPECTION OF THE INSTALLED PIPELINE WILL**
23 **BE PERFORMED BEFORE IT IS PUT INTO SERVICE TO TRANSPORT**
24 **CRUDE OIL?**

1 A. The installation of the pipeline will be subject to regulatory inspection, including by
2 PHMSA inspectors operating from the agency's Central Region office in Kansas City,
3 Missouri. Additionally, Dakota Access will employ construction, safety, agricultural and
4 environmental inspectors not affiliated with its pipeline contractors to assure compliance
5 with the contract specifications for pipeline construction, which specifications will
6 incorporate all regulatory and industry requirements.

7 Further, as part of the installation process, the entire length of the Dakota Access
8 Pipeline will be rigorously tested for integrity in accordance with all federal and state
9 regulations and industry standards. The pipeline will be subjected to careful inspection
10 and testing to verify its integrity and compliance with all regulatory standards and
11 contract specifications. This testing will include checking coating integrity; examining by
12 non-destructive testing 100 percent of field welds (which is well above the 10 percent
13 required by federal regulation); internally inspecting the entire length of the line by using
14 an in-line inspection tool known as a caliper pig; and hydrostatically testing the pipeline
15 to 125% of the maximum operating pressure. The line will go into service only after
16 thorough inspection and review to verify compliance with all applicable federal and state
17 statutes and regulations and all project construction standards and requirements.

18 **Q. THE BOARD STAFF REPORT REQUESTED THAT DAKOTA ACCESS**
19 **ADDRESS CONCERNS ABOUT THE TEMPERATURE OF THE OIL IN THE**
20 **PIPELINE AND THE HEATING OF THE SURROUNDING SOIL. CAN YOU**
21 **COMMENT ON THAT?**

22 A. It is my opinion that the temperature of the pipeline will not adversely impact crops
23 planted above the pipe. Dakota Access will not heat the product before putting it in the
24 pipeline. While the oil may be occasionally warmer than the soil due to climatic,

1 seasonal, and operational conditions, the pipeline will be 48-inches deep through
2 agricultural areas. In the winter, the ground will still freeze above the pipe.

3 **Q. THE STAFF REPORT ALSO NOTED SOME OBJECTORS CONCERNS OVER**
4 **WHETHER THEIR PROPERTY WOULD BE INSURABLE IF IT INCLUDED**
5 **THE PIPELINE. HOW DO YOU RESPOND TO THAT CONCERN?**

6 A. I have been involved with the construction of thousands of miles of various types of
7 pipelines and am not aware of any problems with insurability of private properties where
8 the pipelines were placed. In fact, given that Iowa has over 10,000 miles of hazardous
9 liquids and natural gas pipelines already, if there were an insurability issue it would be
10 well known to the Board by now. Nonetheless, we have talked with an insurance agent
11 about this concern and were further assured that insurability should not be an issue. See
12 Exhibit CAF-3. Given this letter and the fact that neither I nor the people on my team
13 have experienced that issue elsewhere, and it doesn't appear to have been one in Iowa in
14 the past, I am confident that there is no issue with the insurability of the properties where
15 the pipeline will be placed.

16 **VI. BENEFITS OF THE PROJECT**

17 **Q. WILL THE PROJECT PROVIDE BENEFITS TO IOWA AND THE UNITED**
18 **STATES?**

19 A. Yes. Numerous other witness discuss the economic and other benefits, but generally
20 speaking the Project will contribute to the reliability and affordability of fuel supplies in
21 Iowa and nationwide. The project will also provide more direct economic benefits to
22 Iowa and the country, both during construction and in operation. Infrastructure
23 investments and additional energy supplies help grow the U.S. economy, and when the
24 broader economy grows, that also benefits Iowa. More directly, construction of the
25 Project will bring capital expenditures, jobs, and direct payments to landowners in Iowa.

1 Securing reliable, affordable fuel supplies is particularly beneficial for Iowa’s agricultural
2 and manufacturing sectors, which both rely heavily on oil and petroleum products as
3 inputs. Additionally, as witnesses Guy Caruso and Stacey Gerard discuss, there is a
4 safety benefit to having oil transported by pipeline, which is the safest method on a
5 barrel-mile basis of transporting oil.

6 **Q. WHAT IS THE ESTIMATED AMOUNT OF INVESTMENT IN IOWA FROM**
7 **DEVELOPMENT AND CONSTRUCTION OF THE PROJECT?**

8 A. The testimony and exhibits of Dr. Lipsman provide much more detail, but broadly
9 speaking the expected amount of investment in Iowa from development and construction
10 of the Project is just over \$1 billion. Dakota Access projects that approximately \$390
11 million will be spent in Iowa just on labor for construction and installation. Construction
12 of the Project will require welders, mechanics, electricians, pipefitters, and heavy
13 equipment operators.

14 **Q. WILL DESIGN AND CONSTRUCTION OF THE PROJECT IN IOWA REQUIRE**
15 **LOCAL PROFESSIONAL SERVICES?**

16 A. Yes, the Project will use and has already been using local professional services such as
17 engineering, surveying, real estate and legal. Local engineering and surveying companies
18 have been utilized in preparation of the Exhibit H documents that have been submitted,
19 and I anticipate they will be further used to help design areas of the pipeline that will
20 cross through drainage districts and to perform surveys and videography of county
21 roadways prior to construction commencing. Additional ancillary economic benefits for
22 Iowa are also anticipated in other types of services, such as an increased use of local
23 restaurants, lodging, and other retail businesses by those employed on the Project.

1 **Q. WILL ANY MATERIALS NECESSARY FOR THE PROJECT BE**
2 **MANUFACTURED IN IOWA?**

3 A. Yes. The Project will require steel pipe, fittings, valves, pumps, control devices,
4 construction equipment and other materials some of which are expected to be
5 manufactured by or purchased from Iowa businesses. As just a few examples, ETP and its
6 contractors are significant purchasers of Vermeer Corporation and Deere and Company
7 construction equipment. Millions of dollars in Vermeer and Deere equipment
8 manufactured in Iowa will be used on this project. And millions of dollars of smaller
9 equipment and consumables will be purchased from local suppliers, including suppliers
10 of products like sand, gravel, and fuel. We are also looking at the possibility of obtaining
11 control equipment from Emerson's Fisher Controls division in Marshalltown, Iowa.

12 **Q. WILL THE PROJECT GENERATE ANY PAYMENTS TO LOCAL**
13 **LANDOWNERS?**

14 A. Yes. Right-of-way payments to landowners in Iowa are currently projected to be
15 approximately \$85 million.

16 **Q. WILL CONSTRUCTION AND OPERATION OF THE PROJECT HAVE ANY**
17 **IMPACTS ON STATE AND LOCAL TAX RECEIPTS IN IOWA?**

18 A. Yes. Local employment and business generation will result in increased income tax and
19 sales and use tax revenues for the State of Iowa and local governments. The installation
20 of the pipeline will result in additional property tax revenues for local governmental units
21 it traverses.

22 **Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

23 A. Yes.