

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

ENERGY TRANSFER CRUDE OIL COMPANY, LLC)	
)	Docket No. 14-0755
)	
APPLICATION PURSUANT TO SECTIONS 15-401)	
OF THE COMMON CARRIER)	
BY PIPELINE LAW AND SECTION 8-503 and 8-509)	
OF THE PUBLIC UTILITIES ACT FOR A)	
CERTIFICATE IN GOOD STANDING AND)	
RELATED AUTHORITY TO CONSTRUCT AND)	
OPERATE A PETROLEUM PIPELINE AS A)	
COMMON CARRIER PIPELINE AND WHEN)	
NECESSARY TO TAKE PRIVATE PROPERTY AS)	
PROVIDED BY THE LAW OF EMINENT DOMAIN)	

SUPPLEMENTAL DIRECT TESTIMONY OF

ADAM BROAD

ON BEHALF OF

ENERGY TRANSFER CRUDE OIL COMPANY, LLC

ETCO EXHIBIT 2.7

FEBRUARY 11, 2015

TABLE OF CONTENTS

I. WITNESS INTRODUCTION AND PURPOSE OF TESTIMONY.....1

II. PROPOSED ROUTE AND PROJECT WIDTH.....2

III. DEVELOPMENT OF PROPOSED ROUTE OF THE ETCO PIPELINE.....3

IV. ETCO LATERALS AT THE PATOKA HUB.....13

1 **I. WITNESS INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q. Please state your name, present position and business address.**

3 A. My name is Adam Broad. I am the Senior Project Manager for Energy Transfer Partners,
4 L.P. (“Energy Transfer”). Energy Transfer is one of the ultimate parent companies of
5 Energy Transfer Crude Oil, LLC (“ETCO”), owning 75 percent of the equity interest in
6 ETCO. My business address is 1300 Main Street, Houston, TX 77002.

7 **Q. Have you previously submitted prepared testimony and exhibits in this proceeding?**

8 A. Yes, I have previously submitted prepared direct testimony, dated January 21, 2015,
9 which is identified as ETCO Exhibit 2.0, and accompanying exhibits identified as ETCO
10 Exhibits 2.1 through 2.6.

11 **Q. What is the purpose of your supplemental direct testimony?**

12 A. The purpose of my supplemental testimony is threefold. First, as ETCO indicated in its
13 Application would be done in this proceeding, I am providing the detailed legal
14 description of the centerline of the proposed route of the new build portion of the ETCO
15 Pipeline, which will run from the Patoka Hub in Marion County, Illinois, to an
16 interconnection point with the existing Trunkline Gas Company, L.L.C. (“Trunkline”)
17 natural gas pipeline at a point approximately four miles north of the Trunkline
18 Johnsonville Compressor Station, in Wayne County, Illinois. ETCO is seeking approval
19 for this proposed centerline and for a 500 foot project width extending for 250 feet on
20 either side of the centerline.

21 Second, at the request of Commission Staff, I am providing additional testimony
22 on the process by which ETCO developed the proposed route for the new build portion of
23 the ETCO Pipeline.

24 Third, ETCO has identified the need to install up to four, 30 inch diameter lateral
25 pipelines at the Patoka Hub, ranging between two and three miles in length, to connect
26 facilities to be owned by ETCO with the existing tank farm area at the Patoka Hub. I will
27 provide information concerning these lateral pipelines, including identification of the
28 parcels and names of landowners whose properties would be crossed by the lateral
29 pipelines.

30 **Q. In addition to your prepared supplemental testimony, which is identified as ETCO**
31 **Exhibit 2.7, are you sponsoring any other exhibits?**

32 A. Yes, I am also sponsoring exhibits identified as ETCO Exhibits 2.8 through 2.13. These
33 exhibits were prepared by me or under my supervision and direction, or I have direct and
34 firsthand knowledge of their contents.

35 **II. PROPOSED ROUTE AND PROJECT WIDTH**

36 **Q. What is ETCO Exhibit 2.8?**

37 A. ETCO Exhibit 2.8 provides a detailed legal description of the centerline of the proposed
38 route of the new build portion of the ETCO Pipeline in Illinois, from the Patoka Hub near
39 Patoka, Illinois, in Marion County, Illinois, to a point of interconnection with the
40 Trunkline Pipeline at a point approximately 4 miles north of the Trunkline Johnsonville
41 Compressor Station in Wayne County, Illinois. The legal description on ETCO Exhibit
42 2.8 is a more refined and detailed description of the new build portion of the route than is
43 the legal description provided on Exhibit F to ETCO's Application and ETCO Exhibit 2.3
44 to my direct testimony (ETCO Exhibit 2.0).

45 ETCO Exhibit 2.8 also includes, for completeness: (1) the legal description of the
46 route of the existing Trunkline Pipeline in Illinois (this is the same description provided

47 on Exhibit F to the Application and ETCO Exhibit 2.3), and (2) the legal description of
48 the route of the lateral pipelines at the Patoka Hub, which I will describe in Section IV of
49 this testimony.

50 **Q. What is ETCO Exhibit 2.9?**

51 A. ETCO Exhibit 2.9 is a map of the proposed centerline of the route of the new build
52 portion of the ETCO Pipeline in Illinois. This map shows the propose route on a county-
53 by-county basis and thus provides a more granular view of the new build portion of the
54 route in Illinois than the map provided as ETCO Exhibit 2.2 to my direct testimony.

55 **Q. Does the proposed route of the new build portion of the ETCO Pipeline described**
56 **on ETCO Exhibit 2.8 and depicted on ETCO Exhibit 2.9 reflect any change to the**
57 **proposed route of the new build portion as presented in ETCO's Application and**
58 **your direct testimony?**

59 A. There have been several minor modifications to the route of the new build portion of the
60 ETCO Pipeline since ETCO's Application was filed in this docket. These modifications
61 are listed on ETCO Exhibit 2.11, which I will discuss later in my testimony.

62 **Q. What is ETCO Exhibit 2.10?**

63 A. ETCO Exhibit 2.10 is a list of the tracts and landowners that are located either on the
64 centerline of the proposed route of the new build portion of the ETCO Pipeline in Illinois,
65 or within the 500 foot project width around the centerline of the proposed route. The
66 properties for which a parcel number is listed but no tract number is listed are within the
67 500 foot project width but are not crossed by the centerline of the route. This list does
68 not include those landowners whose properties fell within the notification corridor

69 described in the Application and in my direct testimony, but which are outside the 500
70 foot project width around the centerline of the proposed route.

71 **Q. Does ETCO Exhibit 2.10 include any new parcels that were not listed on Exhibit G**
72 **to ETCO's Application or ETCO Exhibit 2.4 to your direct testimony?**

73 A. No.

74 **Q. On ETCO Exhibit 2.10, the names of several landowners are marked with an**
75 **asterisk, what does this signify?**

76 A. The owners whose names are marked with an asterisk are no longer the owners of the
77 listed properties due to recent sales. These owners were listed as the owners of these
78 properties on the records of the County tax collector during the 30 day period prior to the
79 filing of ETCO's Application in this case. However, as ETCO's land agents from KP
80 Land have gone out to contact landowners, they have learned that these properties have
81 been sold to new owners. On ETCO Exhibit 2.13, which I will discuss further in Section
82 IV of my testimony, I have provided the names and addresses of the new owners of these
83 properties, should the Commission deem it appropriate to send the new owners notice of
84 this proceeding.

85 **III. DEVELOPMENT OF PROPOSED ROUTE OF THE ETCO PIPELINE**

86 **Q. Please provide an overview of how ETCO determined the route of the new build**
87 **portion of the ETCO Pipeline.**

88 A. As explained in ETCO's Application and direct testimony, the ETCO Pipeline is planned
89 to run from the Patoka Hub (where it will be interconnected with the Dakota Access
90 Pipeline) to a point near Nederland, Texas; and for most of its route, the ETCO Pipeline
91 will utilize the existing Trunkline natural gas pipeline that runs in a north-south

92 orientation and is being converted to crude oil transportation service. Therefore, the
93 routing objective for the new build portion of the ETCO Pipeline was to develop the best
94 route from the interconnection with the Dakota Access Pipeline at the Patoka Hub to an
95 interconnection point with the existing Trunkline Pipeline. However, there is an existing
96 pipeline, the Marathon Pipeline Company Patoka-Owensboro Pipeline, which exits the
97 Patoka Hub at approximately the same location at which the ETCO Pipeline will need to
98 exit the Patoka Hub, and runs from the Patoka Hub in a northwest to southeast
99 orientation, crossing the existing Trunkline Pipeline at a point approximately four miles
100 north of the Johnsonville Compressor Station on the Trunkline Pipeline, in Wayne
101 County, Illinois. Therefore, the route development process focused on developing a route
102 for the new build portion of the ETCO Pipeline that paralleled the right of way of the
103 existing Marathon Pipeline as much and as closely as possible. Ideally, the right of way
104 for the ETCO Pipeline would abut the right of way of the existing Marathon Pipeline.

105 **Q. Why did the route development process for the ETCO Pipeline focus on paralleling**
106 **the right of way of the existing Marathon Pipeline as much and as closely as**
107 **possible?**

108 A. Routing a new pipeline so that it parallels the right of way of an existing pipeline, or
109 other existing utility infrastructure such as the right of way of a railroad or an existing
110 transmission line, is considered a highly desirable routing characteristic, for a number of
111 reasons. First, the route already has existing utility infrastructure and has been
112 determined to be appropriate for utility infrastructure. The new pipeline is not being run
113 through completely new properties that are devoted to other uses. While property uses
114 change over time and properties are developed over time, the existing pipeline or other

115 infrastructure was presumably routed in a manner that minimized interference with other
116 uses at the time. Second, there are likely to be fewer issues relating to access to the right
117 of way of the new pipeline for construction, maintenance and inspection and surveillance
118 purposes, since the existing pipeline typically will have been sited in a way that provides
119 for reasonable access. Third, it may be possible for the new pipeline to use a portion of
120 the right of way of the existing pipeline for temporary workspace thereby reducing the
121 environmental impacts of the new pipeline as compared to if it were not paralleling
122 existing infrastructure. Fourth, although the owners of properties may change over time,
123 the new pipeline is being routed through properties of owners who already have a
124 pipeline on their properties and have previously granted easements for pipelines (or
125 purchased the property subject to an easement granted by a previous owner).

126 Of course, in the route development process for the new pipeline, constraints or
127 obstacles may be identified or encountered that necessitate deviating the route from
128 strictly paralleling the right of way of the existing pipeline.

129 **Q. Is the point at which the existing Marathon Pipeline crosses the existing Trunkline**
130 **Pipeline an appropriate point for the ETCO Pipeline to interconnect with the**
131 **Trunkline Pipeline from an engineering, constructability and operations**
132 **perspective?**

133 A. Yes, it is.

134 **Q. Please describe the process by which ETCO determined if the route of the ETCO**
135 **Pipeline could parallel the right of way of the existing Marathon Pipeline from the**
136 **Patoka Hub to the Trunkline Pipeline, or whether deviations from that routing were**
137 **needed.**

138 A. With the endpoints of the new build portion of the route defined and the objective of
139 paralleling the right of way of the existing Marathon Pipeline established, the route
140 development process essentially had two states: First, identification of a preferred
141 baseline route based on application of a set of routing criteria; and second, detailed
142 analysis of the baseline route, using information gained from survey and site inspection
143 activities and contacts with landowners, public officials and others, to identify the need
144 for refinements and reroutes to the baseline route to address constructability,
145 environmental, and landowner concerns and issues.

146 **Q. Please describe the process that was used to determine the preferred baseline route.**

147 To determine the preferred baseline route, ETCO used a sophisticated and proprietary
148 Geographic Information System (“GIS”) computer program maintained by Willbros
149 Professional Services, a Houston-based engineering firm with extensive experience in the
150 pipeline industry that has been retained to work on the Project. The GIS determines the
151 most suitable baseline pipeline route using multiple publicly available and purchased
152 datasets that provide information on engineering, environmental, and land and other
153 geographic and demographic features. Engineering features as I am using that term
154 include existing pipelines, railroads, and power lines, and the presence of karst. Karst is
155 a landscape formed from the dissolution of soluble rocks including limestone, dolomite
156 and gypsum. It is characterized by sinkholes, caves, and underground drainage systems,
157 and therefore is a difficult and undesirable landscape through which to construct a
158 pipeline. Environmental features include critical habitats, geologic fault lines, national
159 parks and state parks, national forests, brownfields, and historic sites. Land and other

160 geographic and demographic features include dams, bridges, mines and mining activities,
161 military facilities, airports, cemeteries, and schools.

162 Each of the datasets used in the GIS is weighted, with characteristics desirable for
163 the pipeline route given a low weight and characteristics to be avoided or otherwise
164 undesirable given higher weights. In other words, the higher the risk associated with the
165 pipeline crossing or coming in close proximity to a feature, the higher the value given to
166 that feature. For example, consistent with the objective of paralleling the right of way of
167 the Marathon Pipeline as much as possible, the existing pipelines dataset was assigned
168 the lowest value so that the GIS routing tool would follow the existing pipeline to the
169 extent possible. At the other extreme, the national parks and state parks datasets were
170 given a high weight so that the GIS would exclude any national parks or state parks from
171 the preferred pipeline route, to avoid impacts on these recreational lands. Obviously, in
172 this weighting system, a lower score for a route is preferable to a higher score.

173 The GIS also takes into consideration the objective to minimize the overall length
174 of the route, consistent with consideration of the other criteria and constraints.
175 Minimizing the overall length minimizes the cost of construction as well as the
176 possibility of interference with or impacts to other uses.

177 **Q. In addition to the objective of paralleling the right of way of the existing Marathon**
178 **Pipeline as much and as closely as possible, what other criteria did ETCO consider**
179 **in developing the baseline route of the new build portion of the ETCO Pipeline?**

180 A. ETCO considered many criteria in developing the proposed route of the new build
181 portion of the Pipeline in Illinois, taking into account the types of environmental, land,
182 and other geologic and demographic features that could be encountered, as well as

183 engineering considerations. These included both desirable features for the pipeline route
184 and undesirable features that should be avoided or buffered around. Desirable features
185 include, as I have discussed, paralleling existing pipelines and existing linear utilities.
186 Features that should be excluded include (in no particular order) critical natural habitats;
187 federal and state designated historic places; reservoirs, dams and bridges; federal and
188 state lands; PHMSA high consequence and unusually sensitive areas (I explained this
189 term in my direct testimony); water wells, sole source aquifers, treatment plants, water
190 distribution tanks, and sewer pumps; landfills; schools, churches, cemeteries, hospitals,
191 nursing homes and other institutions; commercial or industrial developments, fish
192 hatcheries and stocked lakes; communication towers, and transportation terminals. Other
193 undesirable features to be avoided or to which proximity of the pipeline should be
194 minimized included conservation lands, easements and reserves; mining and mineral
195 extraction areas; wells; floodplains and National Wetlands Inventory sites; National
196 Hydrology Dataset (“NHD”) sites; superfund sites, brownfields, and hazardous waste
197 sites; Environmental Protection Agency (“EPA”) listed sites; recreation areas such as
198 parks, boat launches, and camping sites; wilderness areas; and geologic fault lines.

199 I note that the area between the Patoka Hub and the existing Trunkline Pipeline is
200 largely used for agricultural purposes, so many of the features I just described would not
201 be encountered in developing the route of the new build portion of the ETCO Pipeline.

202 Taking all of these criteria into consideration to the extent depicted in the
203 available data sets, the GIS determined the most desirable baseline route of the Pipeline.

204 **Q. Referring to the list of criteria you just provided, please explain what NHDs and**
205 **EPA listed sites are.**

206 A. NHDs are a federal inventory of streams, rivers, canals, and ditches. Federal EPA sites
207 include superfund sites, brownfield cleanup sites, and Hazardous Waste Sites. State EPA
208 sites include open dump cleanup sites, state brownfield sites, and leaking underground
209 storage tank sites.

210 **Q. Did the use of the GIS program result in any significant deviations of the route of**
211 **the new build portion of the ETCO Pipeline from paralleling the right of way of the**
212 **existing Marathon Pipeline?**

213 A. No. As I indicated earlier, the area across which the new build portion of the ETCO
214 Pipeline needed to be routed is largely used for agricultural purposes, so many of the
215 types of features to be avoided that I listed above are simply not encountered along the
216 route of the existing Marathon Pipeline. However, the need for some deviations in the
217 route of the new build portion of the ETCO Pipeline from paralleling the right of way of
218 the Marathon Pipeline was identified during the second, or design, phase of the route
219 development process.

220 **Q. Please describe the second, or design, phase of the development of the route of the**
221 **new build portion of the ETCO Pipeline.**

222 A. During the design phase, ETCO coordinated with federal and state agencies such as the
223 U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Illinois Department of
224 Natural Resources and Illinois Environmental Protection Agency; collected survey data
225 including through obtaining survey permission from landowners along or near the
226 baseline route, and collected additional datasets. For the purpose of conducting survey
227 activities, ETCO established a 400 foot environmental and cultural survey corridor
228 around the baseline route. The information obtained through these activities and through

229 detailed, segment-by-segment analysis of the baseline route, was utilized to identify and
230 incorporate modifications as needed to optimize the baseline route. The modifications
231 were identified and implemented through a process of detailed review of recent aerial
232 imagery around the baseline route, site visits, surveys, helicopter reconnaissance, and
233 further review and analysis of the existing datasets. Through this detailed analytical
234 process, ETCO modified the baseline route in several locations for various reasons,
235 including constructability issues, environmental concerns, and concerns raised by
236 landowner and governmental bodies, that could not be or were not identified by the
237 baseline route development process. Features identified by the detailed analysis that the
238 pipeline route should avoid or minimize interference with included agricultural irrigation
239 systems, power poles, towers, and trees planted for windbreaks. In some instances, a
240 route modification was developed because the baseline route ran through an area in
241 which access to the route for construction, maintenance and inspection purposes would
242 be difficult or could interfere with or impact other uses or features in the area, and a
243 modified route in the area would allow for easier or less impactful access.

244 **Q. What is ETCO Exhibit 2.11?**

245 A. ETCO Exhibit 2.11 provides a list of the modifications to the baseline route of the new
246 build portion of the ETCO Pipeline in Illinois that have been identified and implemented
247 in arriving at the proposed centerline. Essentially, these route modifications are the route
248 segments for which it was determined to be necessary to deviate the pipeline route from
249 paralleling the route of the existing Marathon Pipeline. These modifications have been
250 evaluated by ETCO's project team consisting of engineering, construction, survey,
251 environmental, and right-of-way representatives and experts.

252 **Q. Referring to ETCO Exhibit 2.11, please describe what information is contained in**
253 **the column titled “MOC/Rev ID”.**

254 A. “MOC/Rev ID” is an internal ETCO identification code for the area and number of the
255 proposed re-route. “MOC” stands for management of change.

256 **Q. In developing the proposed route of the new build portion of the ETCO Pipeline in**
257 **Illinois, did ETCO consider any alternative routes for the pipeline?**

258 A. ETCO did not follow a process in which it first explicitly identified a set of distinct or
259 largely distinct potential routes for the new build portion of the pipeline and then
260 analyzed the desirable and undesirable aspects of each distinct potential route to select
261 the best route from the set of potential routes. The use of the GIS program and datasets
262 that I described earlier in my testimony essentially encompasses this type of process by
263 evaluating the desirable and undesirable features in the region to be traversed by the
264 pipeline and identifying a preferred baseline route. The detailed design phase analysis
265 which I have described then considers alternatives on a segment-by-segment basis by
266 identifying route segments where the route needs to be, or ideally should be, modified,
267 and identifying an appropriate modified route for that segment. Further, given the
268 significant advantages of paralleling the route of the existing Marathon Pipeline as much
269 as possible, as I described earlier, it would be difficult to develop a completely distinct
270 alternative route that would not be inferior to a route paralleling the existing Marathon
271 Pipeline.

272 **Q. Is ETCO continuing to analyze the proposed route of the new build portion of**
273 **the ETCO Pipeline in Illinois?**

274 A. ETCO is continuing to analyze the proposed route of the new build portion of the
275 ETCO Pipeline in Illinois; however, although further modifications to the route
276 described in ETCO Exhibit 2.8 are possible, I consider it highly unlikely that there
277 will be additional modifications to the route. This is because ETCO has collected
278 survey data and/or obtained survey permission from the owners of approximately 97
279 percent of the tracts to be crossed by the centerline of the new build portion of the
280 route, and, as Ms. McDaneld testifies in her direct testimony, has had contacts with
281 approximately 99 percent of the landowners whose properties are crossed by the
282 route of the new build portion. Therefore, as survey activities and landowner
283 contacts have been the major source of the need for modifications from the baseline
284 route, and the survey activities and initial landowner contacts are almost completed,
285 there is a low likelihood of the need for further route modifications being identified.
286 Ideally, further modifications, if any, will be within the 500 foot project width
287 around the proposed centerline described in ETCO Exhibit 2.8.

288 However, ETCO remains committed to working with individual landowners
289 along the route to address particular concerns they may have about placement of the
290 pipeline on their property, which may necessitate route modifications to address such
291 concerns or to take into account additional parcel-specific information obtained through
292 discussions with landowners.

293 **IV. ETCO LATERALS AT THE PATOKA HUB**

294 **Q. Please describe the lateral pipelines to be constructed by ETCO at the Patoka Hub**
295 **that you referred to earlier in your testimony.**

296 A. ETCO has determined that, as part of the Project, it is necessary to construct a set of
297 lateral pipelines to connect ETCO's pipeline and related terminal facilities at the Patoka
298 Hub to the existing tank farm area at the Patoka Hub. These lateral pipelines will provide
299 connectivity for customers between the ETCO Pipeline and the storage facilities at the
300 Patoka Hub, enabling crude oil to be either moved from storage tanks to the ETCO
301 Pipeline for transportation, or moved from the ETCO Pipeline (having arrived at the
302 Patoka Hub via the Dakota Access Pipeline) to the storage tanks for storage and possible
303 transfer to other pipelines.

304 Specifically, ETCO plans to construct up to four, 30 inch diameter lateral
305 pipelines from the ETCO facilities to the existing tank farm area. The lateral pipelines
306 would range from two to three miles in length, depending on the end point of each lateral
307 in the tank farm area, and would run parallel and close to the Dakota Access Pipeline as it
308 passes through the Patoka Hub area shortly before its interconnection point with the
309 ETCO Pipeline.

310 ETCO Exhibit 2.12 is an aerial GIS image of the Patoka Hub area showing (1) the
311 route of the Dakota Access Pipeline, (2) the route of the ETCO Pipeline, and (3) the route
312 of the lateral pipelines. The existing crude oil storage tanks are visible in this image.
313 The rectangular tract on which the Dakota Access and ETCO Pipelines are shown as
314 meeting is a 160-acre property owned by Energy Transfer.

315 As I noted earlier in this testimony, ETCO Exhibit 2.8 includes the legal
316 description of the proposed route of the lateral pipelines.

317 **Q. Have you provided a list of the names and addresses of the landowners whose**
318 **properties will be crossed by the route of the lateral pipelines at the Patoka Hub?**

319 A. Yes. The names and addresses of the landowners whose properties will be crossed by the
320 route of the lateral pipelines at the Patoka Hub are listed on ETCO Exhibit 2.13. I note
321 that these properties are also crossed by the route of the Dakota Access Pipeline, and so
322 the landowners were included on the landowner list provided by Dakota Access in
323 Docket 14-0754, and they presumably received notice from the Commission of the
324 Docket 14-0754 proceeding. However, these landowners have not received formal
325 notification of the Docket 14-0755 proceeding.

326 As I stated earlier in this testimony, ETCO Exhibit 2.13 also includes the names
327 and addresses of the new owners of several properties that are on the centerline of the
328 proposed route of the new build portion of the ETCO Pipeline.

329 **Q. Does this conclude your supplemental direct testimony?**

330 A. Yes.