

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	
Application of COMMONWEALTH EDISON	:	Docket No. 07-0310
COMPANY, for a Certificate of Public	:	
Convenience and Necessity, Pursuant to Section 8-	:	
406 of the Illinois Public Utilities Act, to construct,	:	
operate and maintain a new 138,000-volt electric	:	
transmission line in Kane and McHenry Counties,	:	
Illinois.	:	

Direct Testimony of
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Regional Practice Manager
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1 Background

2 Q. Please state your name.

3 A. My name is Donell Murphy.

4 Q. By whom are you employed, and in what capacity?

5 A. I am employed by Arcadis U.S., Inc. I hold the position of Regional Practice Manager
6 and Project Manager in Arcadis' Chicago office.

7 Q. Are there any attachments to your Direct Testimony?

8 A. Yes. Attachment 4.1 to my testimony is the Siting Study performed by Arcadis.
9 Attachment 4.2 to my testimony is a summary of the environmental factors associated
10 with the potential route alternatives.

11 Q. What is the purpose of your testimony?

12 A. In addition to introducing the Arcadis Siting Study into the record, I will explain the
13 approach we took, and how that study was developed. I will not repeat what is in the
14 study itself, and so my testimony will not have all the specifics and details that are in the
15 report. I am going to concentrate on explaining our methodology, so the Commission
16 will have an understanding of what we did, and can better evaluate the strength of our
17 conclusions.

18 Q. Please provide a general description of the types of services that Arcadis provides.

19 A. Arcadis is an environmental consultant firm generally specializing in environmental
20 planning and permitting, environmental remediation, and infrastructure design and
21 development services. Our Environmental Planning and Permitting Practice includes

22 feasibility studies, siting, stakeholder/public involvement programs, permitting, and other
23 services associated with electrical transmission or power generation facilities.

24 Q. Please describe your professional experience.

25 A. I have been with Arcadis for a little over a year, since it acquired my former employer,
26 Greystone Environmental Consultants. I was with Greystone for the previous five years.
27 My role at both firms has been similar: I have worked exclusively on power generation
28 siting projects and electrical transmission siting projects ranging from 69 kV to 500 kV. I
29 have performed both technical and overall management services on siting projects
30 throughout the Midwest and western United States, including being directly responsible
31 for leading the siting effort for other transmission line siting projects in addition to this
32 project. Arcadis is a nationally recognized firm with regard to transmission line siting.
33 Arcadis has facilitated the siting of over 600 miles of high voltage electrical transmission
34 lines. I have been directly responsible for managing the technical siting of over 400 miles
35 of high voltage line. Almost 300 miles of the total 400 have been successfully
36 certificated and are currently under construction. The stakeholder and public involvement
37 efforts associated with these projects extended over multiple years and involved outreach
38 to hundreds of thousands, cumulatively. The approach that has been undertaken for Phase
39 III of the Northwest Reliability Project is similar to the processes utilized for the projects
40 of which Arcadis has managed the siting effort, and they've been successfully
41 certificated. Nearly all of the projects I have worked on have had a high level of public
42 scrutiny.

43 Before holding my present position of Regional Practice Manager, I have held
44 positions as Technical Project Manager, Project Manager, Assistant Project Manager, and

45 GIS Manager. I also hold the designation Certified Project Manager from the
46 International Association of Project and Program Management.

47 Prior to my employment by Greystone, I worked for over three years as a forest
48 biologist with the U.S. Forest Service.

49 Q. What is your educational background?

50 A. I have a BS degree in Forest Biology and Geographical Information Science from
51 Colorado State University.

52 Q. What is a geographical information system?

53 A. A geographical information system, or GIS, is a system for capturing, storing, analyzing
54 and managing data and associated attributes which are spatially referenced to the earth.
55 In the strictest sense, it is a computer system capable of integrating, storing, editing,
56 analyzing, and displaying geographically-referenced information. In a more generic
57 sense, GIS is a tool that allows users to create interactive queries (user created searches),
58 analyze the spatial information, edit data, and present the results, typically in the form of
59 maps. Geographic information science is the science underlying the applications and
60 systems, taught as a degree program by several universities.

61 GIS is an integral part of the technical studies done by Arcadis in an engagement
62 on a transmission line project. I have acted as the GIS Manager for a number of large
63 scale projects, developing extensive geospatial databases and using them to foster public
64 participation and involvement. I have managed the development of geospatial databases
65 for study areas individually exceeding 2000 square miles. For one particular project in the
66 desert southwest, I developed a data exchange program as part of the GIS database
67 development effort. As information was obtained from stakeholders, Arcadis converted it

68 to GIS format and returned it to the affected jurisdictions for use in their long term
69 planning. The individual GIS databases of which I have managed the development of
70 have included data layers reaching into the several hundreds. Arcadis utilizes GIS as a
71 core component of our siting studies. I will discuss the use of GIS on this project later in
72 my testimony.

73 Q. What is your role on the project involved in the docket presently before the Commission?

74 A. I am Arcadis' project manager for our engagement by the petitioner, Commonwealth
75 Edison Company (ComEd).

76 Q. What is the scope of Arcadis' engagement by ComEd?

77 A. We were hired by ComEd to refresh a previous siting study that had been completed in
78 the mid-90s. Our assignment specifically related to Phase III of the Northwest Reliability
79 Project, which was studied originally as part of the overall, three phase Far Northwest
80 Project. I will refer to the Northwest Reliability Project, and Phase III in particular, as
81 the "Project." We assisted ComEd in strategically planning the development of the
82 technical siting study and integrated stakeholder/public outreach process associated with
83 routing the proposed 138 kV transmission line and substation. Our services generally
84 included data collection and database development, field reconnaissance and site
85 assessment, route development and site selection comparative analyses, facilitating the
86 stakeholder/public involvement process which was integrated into the overall technical
87 study, and otherwise supporting ComEd in developing this Project.

88 Siting Study

89 Q. You mentioned that Arcadis was hired to “refresh” a previous study. Please describe that
90 previous study.

91 A. The original siting study, completed in the mid-1990s by another consulting firm,
92 covered the entire Northwest Reliability Project, which was then termed the “Far
93 Northwest” project. The project was subsequently divided into three phases. The
94 original siting study examined a large area of Kane and McHenry counties, and identified
95 a preferred route for all phases of the project, including Phase III, which is the subject of
96 the petition currently before the Commission. This original siting study was presented to
97 the Commission as part of ComEd’s support for Phases I and II, and the Commission
98 adopted many of the study’s findings. Phases I and II were approved by the Commission,
99 and have been put into service in 1999 and 2001, respectively. As it was the starting
100 point for Arcadis’ own analyses, it is included in Appendix A to the Siting Study, ComEd
101 Ex. 4.1.

102 Q. Please explain what you mean by refreshing the original siting study.

103 A. Based in part on the previous study, ComEd acquired some easements and properties in
104 the vicinity of the Phase III preferred route to the extent it could be acquired at that time,
105 but much of the route remains privately owned. A number of years have passed since the
106 original siting study, which is a long time given the rapidly growing area. The local
107 affected area is transitioning from a rural setting to one more suburban in character.
108 Rather than rely on a study that is now more than ten years old, ComEd engaged Arcadis
109 to readdress the analysis conducted and conclusions reached in the original siting study,

110 and to gather fresh information on the specific area in which Phase III needs to be
111 constructed. Although similar in approach, our Siting Study is essentially a new study.

112 Q. Can you provide an overview of the strategic approach that was identified for the Project?

113 A. Arcadis assisted ComEd in identifying an approach in which the stakeholder/public
114 involvement process was integrated into the overall technical study. Though this same
115 approach had been used for the initial study, we refined the approach by establishing
116 study phases or steps having specific Project objectives. We also redefined the study area
117 and desired level of participation of stakeholders and the general public. We established
118 a critical path in which the phases of the integrated technical study and stakeholder/public
119 involvement process were methodically and chronologically defined within the Project
120 schedule.

121 Q. What steps were identified?

122 A. The three steps initially identified included Step 1 – Need and Benefits, Step 2 –
123 Preliminary Study Sites and Routes, and Step 3 – Final Site and Route. An interim step
124 to allow for additional analysis of substation sites was later introduced between Steps 2
125 and 3. This interim step allowed for the development of potential route alternatives and
126 resulted in the final site and route being developed within a fourth step.

127 Q. Please describe the objectives of Step 1.

128 A. Since we were using the original siting study from the 1990s as a launching point for our
129 study, and recognizing that the individuals in our target audience may have changed since
130 the mid-90s, Step 1 was strategically planned to focus entirely on the background of the
131 Northwest Reliability Project and the need and benefits of Phase III specifically. Our

132 target audience included elected officials, agency representatives, land owners,
133 homebuilders and developers, the general public, and other interested parties. Despite any
134 conclusions reached in the original siting study, we objectively approached Step 1 to
135 ensure that our target audience had a fundamental understanding of why the proposed
136 transmission line and substation are needed, and an understanding of our upcoming
137 process for selecting the best locations for the proposed facilities.

138 The siting area for the proposed substation and the study area for the proposed
139 transmission line were developed during Step 1. The consideration of proximity to
140 expanding or future load centers, proximity to customer demand, proximity to other
141 existing facilities, and allowing for a diversity of opportunities as it relates to route
142 development all influenced the delineation of the substation siting area and the overall
143 Project study area. These parameters were therefore largely given to us by ComEd's
144 Project team.

145 Step 1 also included an integral technical study component, the identification and
146 prioritization of the environmental criteria to be used for siting the proposed facilities.
147 The environmental criteria are one of three siting elements, which also include
148 engineering and economic considerations. The criteria act as the fundamental basis of a
149 siting study, both in how possible locations for proposed facilities are evaluated and also
150 in how the stakeholder/public outreach process is incorporated. If the public establishes
151 an understanding of the criteria, they typically provide more substantive comments
152 specific to the criteria. Criteria-specific input adds greater value to the study than the
153 more common personal property concerns.

154 Development and Refinement of Siting Criteria

155 Q. What kinds of factors did you consider in determining optimal locations for the line and
156 substation?

157 A. Overall, there are three major components of site and route selection: environmental,
158 engineering, and economics. By “environmental,” I am speaking not just about things
159 like wetlands or endangered species. I mean all of the spatial features, natural and man
160 made, that make up the environment in the study area. Our “environmental” data
161 therefore includes residential and commercial development, airfields, parks, roads and so
162 on.

163 Our approach was to start with the environmental criteria first, to develop as many
164 feasible sites and routes as we could. We would later apply the engineering and
165 economic factors to the feasible routes, while continuing to compare environmental
166 criteria.

167 Q. Please define the environmental criteria and describe how the criteria were identified and
168 prioritized.

169 A. The environmental criteria include what we refer to as opportunities and sensitivities.
170 For transmission lines, advantageous siting “opportunities” are characterized by corridors
171 with the potential for sharing or running alongside existing facilities, infrastructure, and
172 landscape features.

173 Advantageous substation opportunities are sites that allow a substation to be
174 located on or adjacent to a property with existing electric facilities or compatible
175 structures.

176 “Sensitivities” are those environmental siting criteria, including point locations,
177 areas, or features, which should be taken into account with regard to routing,
178 construction, or additional licensing/permitting procedures. It is important to understand
179 that the term “sensitivity” does not imply complete avoidance. Sensitivities are locations,
180 areas, or features that should be taken into account, but do not necessarily have to be
181 avoided.

182 Arcadis took advantage of past siting experience to adapt and refine the criteria
183 previously identified in the original siting study completed in the mid-90s. We developed
184 an updated list of environmental criteria specific to the current Project area. During
185 Step I, we engaged local officials, agency representatives, and other interested parties in
186 an interactive exercise to validate and supplement our list of opportunities and
187 sensitivities, but also to prioritize them. These individuals represent local constituents,
188 and their values and perceptions. The results of this exercise can be found in Section
189 2.4.3, Page 32 of the Siting Study.

190 Based on the stakeholders’ input, we identified opportunities and prioritized them
191 as either primary or secondary, primary opportunities being qualitatively greater in
192 strength. Similarly, sensitivities were prioritized as qualitatively high, moderate, or low.
193 High sensitivities are most sensitive in the local area and low sensitivities are least
194 sensitive in the local area. However, a low sensitivity is no less considered than a high
195 sensitivity for route development. The prioritization of the environmental criteria
196 provides a secondary tier of comparison only if two opportunities, study corridors, or
197 route alternatives are otherwise comparable in the associated occurrence of sensitivities.
198 This is shown in Table 4.1.

Table 4.1 – Prioritized Environmental Siting Criteria	
TRANSMISSION LINE OPPORTUNITIES	
PRIMARY	
Existing Transmission Line Corridor (69 kV and above)	
Existing Vacant Transmission Line ROW (Existing ComEd Easement)	
Existing Tollway	
SECONDARY	
Divided and Undivided Highway, and Secondary Road	
Existing Distribution Line Corridor (below 69 kV)	
Pipeline or other Utility Corridor (including fiber optics)	
Railroad	
Section Line and/or Property Line	
SUBSTATION OPPORTUNITIES	
PRIMARY	
ComEd-Owned Property	
Existing Surfaced Access	
Private Parcel \geq 4 Acres	
Vacant Land Use Area	
SECONDARY	
Non-Residential Land Use Area	
Within 1 Mile of Existing Transmission	
SENSITIVITIES (as adapted from 1995 study and with the incorporation of SWG I prioritization)	
HIGH	
Archaeological Site	Potential Special Status Species Habitat
Conservation Management Area	School
Designated Critical Habitat	Sensitive Management Area
Existing Residential Use Area	State, Regional and Local Parks, Designated Open Space, and/or Preserve
Licensed Day-Care Center	Traditional Cultural Property
National Historic Landmark	
MODERATE	
Church	Planned Residential Development
Existing Drainage, River, Stream	Prime Farmland
Hospital	Scenic Highway / Byway / Trail
Local Airstrips	Trees/Woodlots
Nursing / Assisted Living Facility	Wetland
LOW	
100-Year Floodplain	Golf Course
Cemetery	Industrial Use Area
Commercial Use Area	Mine/Quarry
Communication, Radio, and Microwave Towers	Non-Private Land
Designated Recreational Use Area	Water Well Site
Geologically Sensitive Area	

199 Q. Can you further elaborate on how the priority level of sensitivities is utilized for route
200 development?

201 A. As I previously mentioned, sensitivities do not imply avoidance of these features.
202 Additionally, low sensitivities are not initially disregarded or considered less than high
203 sensitivities. The route development process is a screening process, or funneling process
204 where data is parsed with more detail for each stage of analysis. Linear features or routes
205 can be comparatively evaluated first as to a cumulative associated occurrence of
206 sensitivities, regardless of priority, and secondly with regard to strength of opportunity
207 and occurrence of high or moderate sensitivities. The second level of analysis is
208 completed only if the first evaluation results in comparable opportunities or routes. This
209 secondary analysis prevents any biased or weighted consideration of a single criterion or,
210 for example, the argument of 1.0 acres of occurrence versus 1.2 acres of occurrence or
211 ten existing residences versus eight. Only with this second stage of analysis can low
212 sensitivities be qualified as more compatible with the proposed transmission line.
213 Specifically, the occurrence of residential land uses versus commercial land uses is
214 evaluated equally for the first stage of analysis. However with the second stage of
215 analysis, again given that two opportunities are otherwise comparable, residential land
216 uses take priority over commercial land uses.

217 Mapping of Criteria and Formulation of Study Corridors and Preliminary Route Corridors

218 Q. Following the prioritization of the criteria, what was the next step?

219 A. The next step, from a technical perspective, was to map the opportunities and sensitivities
220 occurring specifically within the substation siting area, and also within the overall Project
221 study area. Data pertaining to the identified environmental siting criteria was obtained.

222 This involved a concentrated effort of reaching out to identified stakeholders and sources
 223 of publicly available information. Data not in GIS format was converted to GIS format.
 224 Table 4.2 lists the Arcadis' GIS data sources.

Table 4.2 – GIS Data Sources
City of Elgin
Federal Aviation Administration
Federal Communications Commission
Illinois Department of Natural Resources
Illinois State Historic Preservation Office
Illinois State Geological Service
Illinois Tollway Authority
Illinois Waste Management & Research Center
Kane County Department of Transportation
Kane County Farm Bureau
Kane County Forest Preserve District
Kane County Planning and Development
McHenry County Conservation District
McHenry County Planning and Development
McHenry County Farm Bureau
Natural Resources Conservation Service
US Fish and Wildlife Service
US Geological Survey Village of Huntley
Village of Algonquin
Village of Gilberts
Village of Huntley
Village of Lake in the Hills
Village of Pingree Grove

225 Additionally, Table 4.3 lists the types of GIS data that were collected. The GIS
 226 database was developed as a result of an extensive data collection and maintenance effort.

Table 4.3 –GIS Data Types
Agricultural Use Patterns
Airports or Local Landing Strips
Cemeteries
Census Tracts
Churches
Commercial Land Uses
Conservation Areas
Existing Residential Land Use

Table 4.3 –GIS Data Types
Existing Utilities or other Facilities (Transmission, Distribution, Telecommunication, Natural Gas Pipeline)
Existing Roads
Floodplains
Forest Preserves
Geology
Golf Courses
Industrial Land Uses
Jurisdictional Boundaries
Mines
Municipal Annexed Boundaries
National Landmarks or Historic Features
Open Space
Other Planned Land Uses
Parcel Boundaries or Land Ownership
Planned Developments
Potential Special Status Species Habitat
Prime Farmlands
Proposed Residential Land Use
Proposed Road Realignments, Expansions, Interchanges
Proposed Schools
Railroads
Recreational Land Uses
Schools
Soils
Streams or Other Hydrological Features
Vegetation
Wells
Wetlands
Wooded Areas
Zoning

227 As I previously discussed, GIS is a core component of our siting study. Each of
228 the above listed datasets are geoprocesed for various analyses and the total number of
229 spatial data files within the GIS database increases accordingly, ultimately resulting in
230 hundreds of individual data files. Decisions made throughout the route development
231 process and the utilization of comments received from stakeholders and the general

232 public are dependent upon the currency and accuracy of data within the geospatial
233 database.

234 The composite mapping of the environmental criteria allowed for the qualitative
235 assessment of the concentrated occurrence of sensitivities within the substation siting
236 area and along each identified opportunity. Over 200 individual opportunity segments
237 were identified. Opportunities were segmented at each instance where two or more linear
238 features diverged. Given the size of the study area, this approach demonstrated a
239 concentrated, granular attention to detail for the fair analysis of all existing linear features
240 or opportunities.

241 As it relates to the substation siting area, areas having a higher concentration of
242 sensitivities were removed from consideration. Areas having a lesser concentration or
243 occurrence of sensitivities were carried forward for additional and more detailed analysis.
244 These areas were identified as the preliminary substation sites.

245 To be of use in completing a continuous transmission line, an opportunity would
246 need to fit the overall directional orientation of the project, which means connecting the
247 Gilberts Substation, the Algonquin Substation, and the new substation in the substation
248 siting area. Some opportunities were found to be of little use, because they conflicted
249 with the directional orientation of the Project. For example, a north-south leg is of no use
250 in an area of the project that needs an east-west leg, unless the north-south leg can be
251 used to connect to another east-west portion. Opportunities that did not fit the overall
252 directional orientation were removed from consideration. As a specific example,
253 opportunities extending south and east of the Gilberts Substation were excluded because
254 they conflicted with the overall directional orientation of the Project. Opportunities

255 having a noticeably greater associated occurrence of sensitivities were also removed from
256 consideration. Maps depicting opportunities removed and carried forward can be found in
257 Section 3.1.1, Pages 45 and 46 of the Siting Study.

258 Q. What did you do next?

259 A. The Project study area was then segmented into four geographic areas to further assess
260 the remaining opportunities having the same directional orientation or function. The
261 opportunities within the four functional groups, as they relate to geographic orientation,
262 were secondarily qualitatively compared for the occurrence of sensitivities within
263 proximity. A qualitative comparison begins as a quantitative assessment of the
264 occurrence of sensitivities within an identified study corridor, for example acres of a
265 sensitive land use occurring within a corridor. Analysis matrices are included in
266 Appendix H of the Siting Study. The occurrence values are then more qualitatively
267 compared to allow for an unbiased assessment from multiple perspectives. One
268 perspective is the evaluation of cumulative occurrence, regardless of sensitivity type. A
269 second perspective is the evaluation of sensitivities having a higher priority to the local
270 affected area. And finally, a third perspective is the evaluation of the strength or priority
271 of the central linear feature of the corridor being studied. A qualitative comparison allows
272 for each of these perspectives to be evaluated independently, or in combination with one
273 another. A qualitative study avoids the more linear approach of ranking alternatives and
274 making decisions based on, for example, a difference in value of 1 versus 1.5 acres. As a
275 result of the comparison of existing opportunities, those opportunities within each
276 functional group having a lesser associated occurrence of sensitivities were prioritized as
277 study corridors. Those study corridors having a greater associated occurrence of

278 sensitivities were removed from consideration. Logically then, remaining isolated study
279 corridor segments no longer having connectivity with other more contiguous and
280 prominent study corridors were also removed from consideration. The remaining study
281 corridors were carried forward as preliminary route corridors and presented during Step 2
282 of the stakeholder/public involvement process. These preliminary corridors are depicted
283 on Figure 24, Page 53 in the Siting Study.

284 Q. What were the objectives of Step 2 of the Siting Study?

285 A. Step II involved the presentation of the preliminary substation sites and study corridors to
286 the stakeholders and the general public. We explained our methodology for carrying
287 forward these sites and corridors, and solicited their input or comments to validate the
288 selected sites and corridors, but also to validate the data within the GIS.

289 Development of Alternative Substation Sites and Potential Route Alternatives

290 Q. How did you move from siting areas and study corridors to alternative sites and routes?

291 A. One can think of the route development process as a screening process in which each
292 stage of route development is narrowed in scope of study, but more meticulously
293 analyzed both quantitatively and qualitatively. The results of each stage of analysis are
294 funneled to the next. We took the information we learned from Step 2 of the
295 stakeholder/public involvement process and began applying it to our data. We also
296 started adding additional important locational factors.

297 Q. What other criteria did you use to develop alternative substation sites and potential route
298 alternatives?

299 A. As I mentioned earlier, environmental, engineering, and economics criteria collectively
300 comprise the three major components of site and route selection. In Steps 1 and 2, we
301 concentrated on environmental criteria. Subsequent to Step 2, we also took into account
302 engineering considerations and economics in the route development process. I refer you
303 to the testimony of Neil Kaup and Ronald Dyslin as to how the other siting components,
304 separate from the environmental siting criteria, were evaluated. We began to evaluate the
305 preliminary substation sites with regard to access, site control, construction challenges,
306 and land uses occurring at and adjacent to each preliminary site. Two sites emerged from
307 this analysis as more opportune locations for the proposed substation site. These sites
308 were carried forward as the potential substation sites.

309 Q. What did you do next?

310 A. The preliminary route corridors were again quantitatively and qualitatively evaluated
311 with regard to strength of occurring opportunities, associated occurrence of sensitivities,
312 and priority of occurring sensitivities. The width of the respective study corridors was
313 reduced to analyze the occurrence of sensitivities within a more immediate proximity of
314 the linear feature occurring as the centerline of each study corridor. Those preliminary
315 route corridors that were identified as inferior with regard to strength of opportunity,
316 cumulative occurrence of sensitivities, or occurrence of high and moderate sensitivities
317 were removed from consideration. Those preliminary route corridors that were identified
318 as superior with regard to these evaluation parameters were carried forward as potential
319 route alternatives and presented during Step 3 of the stakeholder/public involvement
320 process. These potential route alternatives are depicted on Figure 29, Page 63 in the
321 Siting Study.

322 Q. What were the objectives of Step 3 of the Siting Study?

323 A. Step 3 involved the development and presentation of the potential substation sites and
324 route alternatives. We, again, explained our methodology and solicited the input or
325 comments from stakeholders and the general public to validate the sites and alternatives
326 carried forward.

327 Q. For clarification, can you generally describe the preliminary study corridors that were
328 carried forward, and the study corridors removed from consideration?

329 A. The study corridors associated with the Interstate 90 tollway, south to north property lines
330 east of State Route 47, Freeman Road, Galligan Road, Smith Road, an existing ComEd
331 easement and property line east and north of Smith Road, and Kreutzer Road were
332 carried forward.

333 Study corridors associated with Big Timber Road, Route 47, Main Street in
334 Huntley, the railroad, and a property line east of Galligan Road were removed from
335 consideration. Big Timber Road had a greater associated occurrence of sensitivities,
336 required consideration of its winding alignment, and otherwise offered no competitive
337 advantage with regard to strength of opportunity when compared to the tollway corridor.
338 Route 47 had a greater associated occurrence of sensitivities, required consideration of its
339 existing right-of-way and the proximity of existing structures or established land uses
340 within or immediately adjacent to the road right-of-way, and otherwise offered no
341 competitive advantage with regard to strength of opportunity when compared to the south
342 to north property lines east of Route 47. Additionally, the Village of Huntley had voiced
343 strong opposition to Route 47 since it was considered a 'gateway' to Huntley and the
344 Village had funded the burying of other existing utilities along Route 47. Main Street in

345 Huntley was removed due to a greater occurrence of sensitivities. The railroad corridor
346 was removed due to a greater occurrence of sensitivities and its proximity, at the northern
347 end of the study area, to the Landings Condominium airstrip. Finally, the corridor
348 associated with a south to north property line east of Galligan Road was also removed
349 from consideration due to a greater occurrence of sensitivities. For clarification, each of
350 these corridors was evaluated against their nearest functionally comparable study
351 corridor.

352 Q. Please describe how the potential route alternatives were further developed.

353 A. The potential route alternatives generally included one alignment from the existing
354 Gilberts substation to the southern potential substation site – that is, along the tollway –
355 and several configurations extending from just north of the tollway to multiple tap
356 locations along the existing North Huntley to Algonquin 138 kV transmission line. The
357 north-reaching configurations generally included an alignment along Freeman and
358 Galligan roads, an alignment north along a contiguous property line, an alignment having
359 isolated variations but extending from Kreutzer Road to a tap location near the
360 intersection of Main Street and Haligus Road, and an alignment from the divergence at
361 Kreutzer Road but east along Kreutzer Road to a tap location east of Huntley-Dundee
362 Road.

363 These general alignments were again quantitatively and qualitatively evaluated.
364 The more detailed comparative analysis included, for example, the assessment of planned
365 lots or existing structures within an even more immediate proximity versus the
366 assessment of acres of occurring sensitive land uses, and the strength of occurring
367 opportunities. The Interstate 90 tollway continued to maintain its dominance in strength

368 of opportunity, and the northern configurations were developed into two specific route
369 alternatives. These were the Freeman-Galligan route, and the Kreutzer Road route. These
370 routes are depicted on Figure 31, Page 67 in the Siting Study.

371 Q. Please compare these two routes, which you carried forward, to the route that would
372 continue north and intersect the existing transmission line at Haligus Road and Main
373 Street.

374 A. The route option that would continue north from Kreutzer Road along property lines to
375 the intersection of Main and Haligus, would impact a much larger number of existing
376 residences, and be located within immediate proximity of the new Village of Huntley
377 Town Hall. The Village of Huntley voiced strong opposition to this route due to its
378 proximity to the new Town Hall and planned town center. I refer you to Exhibit 4.2
379 attached to my testimony which summarizes the environmental factors associated with
380 the potential route alternatives.

381 Further Consideration of the Two Route Alternatives

382 Q. You mentioned that an interim step in the stakeholder/public involvement process was
383 introduced. Did this take place following the development of two distinct route
384 alternatives?

385 A. Yes, it did. Although the development of two specific route alternatives wasn't initially
386 identified as a distinct stage in route development, we decided to share this information
387 with the public since we weren't yet prepared to select a proposed final route. A proposed
388 substation site had not been secured and we needed to retain some flexibility in routing
389 the proposed transmission line until a proposed site could be acquired.

390 Q. What transpired between the presentation of the two potential route alternatives and the
391 selection of the proposed final substation site and route?

392 A. First, we were forced to remove the preferred southern potential substation site from
393 consideration when ComEd's negotiations to acquire the site failed. Therefore, the
394 substation siting area was expanded to encompass more possible substation locations that
395 would meet the substation siting criteria. These possible substation locations were studied
396 in detail. A second preferred potential substation site was identified along the tollway at
397 Sandwald Road. The Sandwald location would require the extension of the proposed
398 segment along the south side of the tollway. This site was successfully acquired by
399 ComEd and became the proposed site.

400 Q. Where there other considerations that influenced the timing in selecting the proposed
401 final route?

402 A. There were a number of other pending informational updates that were also recognized.
403 These included various planned developments along Route 47 and Freeman, Galligan,
404 and Kreutzer Roads and their respective stages of development, the Kane County Forest
405 Preserve District's acquisition of the Tomo Chi Chi Boy Scout camp along the south side
406 of Freeman Road, a new school near the intersection of Freeman and Galligan Roads, the
407 expansion of an existing church along the east side of Galligan Road, and our
408 understanding of the intergovernmental agreement for the expansion of Kreutzer Road.
409 Schools, residential developments, and preserve lands were all prioritized by the
410 participating stakeholders as being the most sensitive to the local area. We took into
411 account all of this information before finalizing the proposed route.

412 Q. What is the intergovernmental agreement regarding Kreutzer Road?

413 A. My understanding is that, concurrent with development along Kreutzer Road, Kreutzer
414 may be widened to a five lane road. Parties to the intergovernmental agreement include,
415 the Village of Huntley, the Village of Algonquin, the Village of Carpentersville, the
416 Village of Gilberts, Kane County, and McHenry County The agreement applies to
417 developers whose planned developments are approved by one of the affected
418 jurisdictions. Costs associated with the widening of the road would be shared by the
419 parties to the agreement, as appropriate. However, in accordance with the
420 intergovernmental agreement, the timing of the widening of Kreutzer Road would be
421 almost exclusively dependent on the progression of proposed or planned developments.
422 It is therefore unclear when this potential widening would occur. The agreement was
423 recorded on March 15, 2006. The Project team received it in May 2006.

424 Q. Would the Freeman-Galligan route avoid this kind of timing issue with changes in the
425 parallel roadway?

426 A. No, the Freeman-Galligan route would likely have a similar issue. The north end of
427 Galligan Road, near Huntley Road, is planned for a realignment. If the realignment
428 occurs after the line is built, a conflict would be possible.

429 Final Proposed Route

430 Q. Would you please describe the final proposed route?

431 A. The proposed line will begin at ComEd's existing Gilberts substation, located south of
432 Interstate 90 near Randall Road. It will exit the substation to the northwest, following the
433 south side of Interstate 90, within the tollway right-of-way, for about 6.5 miles to a
434 proposed new substation, to be named Sandwald substation, at the southeast corner of
435 Interstate 90 and Sandwald Road. Starting at a point along that proposed line on the

436 south side of Interstate 90, about a half mile southeast of State Route 47, another section
437 of the proposed line will go north, cross the tollway, and continue north along the east
438 property line of the Huntley Factory Shops, continue north just across Freeman Road, and
439 follow the north side of Freeman Road to the west about a third of a mile. The line will
440 then continue north approximately a mile and a half, following property lines, and cross
441 Powers Road. It will then continue north and cross Kreutzer Road into McHenry
442 County. It will then follow an existing ComEd easement north along Smith Drive and
443 east along an abandoned rail corridor, and then continue southeast along the west side of
444 the Union Pacific railway to a point just south of the Kane-McHenry county boundary.
445 East of the railroad tracks, the line will parallel the south side of Kreutzer Road,
446 continuing east across Huntley-Dundee Road to connect with ComEd's existing
447 transmission line. The proposed route is depicted on Exhibit A to ComEd's Petition, and
448 also on Figure 34, Page 73, in the Siting Study.

449 Q. What are the advantages of the proposed route when compared to the Freeman-Galligan
450 route?

451 A. As I discussed above, the proposed final route was evaluated with regard to economic,
452 engineering, and environmental considerations, with all these considerations having
453 similar weight. Again, I refer you to the testimony of Neil Kaup and Ronald Dyslin as to
454 how the other siting components, separate from the environmental siting criteria, were
455 evaluated

456 Specific to environmental considerations, the proposed final route better
457 optimized the use of dominant linear features having compatible associated rights-of-
458 way. It also provided for the placement of the proposed transmission line behind planned

459 developments rather than along a major frontage, and eliminated the potential for impacts
460 to occur to planned developments along Freeman and Galligan Roads that are almost
461 exclusively residential and progressing more rapidly than planned developments in other
462 areas. Finally, it eliminated the potential for impacts to occur to the existing and newly
463 acquired forest preserve lands along Freeman Road.

464 Summary of Public Involvement in the Siting Study

465 Q. You've previously identified the engagement of stakeholders and the general public
466 throughout the overall siting study process. Please explain the various forms of public
467 outreach employed.

468 A. Venues included stakeholder working groups, open houses, meetings with elected
469 officials, presentations at Village Board meetings, a homebuilders and developers
470 workshop, and informational meetings with stakeholders and other interested parties. The
471 stakeholder working group differs from the open houses only in the presentational
472 format. While the stakeholder working group allows for a formal presentation of
473 information to a smaller group audience and their engagement in interactive exercises,
474 the open house venue allows for one-on-one exchanges of information in a more casual
475 format. However, the same information was presented at each stakeholder working group
476 and subsequent open house.

477 Q. What venues were used to engage these public groups and when did they occur?

478 A. The first stakeholder working group and open house occurred on February 1 and 8, 2006,
479 respectively. The second stakeholder working group, and second and third open houses
480 occurred on March 8, 14, and 23, 2006, respectively. ComEd and Arcadis decided to
481 hold the March 23 open house when we learned that, due to a problem with the bulk mail,

482 some area residents had not timely received our notices of the March 14 open house. A
483 homebuilders and developers workshop was also conducted on March 14, 2006. This
484 meeting was entirely aimed at engaging homebuilders and developers that were
485 recognized as having interests in the affected area and obtaining data and information
486 specific to planned developments. The fourth open house occurred on April 27, 2006, and
487 the fifth on May 17, 2006. The third stakeholder working group and the sixth and final
488 open house prior to the filing of the application for a Certificate of Public Convenience
489 and Necessity were hosted on March 21, 2007.

490 Q. What was the cumulative attendance at these various public meetings?

491 A. Cumulatively, attendance reached nearly 500 for the public open houses.

492 Q. How were stakeholders and the general public notified of these meetings?

493 A. A mailing list was initially generated using ComEd's distribution service list to local
494 residences and businesses. This list was supplemented by a list of residents provided by
495 the Village of Gilberts and the incorporation of contacts archived within Arcadis' contact
496 database. Each meeting attendee, incoming call to the Project hotline, or other phone or
497 email inquiry was catalogued within the Project contact database. The Project hotline has
498 received more than 50 separate inquiries. Mailers were sent via bulk mail to all
499 residences and businesses identified on the mailing list. This included more than 14,000
500 direct mail pieces during each of the months of March, April, and May 2006, and March
501 2007. More than 100 flyers were posted throughout the study area for notification of each
502 open house. A Project website was developed and advertised notice of upcoming
503 meetings. There have been more than 8,700 site visits to the Project website. Media
504 outreach resulted in more than 70 news articles informing readers about the Project and

505 upcoming meetings. ComEd also advertised notice of the open houses on the local cable
506 channels.

507 Q. How were comments solicited from stakeholders and the general public?

508 A. Comment forms were distributed at each public meeting. Attendees were encouraged to
509 provide comments and feedback, specific to the criteria. Our public materials have also
510 publicized a web site devoted to this project, where people can give ComEd feedback and
511 comments.

512 Q. How were received comments utilized in the substation site and transmission line route
513 development process?

514 A. Comments we received from stakeholders and the general public helped us define and
515 supplement the siting criteria, but most importantly, they validated our data and the
516 decisions made throughout the route development process.

517 A specific example of stakeholder input is the Village of Huntley's plans for the
518 Huntley Town Center, which would have been incompatible with one of our alternate
519 routes. An example of information from the general public is that we learned from a
520 number of residents the location of a proposed church. No available data source that we
521 had utilized at that time included this identified location.

522 We also received input from special interest groups. One in particular was the
523 Landings Condominium, a group of private pilots operating out of a common airstrip.
524 One of our early route opportunities included a portion of Kreutzer Road that is roughly
525 perpendicular to the Landings runway. While I understand that this opportunity did not
526 technically interfere with operations at the Landings, we received numerous pilot
527 comments asking for us to push the line farther to the north, away from the airstrip. Our

528 final route through the Bernat Industrial Center received positive comments from the
529 Landings.

530 Q. Were there any other environmental considerations, including possible land use impacts,
531 which were brought to your attention?

532 A. Existing and planned land uses, especially existing and planned developments but also
533 including preserve lands and local landing strips, were environmental considerations.
534 Additionally, we received a report from the Audubon Society that Swainson's Hawks (an
535 Illinois endangered species) had been reported nesting in the forested wetland along the
536 existing ComEd easement along the west side of the Prairie Oaks subdivision. We have
537 been unable to substantiate that report.

538 Q. How was the proposed final route received by the public at ComEd's sixth open house?

539 A. The need for the Project has been well understood and accepted. Opponents of the
540 proposed final route are opposed not to the overall Project, but to a particular route
541 segment. Generally, the people opposed to the proposed route are those closest to it.

542 Q. How will information be disseminated to the public moving forward?

543 A. ComEd will utilize the Project website that had been developed for the Project, and news
544 releases as appropriate, to provide updated information to stakeholders, land owners, the
545 general public, and other interested parties.

546 Q. Does this complete your testimony?

547 A. Yes.