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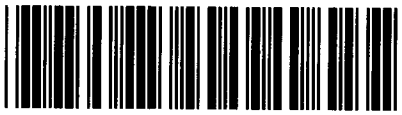

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SOAH DOCKET NO. 473-13-5207

PUC DOCKET NO. 41606

APPLICATION OF ELECTRIC TRANSMISSION TEXAS, LLC AND SHARYLAND UTILITIES, L.P. TO AMMEND THEIR CERTIFICATES OF CONVENIENCE AND NECESSITY FOR THE PROPOSED NORTH EDINBURG TO LOMA LALTA DOUBLE-CIRCUIT 345-KV TRANSMISSION LINE IN HIDALGO AND CAMERON COUNTIES, TEXAS	§	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

ROUTE ADEQUACY TESTIMONY OF RUDOLPH K. "RUDI" REINECKE ON BEHALF OF JOINT LANDOWNERS

Intervenors Paramount Citrus II LLC; Paramount Citrus Packing Company LLC; Michael Rhodes; ML Rhodes, Ltd.; Rhodes Enterprises, Inc.; Jimmie and Barbara Steidinger; Anthony E. Gray; G and M Real Estates Co.; Durango Development, Inc.; Richard L. Gillett; Richard Gillett Family Trust; and Jean D. Strait Family LLC (collectively "Rhodes Alliance"); together with Fortco Properties, Ltd.; Rio Fresh, Juan Lino Garza; and Garza Family Living Trust (together, "Joint Landowners"), files this Route Adequacy Testimony of their expert, Rudi Reinecke which is hereto attached. Intervenors and Rudi Reinecke stipulate that this Route Adequacy Testimony can be treated by all parties as if the answers were filed under oath.

Respectfully submitted,

BRAUN & GRESHAM, PLLC
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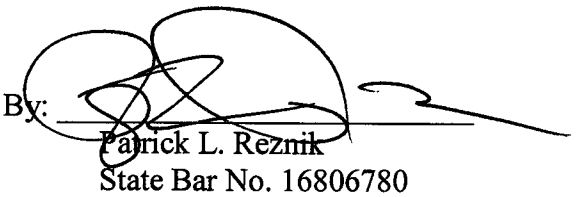
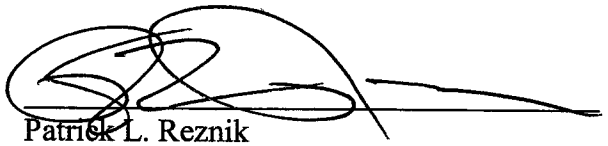
By: 

Patrick L. Reznik
State Bar No. 16806780
Cassie Gresham
State Bar No. 24045980

ATTORNEYS FOR THE RHODES ALLIANCE

CERTIFICATE OF SERVICE

I certify that a copy of this document will be served on all parties of record on September 17, 2013, in accordance with Public Utility Commission Procedural Rule 22.74.



Patrick L. Reznik
Cassie Gresham

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EXHIBITS

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RKR-2: EXTENT EXHIBIT OF PROPOSED AND MODIFIED LINKS

RKR-3: PROPOSED CANAL LINK

RKR-4: PROPOSED MODIFIED LINK 169

I. POSITION AND QUALIFICATIONS

QUESTION: PLEASE STATE YOUR NAME, CURRENT BUSINESS ADDRESS AND CURRENT EMPLOYMENT POSITION.

ANSWER: My name is Rudolph K. Reinecke. My business address is 2150 South Central Expressway; Suite 110, McKinney, Texas 75070. I am currently employed as Vice-President and Project Manager for Integrated Environmental Solutions, LLC ("IES").

QUESTION: WHAT IS YOUR ROLE IN THIS CASE?

ANSWER: I have been retained as a testifying expert on behalf of Paramount Citrus II LLC; Paramount Citrus Packing Company LLC; Michael Rhodes; ML Rhodes, Ltd.; Rhodes Enterprises, Inc.; Jimmie and Barbara Steidinger; Anthony E. Gray; G and M Real Estates Co.; Durango Development, Inc.; Richard L. Gillett; Richard Gillett Family Trust; and Jean D. Strait Family LLC (collectively "Rhodes Alliance") and Fortco Properties, Ltd., Rio Fresh, Juan Lino Garza, and Garza Family Living Trust (together, "Joint Landowners").

QUESTION: WHAT IS YOUR EDUCATIONAL BACKGROUND?

ANSWER: I received my Bachelor of Science Degree in Rangeland Ecology and Management from Texas A&M University in 1994. I received my Masters of Science Degree in Rangeland Ecology and Management from Texas A&M University in 1996.

QUESTION: WHAT ARE YOUR PROFESSIONAL QUALIFICATIONS AND EXPERIENCE?

ANSWER: In short, I have more than 16 years of experience in environmental projects and surveys. I have extensive experience in the natural resources field through working at Texas Agriculture Experiment Stations, United States Forest Service, Texas Department of Transportation, Geo-Marine, Inc., and Integrated Environmental Solutions, LLC. The majority of my experience includes plant ecology, specifically plant taxonomy, vegetation sampling, vegetation community characterization, wetland delineation, and wetland migration. I also have

experience with the National Environmental Policy Act process as an interdisciplinary team member and project manager. My professional qualifications are detailed in my CV, a true and correct copy of which is attached as **Exhibit RKR-1**.

QUESTION: WHAT KIND OF WORK HAVE YOU DONE WHILE EMPLOYED BY INTEGRATED ENVIRONMENTAL SOLUCTIONS, LLC?

ANSWER: I have acted as the Project Manager for numerous environmental projects in Texas. I have been involved in a spectrum of projects, including: Wildlife Habitat Assessments for Bird Air Strike Hazards around airports; forage production to determine stocking rates; wildlife management plans; pipeline routing surveys (gas, water, sewer); Phase I Environmental Site Assessments; endangered species surveys (habitat and species specific); ecosystem restoration (both planning and implementing); development planning (environmental surveys, permitting, mitigating, and monitoring); mitigation bank development and monitoring; and watershed health assessments for Integrated Natural Management Plans. Additional examples of projects I have been involved in are provided in my CV, which is attached as **Exhibit RKR-1**.

QUESTION: HAVE YOU EVER TESTIFIED IN A PUBLIC UTILITY COMMISSION ("PUC" OR "COMMISSION") PROCEEDING?

ANSWER: Yes. I have entered testimony in the Brown to Newton 345 kV Transmission Line Project, which is Docket Number 37464; in the Riley to Krum 345 kV Transmission Line Project, which is Docket Number 38140; in the Krum West to Anna 345 kV CREZ Transmission Line Project, which is Docket Number 38597; and in the Gray To White Deer 345-Kv CREZ Transmission Line Project, which is Docket Number 38650.

II. PURPOSE AND SCOPE OF TESTIMONY

QUESTION: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

ANSWER: The purpose of my testimony is to demonstrate that Power Engineers, Inc. (Power) unnecessarily focuses the negative impacts of the proposed North Edinburg to Loma Alta

transmission line on one portion of the study area because of its emphasis on routing within an undefined "proximity" of the South McAllen substation; this requirement is further narrowed by Power within a specifically identified "routing circle" as described in the Direct Testimony of Mark E. Caskey. My testimony will demonstrate that Power could have presented routes that would have provided the Administrative Law Judge (ALJ) and the Commission with real alternatives as to how the impacts of the line could be best mitigated if routes that were not unreasonably confined to a geographic area that does not include an end point had been included as options. Additionally, I will describe how at least one Link could have been routed to avoid impacting a significant number of habitable structures; this is significant as the routes presented in the application all impact a significant number of habitable structures, with the route favored by the Applicants impacting by far the fewest.

QUESTION: WHAT IS THE SCOPE OF WORK IN RELATION TO THE ROUTES AND ROUTE LINKS IN THE APPLICATION?

ANSWER: I have identified and routed a new "Canal Link" to provide an example of the routing options that would be available to the ALJ and the Commission if it is determined that there is not a sufficient showing of need to route the North Edinburg to Loma Alta transmission line in close proximity to the South McAllen substation. Additionally, I have reviewed Link 169 to determine if they could be further optimized and have fewer impacts than what was documented by Power in their routing study (**Exhibit RKR-2**). I have cataloged preliminary data for the "Canal Link" and modified Link 169 for the use of assembling routes and comparing the route factors considered by the Public Utility Commission in transmission line CCN cases.

QUESTION: WHY ARE YOU PROPOSING A NEW "CANAL LINK"?

ANSWER: The EA provides 32 Routes that all route into a geographic area around the South McAllen Substation as described by the "routing circle" in the Direct Testimony of Mark E. Caskey. Although the EA presents 367 Links, a number of which can be joined together to form a relatively forward-progressing path from the North Edinburg substation to the Loma Alta substation, no such forward-progressing route was included as one of the 32 identified routes.

All of the 32 routes presented in the EA either route east or west from North Edinburg to get to South McAllen by avoiding going through the center of the City of McAllen. As a result, none of the 32 routes progress from North Edinburg to Loma Alta in a linear progression; the routes that travel west from North Edinburg go the opposite direction of Loma Alta and the routes that travel east from North Edinburg ultimately have to turn and head west to reach South McAllen before traveling to Loma Alta, forming a "loop" that doubly impacts a relatively narrow geographic area. If it is determined that the need to route in undefined "proximity" to the South McAllen substation has not been sufficiently demonstrated because of the uncertainty of projecting load demand nearly ten years into the future, because alternate upgrades to existing transmission facilities could resolve the same concerns, or for any other reason, then there are numerous alternative links and routes for the North Edinburg to Loma Alta project that would be shorter and have less negative impacts. None of these routing options have been developed and thus none can be considered by the ALJ or Commission.

QUESTION: WHY WAS YOUR FOCUS SPECIFIC TO ROUTES TRAVELING EAST FROM THE NORTH EDINBURG SUBSTATION TO THE LOMA ALTA SUBSTATION?

ANSWER: The rational was to evaluate routes that are forward progressing from North Edinburg to Loma Alta. All of the routes that travel west from the North Edinburg substation are by their very nature not forward progressing. The primary reason why the eastern routes described in the EA have significant negative impacts and perform poorly in many routing factors is the "loop" created by back-tracking to the routing circle established by Mr. Mark Caskey. If routing through the routing circle is deemed unnecessary, many eastern routes using links described in the EA could be created that would have improved routing factors, as they would not have increased length and negative impacts associated with the loop. Further, without the constraint of the routing circle many other eastward-progressing links could be created beyond those presented in the EA that would give the ALJ and Commission many additional choices when determining the route of the North Edinburg to Loma Alta transmission line.

III. THE CANAL LINK

QUESTION: PLEASE DESCRIBE YOUR PROCESS IN DEVELOPING THE CANAL LINK?

ANSWER: At the suggestion of Brubaker and Associates, Inc., as described in the route adequacy testimony of James R. Dauphinais, my preliminary focus in developing the Canal Link was to identify a path that is more direct between North Edinburg and Loma Alta, resulting in shorter routing alternatives with fewer impacts to the region. Secondly, my focus was to identify a corridor that avoided urban and residential areas to minimize the number of habitable structures impacted. To further reduce the land use impacts, I focused on paralleling compatible corridors as identified in the EA on page 4-2. Through a route optimization process, I evaluated all of the Land Use and Environmental Evaluation Criteria documented in Table 2-1 of the EA on pages 2-5 and 2-6.

QUESTION: WHAT SOURCES OF DATA DID YOU UTILIZE TO DEVELOP THE CANAL LINK?

ANSWER: I used multiple sources of information in the process of developing the Canal Route. I used aerial photography provided by Google Earth software, which had high quality color photography dated 25 December 2010 to 21 January 2011. I also used 2012 aerial photography provided by the U.S. Department of Agriculture (USDA) Farm Service Agency (FSA). Additionally, Geographic Information System (GIS) Geodatabase of all environmental data and calculations Powers assembled for the study corridor as obtained from Rhodes RFI Nos. 1-3, 1-10, 1-11 1-13, and 1-19 was used.

QUESTION: WOULD YOU PLEASE SUMMARIZE THE CANAL LINK?

ANSWER: The Canal Link utilizes the majority of Link 141 and all of Link 138, east of North Edinburg substation. Near the south end of Link 141, the Canal Link heads east to parallel State Highway 107 until it crosses into Cameron County. Then, the Canal Link parallels the Willacy Canal until it joins the eastern side of Link 210 (**Exhibit RKR-3**). For the purpose of this evaluation and future link combinations to form a route, I included the overlapping portions

of Links 138, 141 and 210. Through desktop evaluations, the Canal Link has 151 habitable structures within 500 feet of the centerline and no structures within 75 feet of the centerline. The 34.07-mile Canal Link parallels 0.23 mile of existing transmission line, 23.48 miles of other existing right-of-way (i.e., highways, pipelines, railways, canals, etc.), and 8.1 miles of apparent property lines.

QUESTION: HOW DID YOU DETERMINE THE NUMBER OF HABITABLE STRUCTURES WITHIN THE DIFFERENT AREAS AROUND THE LINK RIGHT OF WAY CENTERLINE?

ANSWER: I utilized both the 2010/11 and 2012 aerial photography as described above to identify all habitable structures within the specified areas. As a result, there were 242 structures identified within 500 feet of the centerline. However, following the methodology that Power used for calculating structures as identified in Rhodes RFI 3-1, numerous barns and sheds were removed from this list of structures, bringing the total number of habitable structures to 151. The classification of structure type was based on size, shape, configuration, quantity in the proximity to a larger structure, and arrangement in proximity to a driveway. This assessment was based solely from aerial photography, with no field verification.

QUESTION: HOW DID YOU DETERMINE THE LENGTHS OF THE CANAL ROUTE PARALLELING COMPATIBLE CORRIDORS?

ANSWER: I categorized the line as it paralleled existing transmission lines, roads, canals, and apparent property lines. Similar to the way Power categorized the filed lines, we did not "double-count" apparent property lines that were created by existing roads, highways, or railroad right-of-way. After the line was categorized by type of compatible corridor, the length of line for each category was measured.

IV. MODIFIED LINK 169

QUESTION: PLEASE DESCRIBE YOUR PROCESS IN DEVELOPING MODIFIED LINK 169?

ANSWER: I used the same process in developing Modified Link 169 as I did with the Canal Link. The main emphasis was to route the northern portion of Link 169 in a less urban area to lower the number of habitable structures within 500 feet of the center line. As a result, this revised link terminates near the intersection of Links 164, 167, and 168 as opposed to the current location at the junction of Links 165 and 168.

QUESTION: WHAT SOURCES OF DATA DID YOU UTILIZE TO DEVELOP T MODIFIED LINK 169?

ANSWER: I used the same data sources identified above to develop Modified Link 169.

QUESTION: WOULD YOU PLEASE SUMMARIZE YOUR PROPOSED MODIFIED LINK?

ANSWER: Modified Link 169 alters the northern half of Link 169, as this northern portion had a significant number of habitable structures associated with three mobile home/recreational vehicle parks. Modified Link 169 comes off of Link 167, near the terminus with Links 164 and 168 (**Exhibit RKR-4**). Modified Link 169 travels south and then east to re-join near the north side of Donna Reservoir. For the purpose of this evaluation and future link combinations to form a route, I included the overlapping portions of Links 167 and 169. Through desktop evaluations, Modified Link 169 has 83 habitable structures within 500 feet of the centerline and six structures within 75 feet of the centerline as opposed to 371 habitable structures within 500 feet of the centerline and 5 structures within 75 feet of the centerline on Link 169. The 8.24-mile Modified Link 169 parallels 0.59 mile of existing transmission line, 3.23 miles of other existing right-of-way (i.e., highways, pipelines, railways, canals, etc.), and 2.89 miles of apparent property lines.

QUESTION: HOW DID YOU DETERMINE THE NUMBER OF HABITABLE STRUCTURES WITHIN THE AREAS AROUND THE LINK RIGHT OF WAY CENTERLINE?

ANSWER: I utilized both the 2010/11 and 2012 aerial photography to identify all structures within the specified buffers. As a result there were 104 structures identified within 500 feet of the center line. However, following the methodology that Power used for calculating structures as identified in Rhodes RFI 3-1, numerous barns and sheds were removed from this list of structures, bringing the total number of habitable structures to 83. The classification of structure type was based on size, shape, configuration, quantity in the proximity to a larger structure, and arrangement in proximity to a driveway. This assessment was based solely from aerial photography, with no field verification.

QUESTION: HOW DOES THE NUMBER OF HABITABLE STRUCTURES ALONG MODIFIED LINK 169 COMPARE TO LINKS 166 AND 169?

ANSWER: Links 166 and 169 are in close proximity and all eastern routes from North Edinburg must use one of these two links. Modified Link 169 only has 83 habitable structures within 500-ft of the ROW centerline as compared to Link 169, which impacts 371 habitable structures and Link 166, which impacts 426 habitable structures. To put this into perspective, Links 166 and 169 impact 54.5 and 60.6 habitable structures per mile respectively. Modified Link 169 impacts only 10.1 habitable structures per mile, which is a very low density given the high density of residential structures in the area east of McAllen and longer length of Modified Link 169.

QUESTION: HOW DID YOU DETERMINE THE LENGTH OF LINE PARALLELING COMPATIBLE CORRIDORS?

ANSWER: Similar to the Canal Link I categorized the line as it paralleled existing transmission lines, roads, canals, and apparent property lines. I also did not "double-count" apparent property lines that were created by existing roads, highways, or railroad right of way. After the line was categorized by type of compatible corridor, the length of line for each category was measured.

QUESTION: HOW DOES THE PARALELLING COMPATIBLE CORRIDORS ALONG MODIFIED LINK 169 COMPARE TO LINKS 166 AND 169?

ANSWER: The length of line that parallels existing transmission lines and other existing right-of-way is greater along Modified Link 169 than the paralleling lengths of Links 166 and 169. Modified Link 169 has 0.59-mile paralleling existing transmission lines and 3.23 miles of other existing right-of-way. Neither Links 166 nor 169 parallel existing transmission lines. For all existing rights-of-way, Modified 169 parallels 6.71 miles of the total 8.24 mile length (81%), Link 166 parallels 4.83 miles of the 7.02 mile length (69%) and Link 169 parallels 5.46 miles of the 6.80 mile length (80%).

QUESTION: WHY IS THE NUMBER OF HABITABLE STRUCTURES IMPACTED BY LINKS 169 AND 166 IMPORTANT?

ANSWER: One of the major differences between the eastern and western routes is the number and density of habitable structures. On average, the length of line on the western routes is longer (average length 114.3 miles) than the eastern routes (average length 108 miles). The eastern routes are only over 100 miles in length due to the loop south of McAllen. However, the western routes have a lower number of habitable structures per mile (8.9) than the eastern routes (13.1). Links with a high density of impacted habitable structures are not uncommon within this project, especially as there are some very short links resulting in artificially high densities. However, the data from Rhodes RFI No. 1-2 demonstrates that only Links 169 and 166 have densities greater than 50 habitable structures per mile and their lengths are each approximately 7 miles. Both Links 169 and 166 have the greatest number of habitable structures of all links in the entire project and all eastern routes must use one of these two links. Therefore, all of the eastern routes will be disadvantaged in comparison to the western routes filed in the CCN when the number of habitable structures impacted by the alternate routes is considered. This is an important issue as one of the factors in route selection is the number of habitable structures within 500 feet of the center line's ROW centerline (see EA page 5-3), and sometimes this is described as a particularly important factor.

QUESTION: IF THE DENSITY OF HABITABLE STRUCTURES IMPACTED BY BOTH LINKS 169 AND 166 IS AN IMPORTANT ISSUE, WHY DID YOU ONLY FOCUS ON PROPOSING A MODIFIED LINK 169?

ANSWER: The purpose of Modified Link 169 is to demonstrate that there are routing alternatives that the routing analysis in the EA did not consider. I did not have the time that Power had to evaluate all of the routing factors on the numerous alternate links and routes that could be developed in a forward-progressing manner from North Edinburg to Loma Alta. My intent for presenting Modified Link 169 is to demonstrate that the eastern routes appear to be disadvantaged by their design, and thus do not provide the ALJ and the Commission with an adequate number of routes from which to select in arriving at a decision in this case.

V. CONCLUSION

QUESTION: WHAT IS YOUR CONCLUSION REGARDING THE PRESENTATION OF ALTERNATE LINKS FOR CONSIDERATION IN THIS CASE?

ANSWER: I have identified a new link (the Canal Link) and a modification of a link presented in the EA (Modified Link 169) that each have fewer negative impacts than alternatives presented in the application. While I do understand that there can be trade-offs associated with moving links away from habitable structures and with paralleling existing compatible right-of-way, there are numerous locations in the study area where both can be optimized to reduce negative impacts. The routes in the application – particularly those that progress eastward from North Edinburg and then form a loop south of McAllen, do not appear to have been optimized to avoid negative impacts. I believe this unnecessarily narrows the acceptable routing options presented to the ALJ and the Commission.

QUESTION: WHAT ARE YOUR CONCLUSIONS REGARDING THE CANAL LINK?

ANSWER: I proposed the Canal Link to demonstrate that there are significantly better corridors for forward-progressing routes from the North Edinburg to Loma Alta substation that Power did not consider due to the constraint created by the "routing circle" as described in the

Direct Testimony of Mark E. Caskey. If it is determined that there is not a sufficient need justification to route in the undefined proximity of the South McAllen substation at this time, then the absence of routes using links such as the Canal Link will unnecessarily narrow the acceptable routing options presented to the ALJ and the Commission. The Canal Link also provides demonstrative information that may be used for a cost-benefit analysis of the various alternative solutions that may be implemented in the future to resolve any issues at the South McAllen substation.

QUESTION: DOES THIS CONCLUDE YOUR ROUTE ADEQUACY TESTIMONY?

ANSWER: Yes, it does.

integrated environmental solutions

RUDOLPH K. REINECKE

Vice-President and Project Manager

2150 S. Central Expressway, Ste. 110 McKinney, Texas 75070 T 972-562-7672 F 972-562-7673

EDUCATION:
M.S., Rangeland Ecology and Management, Texas A&M University, 1996
B.S., Rangeland Ecology and Management, Texas A&M University, 1994

IES POSITION:
Vice-President and Project Manager

Date of hire: 3 March 2003
Years of experience with other firms: 7

SUMMARY OF EXPERIENCE:
Mr. Reinecke has more than 17 years of experience in environmental projects and surveys. He has extensive experience in the natural resources field through working at Texas Agriculture Experiment Station, United States (U.S.) Forest Service, Texas Department of Transportation, Geo-Marine, Inc. and Integrated Environmental Solutions, Inc. The majority of his experience includes plant ecology, specifically plant taxonomy, vegetation sampling, vegetation community characterization, wetland delineation, and wetland mitigation. He also has experience with the National Environmental Policy Act (NEPA) process as an interdisciplinary team member and project manager.

While at IES, Mr. Reinecke has managed numerous projects with NEPA components. Between 2004 and 2005, Mr. Reinecke managed eight Phase I Environmental Site Assessments with Categorical Exclusion Checklists for the General Services Administration (GSA) through a Division of Federal Occupation Health One Year Vendor Contract. Most of these Phase I ESAs included standard Phase I Cultural Resources Assessments, as well, which were overseen by IES. Mr. Reinecke has also served as the principal environmental professional for over 20 Phase I ESAs for private developers since 2005. In addition to Phase I ESAs, Mr. Reinecke is the Senior Project Manager in charge of all Natural and Biological Resources services for IES. Through Mr. Reinecke's broad natural and cultural resource experience, he has been an expert witness in a number of transmission routing projects, which have included developing and studying routing analyses.

JOB HISTORY:

2003	Vice-President- Project Manager	Integrated Environmental Solutions, LLC Richardson/McKinney, TX	Project management, oversight on natural resource and compliance projects
1997-2003	Wetland Ecologist/ Project Manager	Geo-Marine, Inc., Plano, TX Newport News, VA	Project management, oversight on natural resource and compliance projects
1996-1997	Environmental Specialist	Texas Department of Transportation Waco, TX	NEPA compliance project manager
1996	Research Assistant	Texas Agriculture Experiment Station College Station, TX	Protected species surveys and plant community surveys
1994-1996	Research Technician	Texas Agriculture Experiment Station College Station, TX	Plant ecology surveys in arid ecosystems
1993	Field Biologist	Forest Service Rapid City, SD	Protected species surveys in national grasslands and plant ecology surveys in national forests

Rudolph K. Reinecke

SELECTED PROJECT EXPERIENCE:

Waters of the United States Permitting Projects

- Residential Development at Lebanon/Teel, Frisco NWP; Florida Capital Real Estate Partners
- Forward Air Facility Section 404 NWP; Chiang Patel & Yerby
- Hogpen Branch Regional Detention Pond C Section 404 NWP 43; City of Mansfield/Teague Nall and Perkins
- Communications Parkway Section 404 NWP 14; City of Plano
- Keller Hicks Road Improvements Section NWP 14; City of Fort Worth/Teague Nall and Perkins
- Eagle Mountain High School #3 Section 404 NWP 29; Teague Nall and Perkins
- Standing Wave Feature Section 404 NWP 42 and Section 10 LOP; City of Dallas/Schrickle Rollins & Associates
- Southwest Parkway Section 4 Individual Section 404 Permit (IP); Jacobs Carter Burgess/NTTA
- Distribution Center at Carter Park, Fort Worth Section 404 IP; Pacheco Koch Consulting Engineers
- Hutchins Warehouse/Distribution Facility Section 404 IP; Pacheco Koch Consulting Engineers
- Creeks of Argyle 404 Section 404 IP; O'Brien Engineers, Inc.
- Commercial/Retail Development, Plano Section 404 IP; O'Brien Engineers, Inc.
- Lakeside Business Park Section 404 IP; Lennar Partners
- Harbor Point Section 404 Letter of Permission; Harvest Partners
- Tucker Hill Residential Development Section 404 IP ;Southern Land Company
- University Park City Hall Expansion Section 404 IP Modification; Goodson Engineers
- Lakehills Residential Development Section 404 IP; Standard Pacific, Inc.
- Deerfield Residential Development Section 404 IP; Meritage Homes of Texas, LP
- Marshall Industrial Complex Section 404 IP; Alliance Architects

Natural Resources Planning Projects

- Naval District Washington Integrated Natural Resource Management Plan (INRMP); U.S. Navy
- Naval Weapons Station Earle INRMP; U.S. Navy
- Vieques Island INRMP; U.S. Navy
- Live Impact Area Wetland Delineation, Naval Station Roosevelt Roads (NSRR) Vieques Island; U.S. Navy
- Vieques Island Baseline Survey, NSRR, Puerto Rico; U.S. Navy
- Natural Resource Damage Assessment for a JP-5 Fuel Spill at NSRR, Puerto Rico; U.S. Navy
- Habitat Characterization of Solid Waste Management at NSRR and Vieques Island, Puerto Rico; U.S. Navy
- NSRR Wetland Delineation, Cieba, Puerto Rico; U.S. Navy
- Biological Assessment for Environmental Assessments at Harvey Point Defense Testing Activity North Carolina
- Shaw Air Force Base Land Condition Trend Analysis, Sumter, South Carolina; U.S. Air Force
- Grand Bay Bombing Range Wetland Delineation, Moody Air Force Base, Lanier County, Georgia; U.S. Air Force
- Land Condition Trend Analysis (LCTA) 1998 Monitoring, Camp Blanding Training Site, Stark, Florida; U.S. Army
- Endangered Species Model, Brooks, Cameron, Hidalgo, Jim Hogg, Kenedy, Starr, Willacy, and Zapata Counties, Texas for TxDOT
- Plant Community Survey on Interstate 35 Corridor, Texas for TxDOT
- Endangered and Threatened Species Surveys, Sheyenne National Grasslands, North Dakota; U.S. Forest Service
- Camp Maxey Wetland Survey; Texas Army National Guard
- Camp Bowie Riparian and Pond Assessment; Texas Army National Guard
- City of Frisco Riparian and Wetland Assessment; City of Frisco, Texas
- Invasive Plant Species Surveys at Texas Army National Guard (TANG) Installations
- Natural and Cultural Resources Inventory in Support of Environmental Assessment for the Chesapeake Energy Natural Gas Exploration and Production, Dallas/Fort Worth (D/FW) International Airport, Texas.
- Watershed Assessments and Waters of the United States Delineations, Texas Army National Guard Installations, Texas
- Biological Inventory of Proposed South Texas Training Center for Army National Guard

Construction Monitoring and Training

- President George Bush Turnpike Segment IV for North Texas Tollway Authority
- 121 Regional Disposal Facility for North Texas Municipal Water District
- Natural Gas Drilling and Pipelines on DFW International Airport for Chesapeake Energy Corporation

Rudolph K. Reinecke

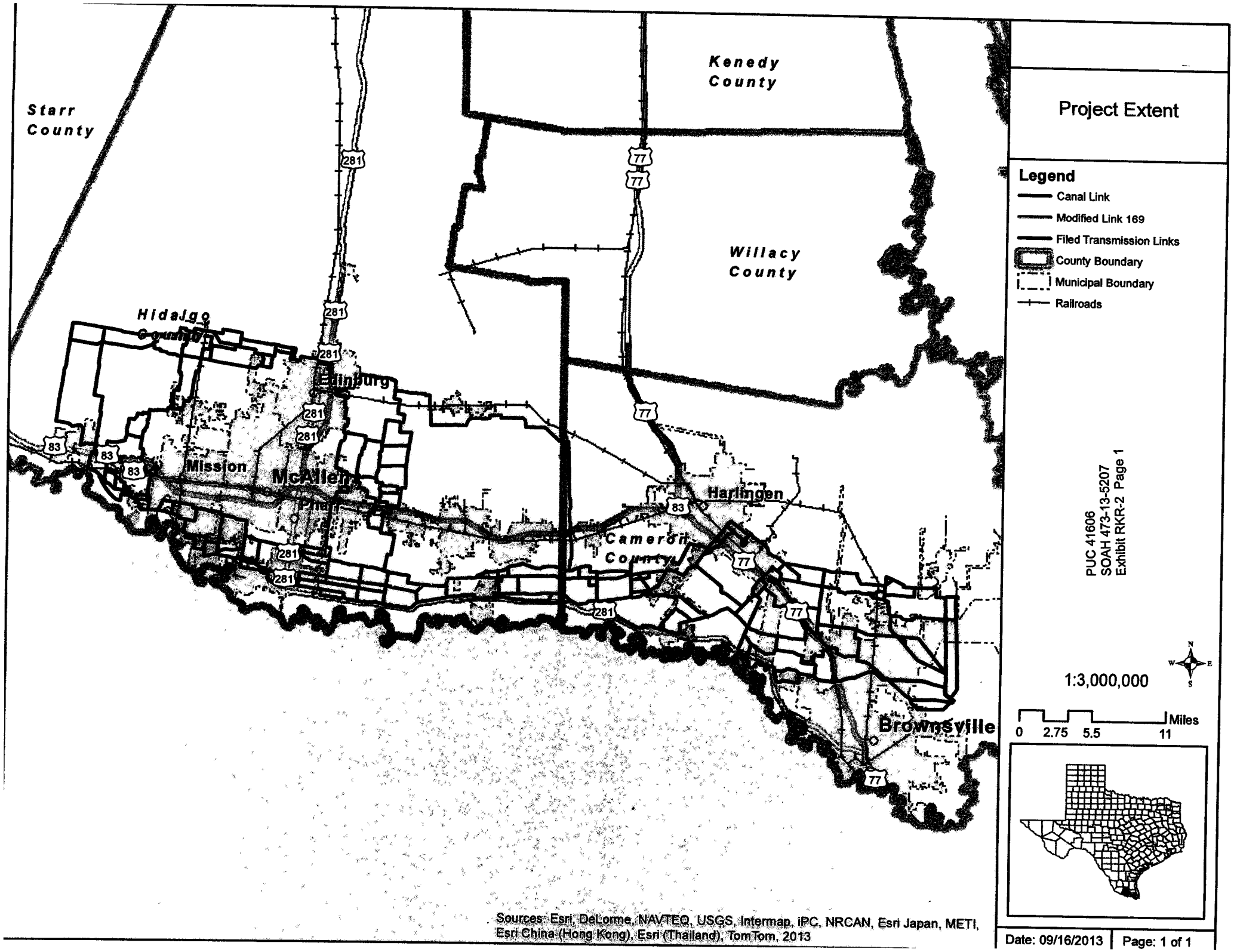
Transmission Routing Studies

Expert Witness in Following Texas Public Utility Commission Dockets:

- Brown to Newton 345 kV Transmission Line Project, Docket Number 37464
- Riley to Krum 345 kV Transmission Line Project, Docket Number 38140
- Krum West to Anna 345 kV CREZ Transmission Line Project, Docket Number 38597
- Gray to White Deer 345 kV CREZ Transmission Line Project, Docket Number 38650
- Willow Creek to Hicks 345 kV CREZ Transmission Line Project, Docket Number 38324
- Lobo to Rio Bravo to North Edinburg 345 kV Transmission Line Project, Docket Number 40728

PROFESSIONAL CERTIFICATION

Certified Arborist with International Society of Arboriculture #180433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Starr County
Willacy County
Hidalgo County
Edinburg
Mission
McAllen
Pharr
Harlingen
Cameron County
Brownsville
281
77
83
Project Extent
Legend
Canal Link
Modified Link 169
Filed Transmission Links
County Boundary
Municipal Boundary
Railroads
PUC 41606
SOAH 473-13-5207
Exhibit RKR-2 Page 1
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Miles
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Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013
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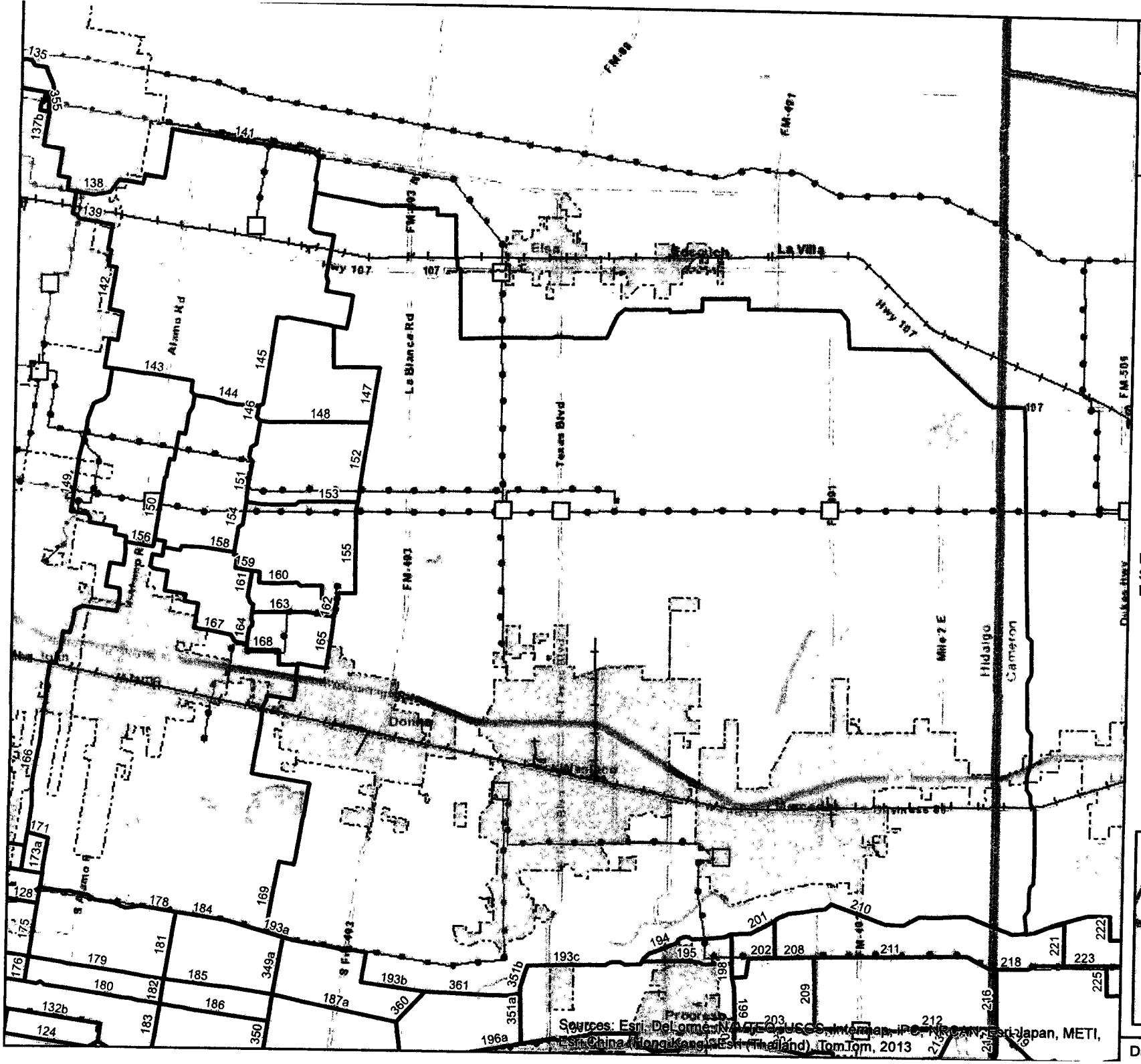


Canal Link

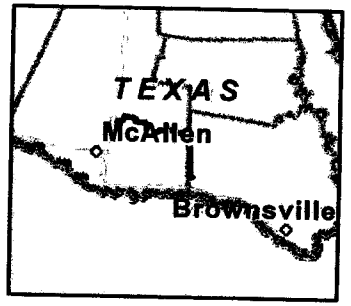
Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
Exhibit RKR-3 Page 1

1:150,000

0 0.75 1.5 3 Miles



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

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Canal Link

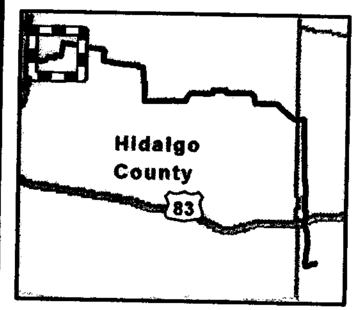
Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
Exhibit RKR-3 Page 2

1:24,000

0 0.125 0.25 0.5 Miles



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Canal Link

Legend

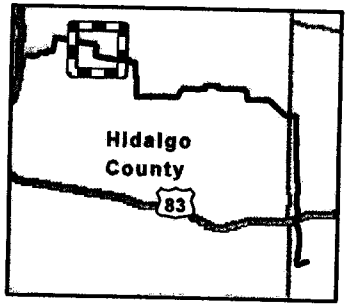
- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
Exhibit RKR-3 Page 3

N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles



Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

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1:24,000

0 0.125 0.25 0.5 Miles

Hidalgo County

83

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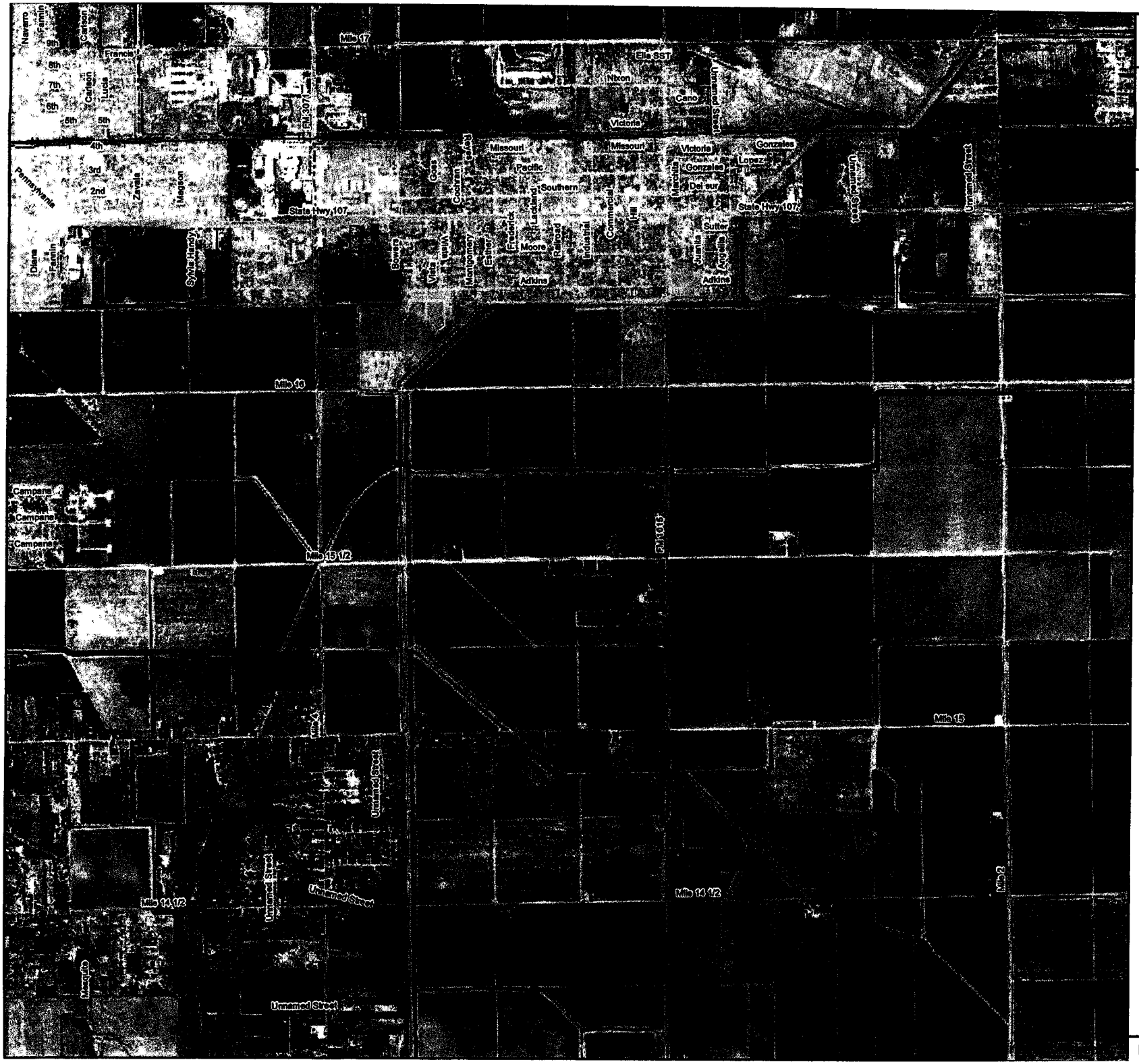

Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

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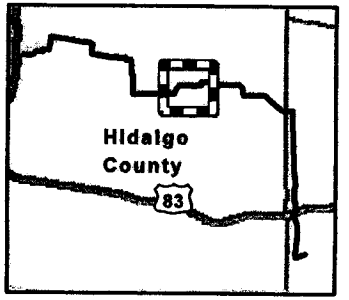
Exhibit RKR-3 Page 5

N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles



Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
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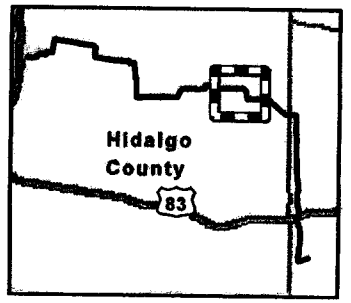
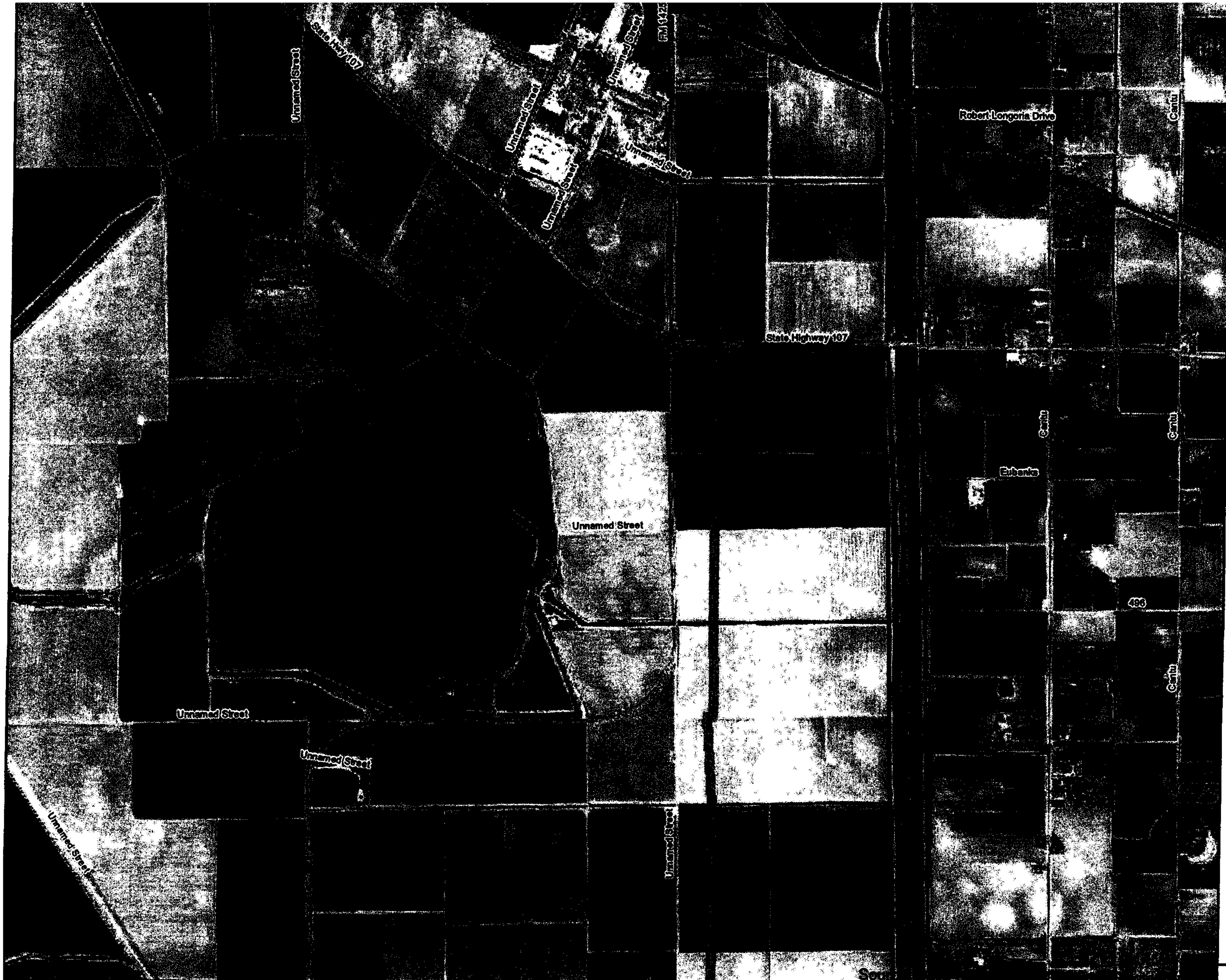
Exhibit RKR-3 Page 6

N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles





Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

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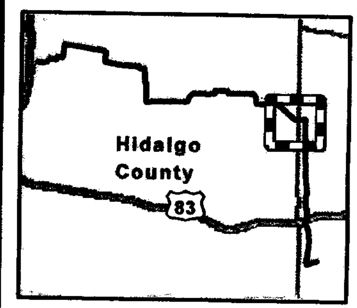
Exhibit RKR-3 Page 7

1:24,000

0 0.125 0.25 0.5 Miles



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Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

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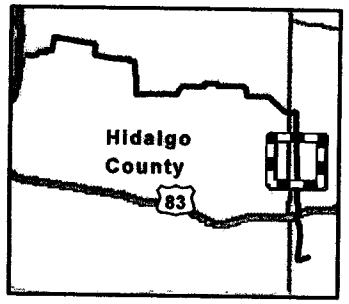
N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles



Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations
- Existing Transmission Lines
- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

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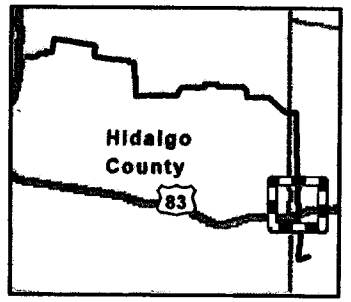
N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles



Canal Link

Legend

- Canal Link
- Filed Transmission Links
- County Boundary
- Municipal Boundary
- Railroads
- Existing Substations

Existing Transmission Lines

- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
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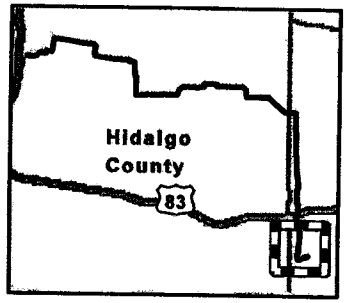
N
W E
S

1:24,000

0 0.125 0.25 0.5 Miles



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Modified Link 169

Legend

- Modified Link 169
- Filed Transmission Links
- Municipal Boundary
- Railroads

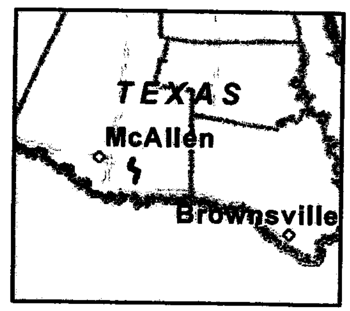
Existing Transmission Lines

- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
Exhibit RKR-4 Page 1

1:50,000

0 0.25 0.5 1 Miles



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Modified Link 169

Legend

- Modified Link 169
- Filed Transmission Links
- Municipal Boundary
- Railroads

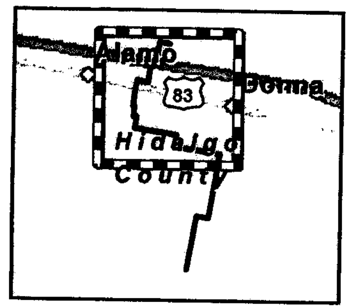
Existing Transmission Lines

- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
Exhibit RKR-4 Page 2

1:24,000

0 0.125 0.25 0.5 Miles



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Modified Link 169

Legend

- Modified Link 169
- Filed Transmission Links
- Municipal Boundary
- Railroads

Existing Transmission Lines

- Double Circuit Transmission Line
- 69 kV Transmission Line
- 138 kV Transmission Line
- 345 kV Transmission Line

PUC 41606
SOAH 473-13-5207
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1:24,000

0 0.125 0.25 0.5 Miles