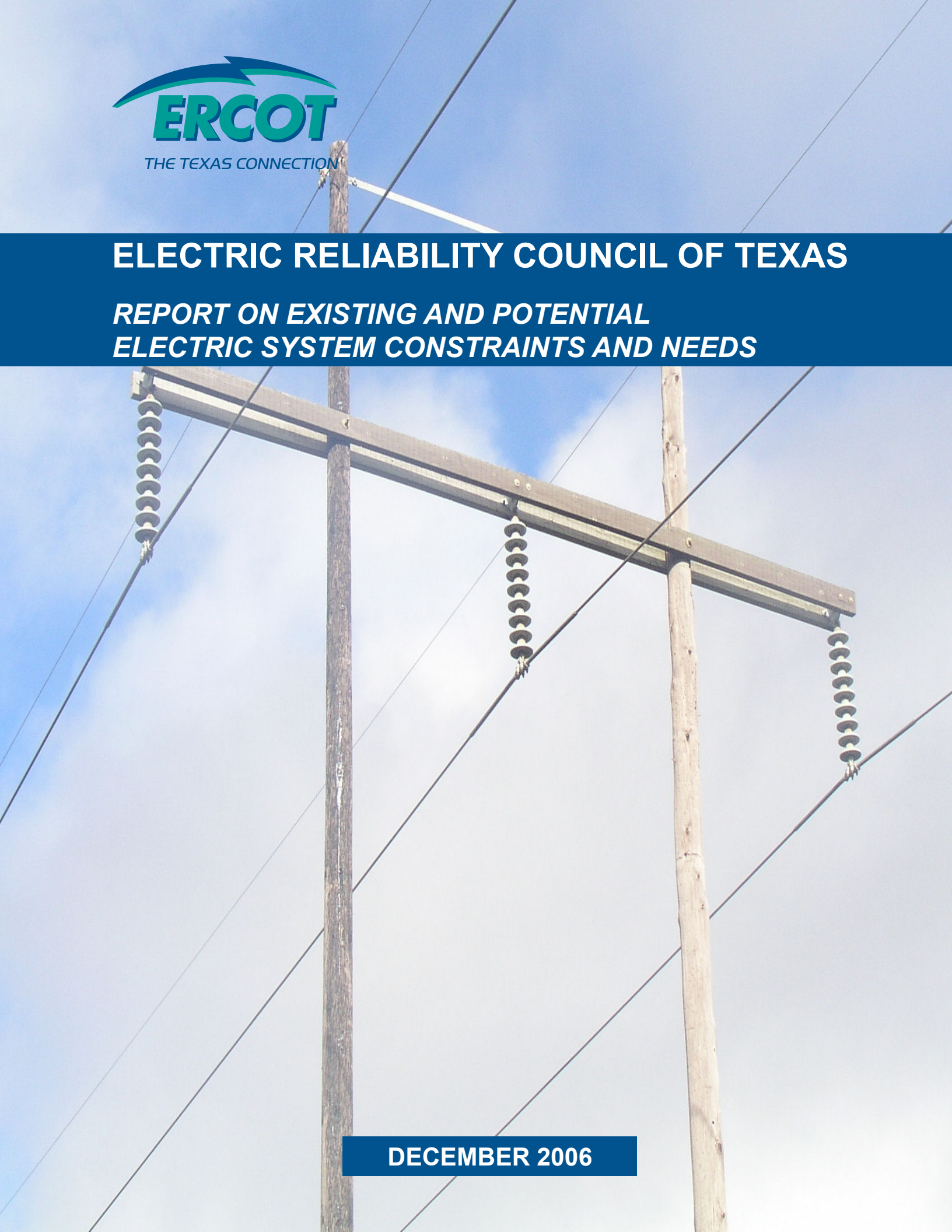
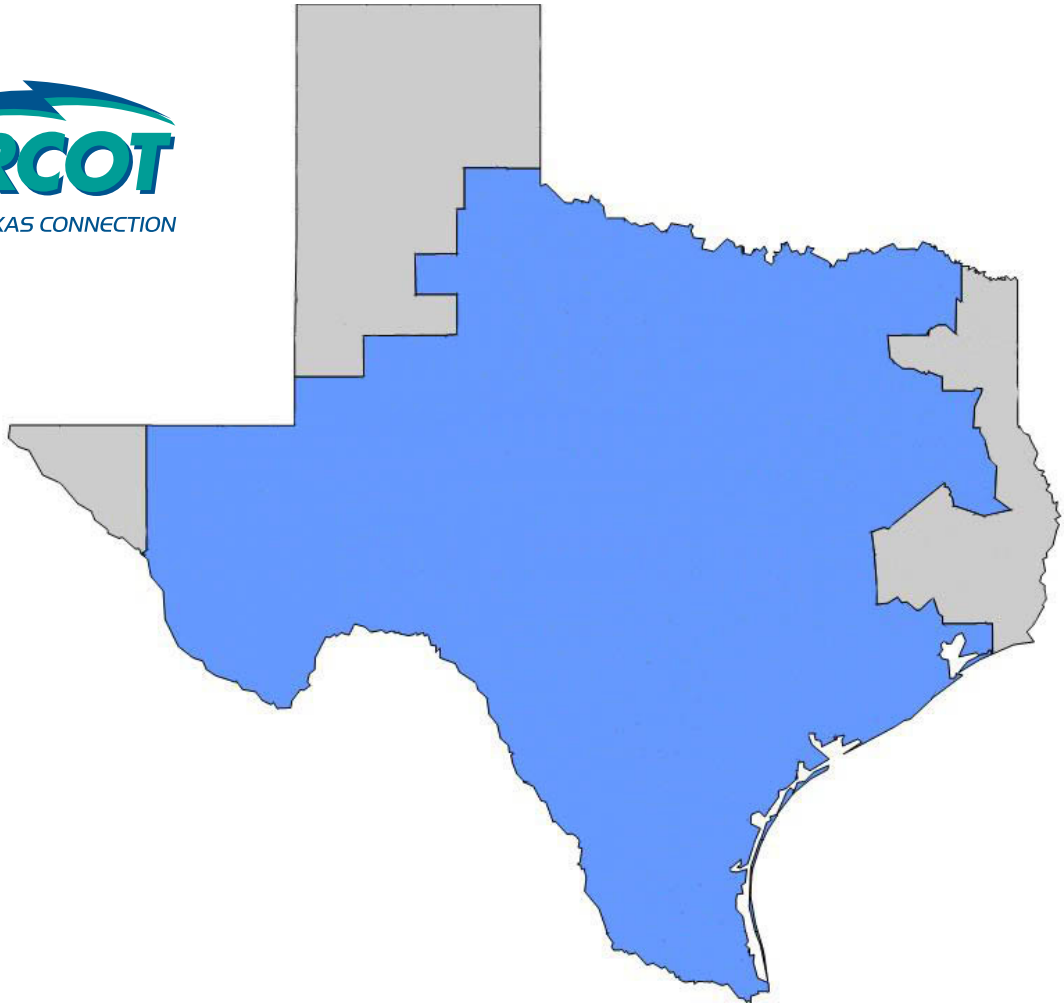


ELECTRIC RELIABILITY COUNCIL OF TEXAS

REPORT ON EXISTING AND POTENTIAL ELECTRIC SYSTEM CONSTRAINTS AND NEEDS

DECEMBER 2006



"ERCOT's Mission is to direct and ensure reliable and cost-effective operation of the electric grid and to enable fair and efficient market-driven solutions to meet customers' electric service needs."

At ERCOT electric reliability is the primary focus. ERCOT staff understands the importance of safe, reliable, and affordable electric service in the daily lives of Texans.

For the benefit of Texas, ERCOT will

- *Operate the high-voltage electric grid reliably, efficiently, and securely*
- *Provide open and non-discriminatory access to electric transmission services and the competitive electricity market*
- *Enable robust and efficient wholesale and retail electricity markets*
- *Plan a reliable and efficient electric transmission system for the future*

Building on past success, ERCOT must remain vigilant concerning the growing electrical needs in Texas. This report identifies transmission improvements recently constructed, ERCOT's assessment of conditions driving the need for electric system expansion, and ERCOT's plans for new transmission infrastructure to meet those needs.

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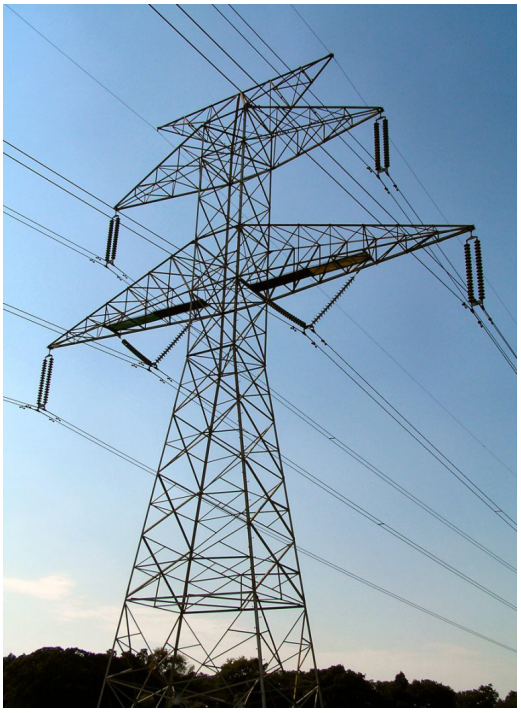


EXECUTIVE SUMMARY

This report from the Electric Reliability Council of Texas (ERCOT) identifies and analyzes existing and potential constraints in the transmission system that could either pose reliability concerns or increase costs to the electric power market and, ultimately, to Texas consumers. It is intended to satisfy the annual reporting requirements of Public Utility Regulatory Act (PURA) Section 39.155(b) and Public Utility Commission Substantive Rule 25.361(c)(15).

In addition, as a part of ERCOT's continuing efforts to plan a reliable and efficient transmission system, the report provides information (as of 2006) on completed improvements from 2005 to 2006, as well as currently planned improvements, and analyzes the impact of these cumulative improvements on future congestion.

This year the planned improvements are an independent five-year assessment, performed by ERCOT staff with extensive review and input from Transmission Service Providers (TSPs) and other stakeholders, which addresses region-wide reliability and economic transmission needs. The assessment includes projects already reviewed by the ERCOT Regional Planning Groups (RPGs), proposes new projects that will be refined at the appropriate time by TSPs in order to complete RPG review, and documents the local projects planned by TSPs. Combined, these projects represent ERCOT's Five-Year Transmission Plan addressing the reliability and efficiency of the system to meet national and regional planning standards, criteria, and protocols.

The most significant findings in the Five-Year Transmission Plan are:

- Transmission system infrastructure additions are needed and have been identified throughout the ERCOT Region to maintain a reliable and efficient system.
- Transfers from West Texas will be improved by upgrading 345-kV terminal equipment, dynamic ratings, and completing other projects with short lead times to the point that the ERCOT system can incorporate a total of 4,850 MW (existing and new) of wind generation with limited curtailment without the need for new 345-kV lines.
- Several different transmission system constraints in the Central Texas area will be solved by the planned Clear Springs – Salado 345-kV line.
- The planned 345-kV line from STP to Hillje to W A Parish will meet the needs for transfer capability from South Texas into Houston in the near term.
- Rio Grande Valley constraints will be reduced due to recently completed and planned improvements.

As the transmission planning authority for the region, ERCOT works with its stakeholders to identify the need for new transmission facilities based on engineering analysis of five principal factors:

Operational Improvements. ERCOT operations staff has continued developing and implementing innovative methods for gaining maximum efficiency from the existing network.

Load Forecasting. Load forecasts developed by ERCOT planning staff using econometric modeling techniques, as well as delivery point forecasts developed by TSPs, are used to study projected system needs due to customer load growth.

Generation Interconnections. ERCOT processes requests to interconnect, change, or decommission generation throughout the ERCOT Region. Studies of these requests enable planning staff to analyze and respond to the impact of the resulting changes in power injection into the system.

Economic Congestion Analysis. Congestion analysis, both zonal and local, is performed on a continuous basis by ERCOT staff to identify areas of recurring and expected congestion in order to identify projects that are needed

based on ERCOT's economic criteria.

Transmission Reliability Needs and Improvements. ERCOT planning staff, taking into account input from stakeholder regional planning groups, evaluates and endorses transmission improvements required to meet NERC and ERCOT reliability criteria.

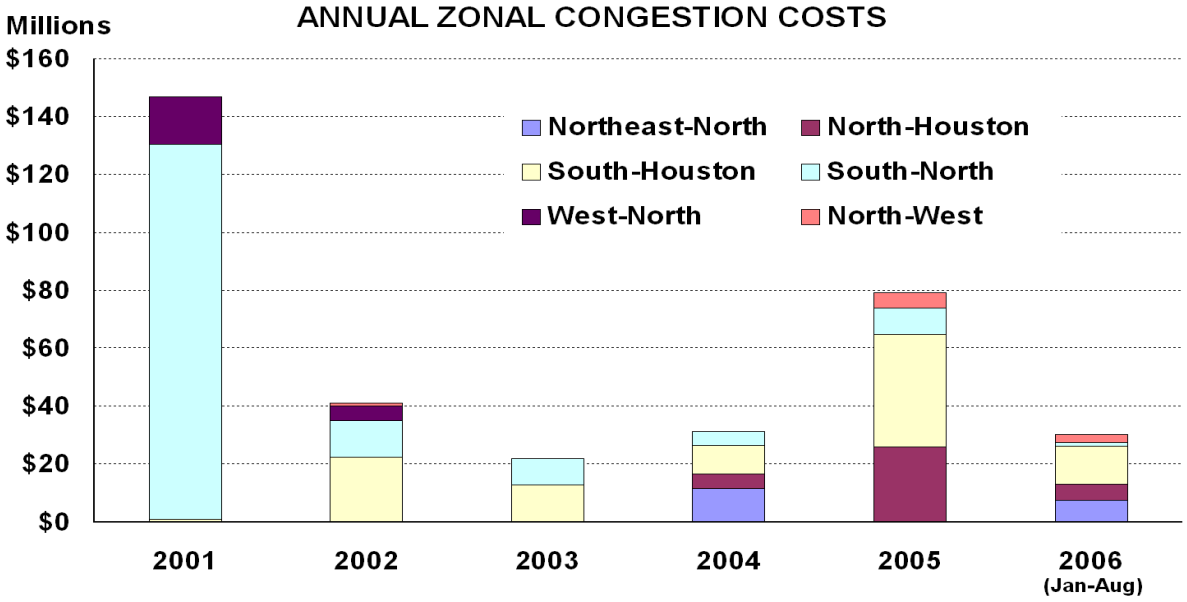
Since 2005 ERCOT TSPs have completed numerous improvement projects totaling over 1,800 circuit miles of transmission and 22,000 MVA of autotransformer capacity, with an estimated capital cost of over $1.3 billion. The projects identified in this report to serve the electric system through 2011 are estimated to cost approximately $3.1 billion over the next five years and are expected to improve or add 3,295 circuit miles of transmission lines and 17,900 MVA of autotransformer capacity to the ERCOT system. The following is a summary of completed and

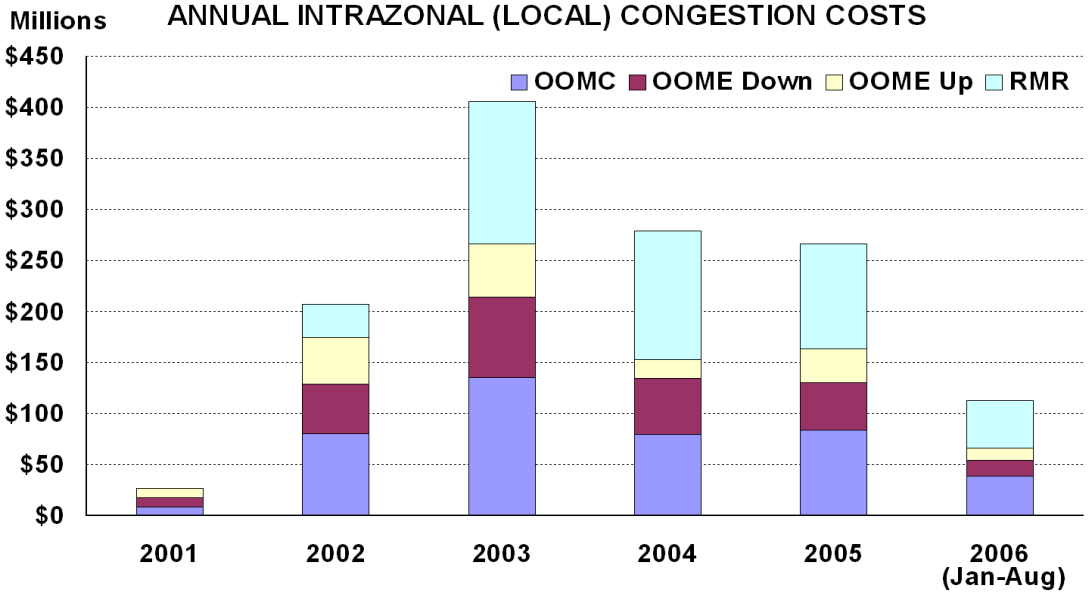
Area	Major Completed Improvements	Voltage Level, kV	In-Service Year	Circuit Miles
Dallas/Ft. Worth	Venus - Johnson Switch Upgrade	345	2005	24
Dallas/Ft. Worth	Watermill - Cedar Hill	345	2005	17
Dallas/Ft. Worth	Watermill - Tricorner	345	2005	11
Temple	Pecan Creek Switching Station	345	2005	10
Dallas/Ft. Worth	Paris - Valley South - Anna	345	2006	89
Houston	Jewett - Tomball Upgrade	345	2005	96
Houston	Jewett - T H Wharton Upgrade	345	2006	118
All Areas	Numerous Autotransformers	345/138	2005-2006	22,317 MVA
All Areas	Numerous Lines	138	2005-2006	1321

Area	Major Planned Improvements	Voltage Level, kV	In-Service Year	Circuit Miles
Dallas/Ft. Worth	Anna - NW Carrollton	345	2007	33
Dallas/Ft. Worth	Jacksboro - West Denton	345	2007	72
Dallas/Ft. Worth	Venus - Liggett and Venus - Sherry	345	2207	45
Houston	STP - Hillje - W.A. Parish	345	2007	118
San Antonio	Cagnon - Kendall	345	2007	43
Dallas/Ft. Worth	Parker - Willow Creek	345	2008	23
Dallas/Ft. Worth	West Levee - Norwood	345	2008	7
Central	Clear Springs - Hutto Switch - Salado	345	2010	103
Laredo	San Miquel - Laredo	345	2010	110
Laredo	Laredo - Rio Bravo and Rio Bravo Switch	345	2011	30
Wichita Falls	Oklaunion - Bowman	345	2011	38
All Areas	Numerous Autotransformers	345/138	2007-2011	17,900 MVA
All Areas	Numerous Lines	138	2007-2011	1,544

This report presents data and updates for each area of the ERCOT Region, including defined congestion zones, identified intrazonal (local) congestion areas, and weather zones. Zonal congestion costs have decreased from over $140 million in 2001 to less than $80 million in 2005 and less than $40 million for January through August 2006. This decrease can be attributed to the implementation of direct assignment of zonal costs to market participants scheduling energy over the constraints and on-going improvements to the transmission system. Intrazonal congestion costs have also decreased from over $400 million in 2003 to about $250 million in 2005 and

less than $150 million from January through August 2006. Most of this decrease can be attributed to improvements in the transmission system and operational improvements. The charts below summarize the zonal and intrazonal congestion costs from 2001 through August 2006.



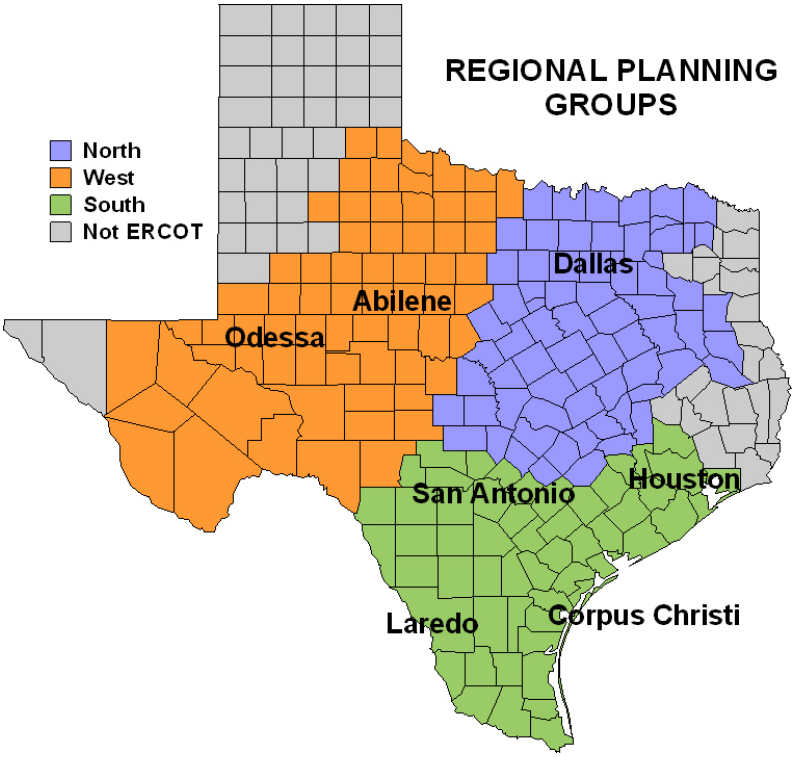


In addition to the Five-Year Transmission Plan, ERCOT also performs a Long-Term System Assessment (LTSA), every even-numbered year starting in 2006; this assessment, which is documented in a separate report, extends the review of the bulk transmission system through 2016. Combined, the Five-Year Transmission Plan and the LTSA provide ERCOT's short- and long-term assessment of the needs of the ERCOT system, as required by Public Utility Regulatory Act (PURA) Section 39.904(k).

ERCOT also recently completed a separate report on the analysis of transmission alternatives for Competitive Renewable Energy Zones (CREZ) to support the Public Utility Commission of Texas (PUCT) in meeting its requirements under PURA Section 39.904 (g).

TRANSMISSION PLANNING PROCESS

The ERCOT transmission planning process utilizes a series of detailed technical analyses. ERCOT's planning integrates requests for transmission service to interconnect new power producers and consumers, as well as supports continued safe and reliable service and accommodates growth for existing customers. In collaboration with Transmission Service Providers (TSPs), ERCOT staff assesses the electric needs of existing and potential transmission system users, on both an individual and collective basis, to determine whether transmission upgrades are required and to respond to the need. All ERCOT recommendations are supported by analyses in accordance with industry-accepted performance criteria and practices. In addition, ERCOT seeks input from all market participants and stakeholders about options and possible solutions and then attempts to incorporate the input received into the overall system plans.



To facilitate this process, ERCOT leads three Regional Planning Groups (RPGs): North, South and West. These RPGs provide a forum for all market participants, as well as the general public, to have the opportunity to review and consider projects proposed to address transmission constraints and other system needs. Each RPG meets five to ten times a year, exchanges information via e-mail, and posts information on the Internet. By utilizing the RPG forums, ERCOT is committed to being inclusive - to share proposals openly and to listen to a diverse spectrum of interested individuals - in the development of transmission improvement proposals. Potential projects to be reviewed by ERCOT and the RPGs can be proposed by ERCOT staff, individual TSPs, other market participants, the Public Utility Commission of Texas (PUCT), or the general public.

Major projects that have successfully undergone the ERCOT planning process and are then recommended by ERCOT staff must be endorsed by the ERCOT Board of Directors. The ERCOT board will endorse major projects in accordance with the following criteria:

- ERCOT staff has recommended the proposed transmission project based on its analyses of identified constraints including proposals from TSPs and any necessary requirements to integrate new generation facilities.
- The project has been reviewed and considered through an open process such as the RPGs.
- ERCOT staff has determined the designated provider of the additions.
- The PUCT has been notified of all ERCOT board-endorsed transmission facility additions and their designated providers.

LOAD

Forecasting electrical demand and energy is one of the most significant factors in determining the future infrastructure needs of the ERCOT power system. Should the forecast understate the actual load growth, facilities adequate to reliably serve the load may not be in place in a timely manner. On the other hand, if the forecast overstates the actual growth, facilities which are not necessarily needed may be built. These would result in an inefficient use of resources and higher cost to consumers.

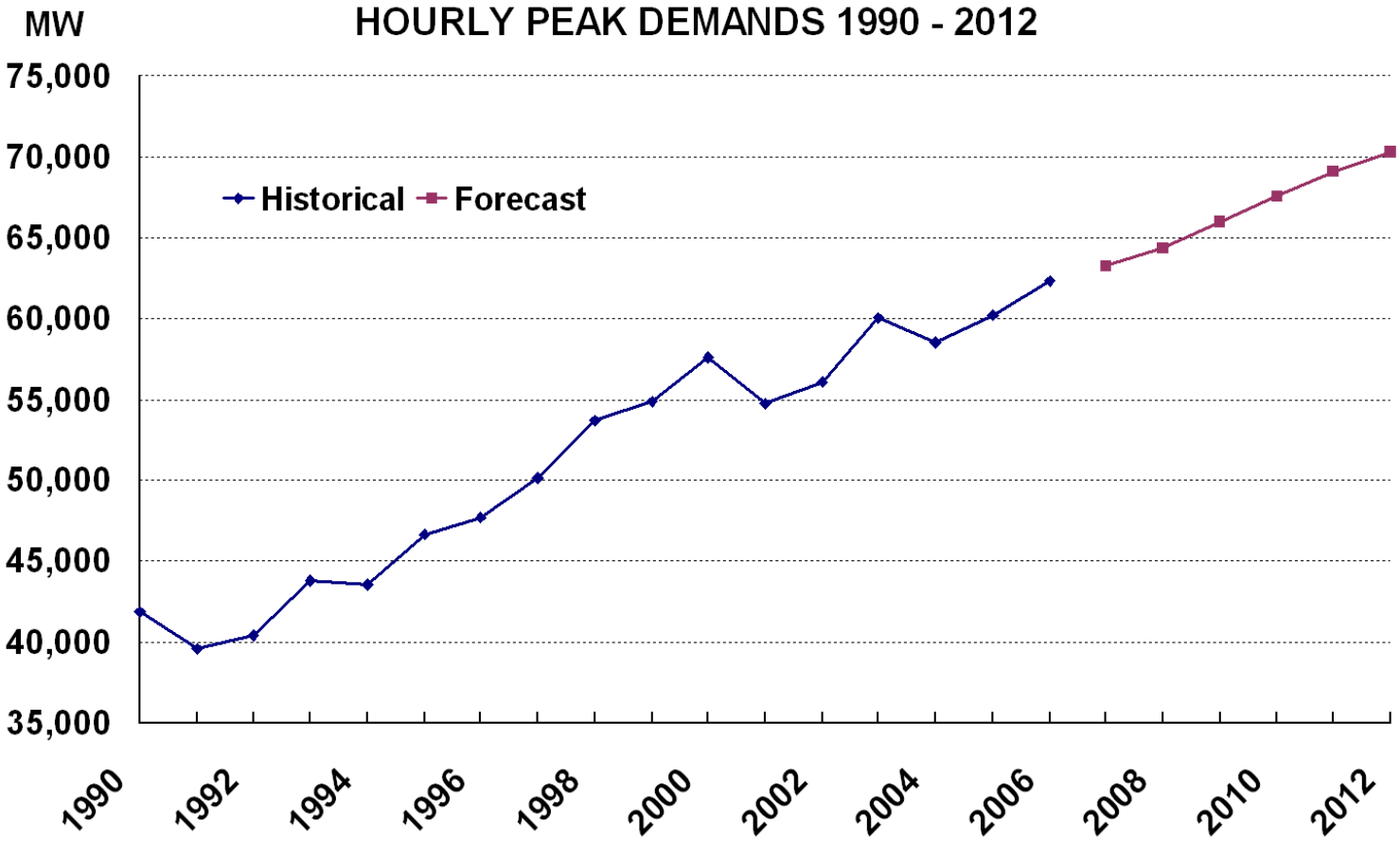
To develop the most reasonable load projections for the system, ERCOT load forecasters consider a wide range of variables such as population, weather, land usage, general business economy, governmental policy, and societal trends in terms of both historical actuals and the best predicted future indicators available.

ERCOT develops peak demand and energy forecasts that reflect the outcome of differing economic and weather outlooks and uncertainties and, in cooperation with TSPs, selects a most probable scenario for planning purposes.

Peak Demand

Texas has experienced significant economic growth over the past several years. As a result the demand for electricity has also increased. From 1990 to 2006 the peak demand on the ERCOT system has increased approximately 2.5% per year. The current forecast for 2007 to 2012 indicates ERCOT's peak demand is expected to increase by 2.1% annually, as shown below.

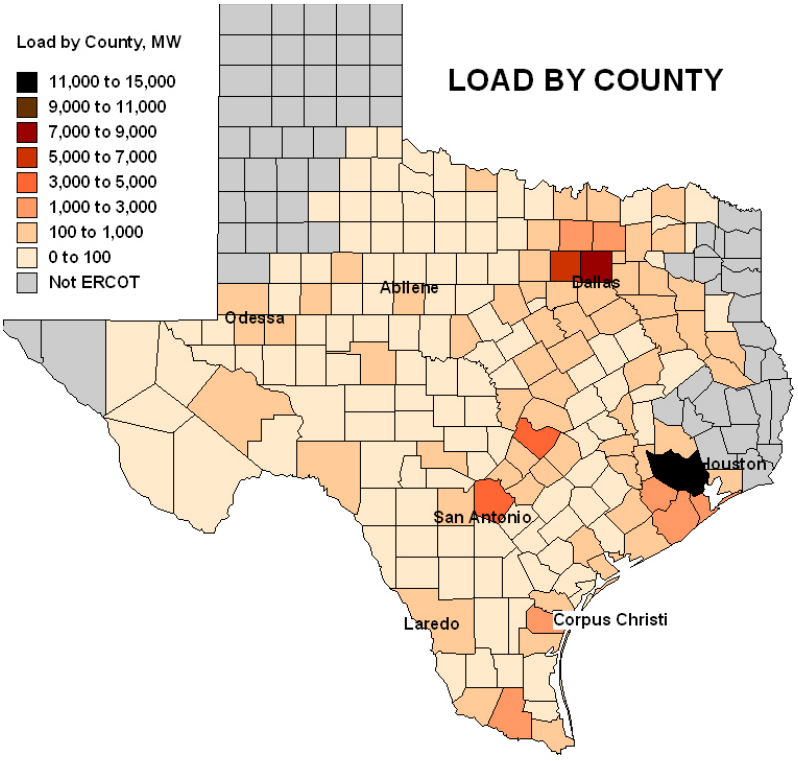
On August 17, 2006, ERCOT set an all-time hourly peak demand of 62,334 MW.



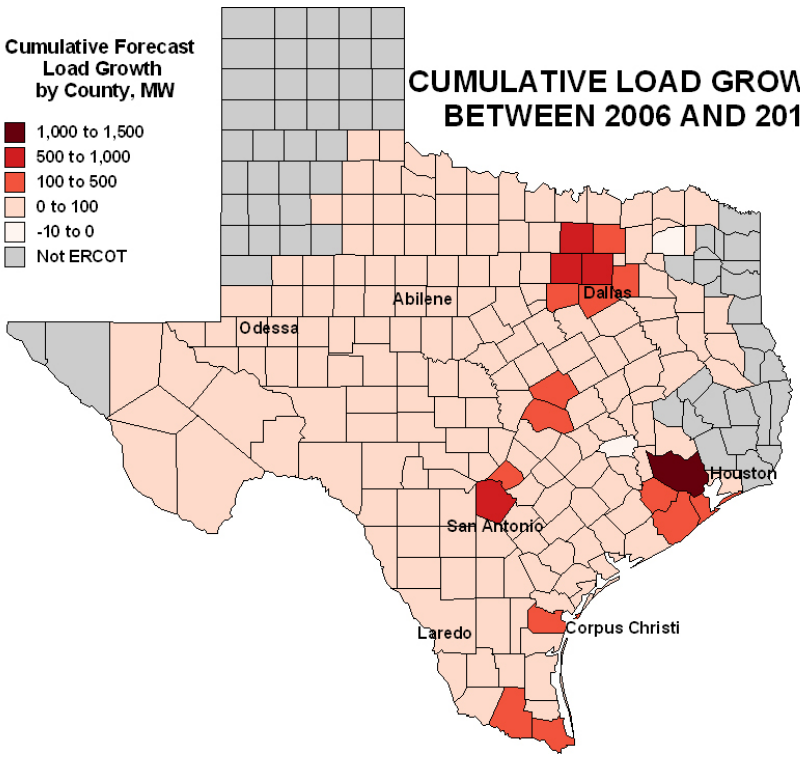
Non-Coincident Peak by County

The loads by county are shown for the summer of 2006 and are non-coincident peak demand forecasts provided in the 2006 Annual Load Data Request (ALDR) by the TSPs.

The counties with the greatest peak demands are Harris, Dallas, Tarrant, and Bexar.



While ERCOT's overall peak demand forecast calls for a 2.1% annual growth rate, some areas within the state are experiencing growth as high as 6.1% per year. As expected, the greatest growth is around the metropolitan areas.

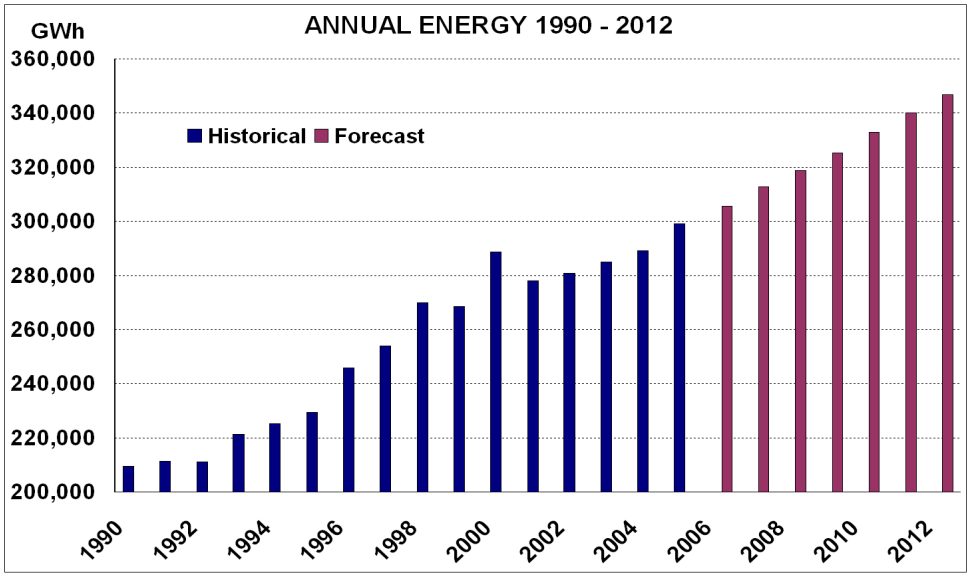


The counties with the greatest expected cumulative load growth are Harris, Dallas, Bexar, and Tarrant. Other areas expected to experience significant load growth include the north Austin metro area and the lower Rio Grande border.

Energy

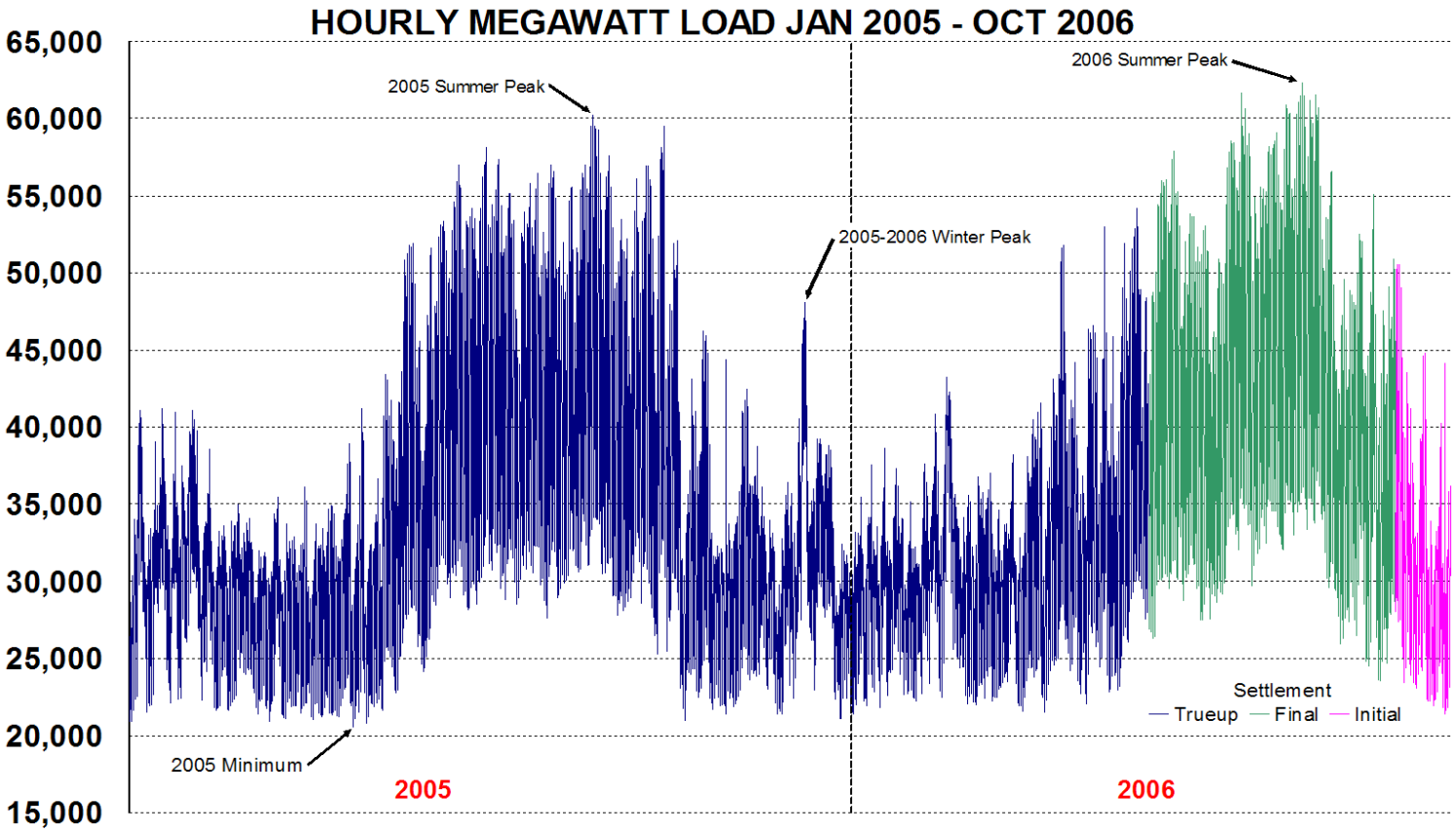
While the peak demand forecast provides an indication of the size electrical facilities should be constructed to serve the expected peak demand, the energy usage forecast assists in determining the usage of these facilities over all hours of the year.

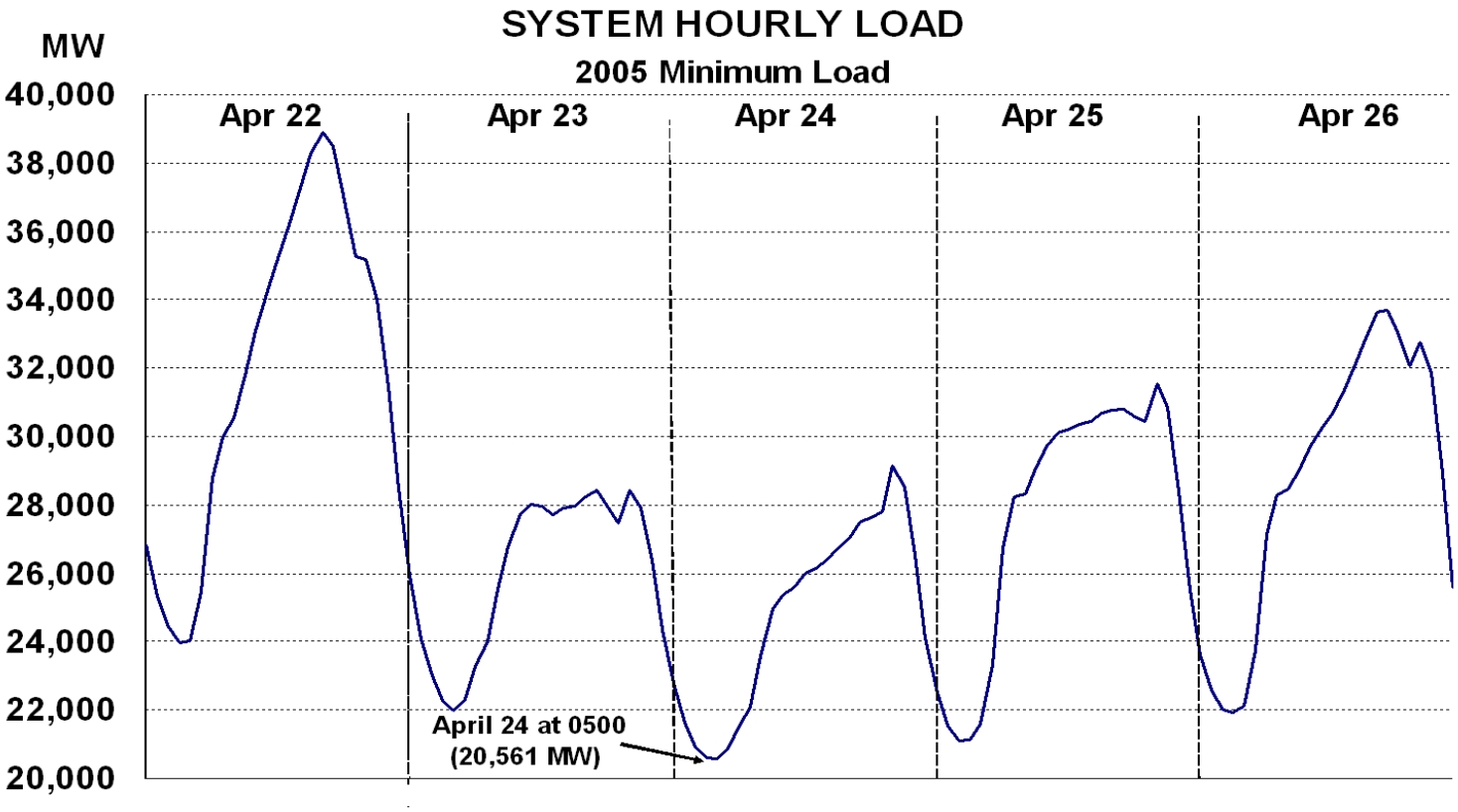
For the ERCOT system energy usage has grown approximately 2.4% per year since 1990. Current forecasts indicate this trend will be approximately 2.1% per year from 2006 to 2012 based on projected growth in the fundamental economic variables which have historically driven load growth in the region.

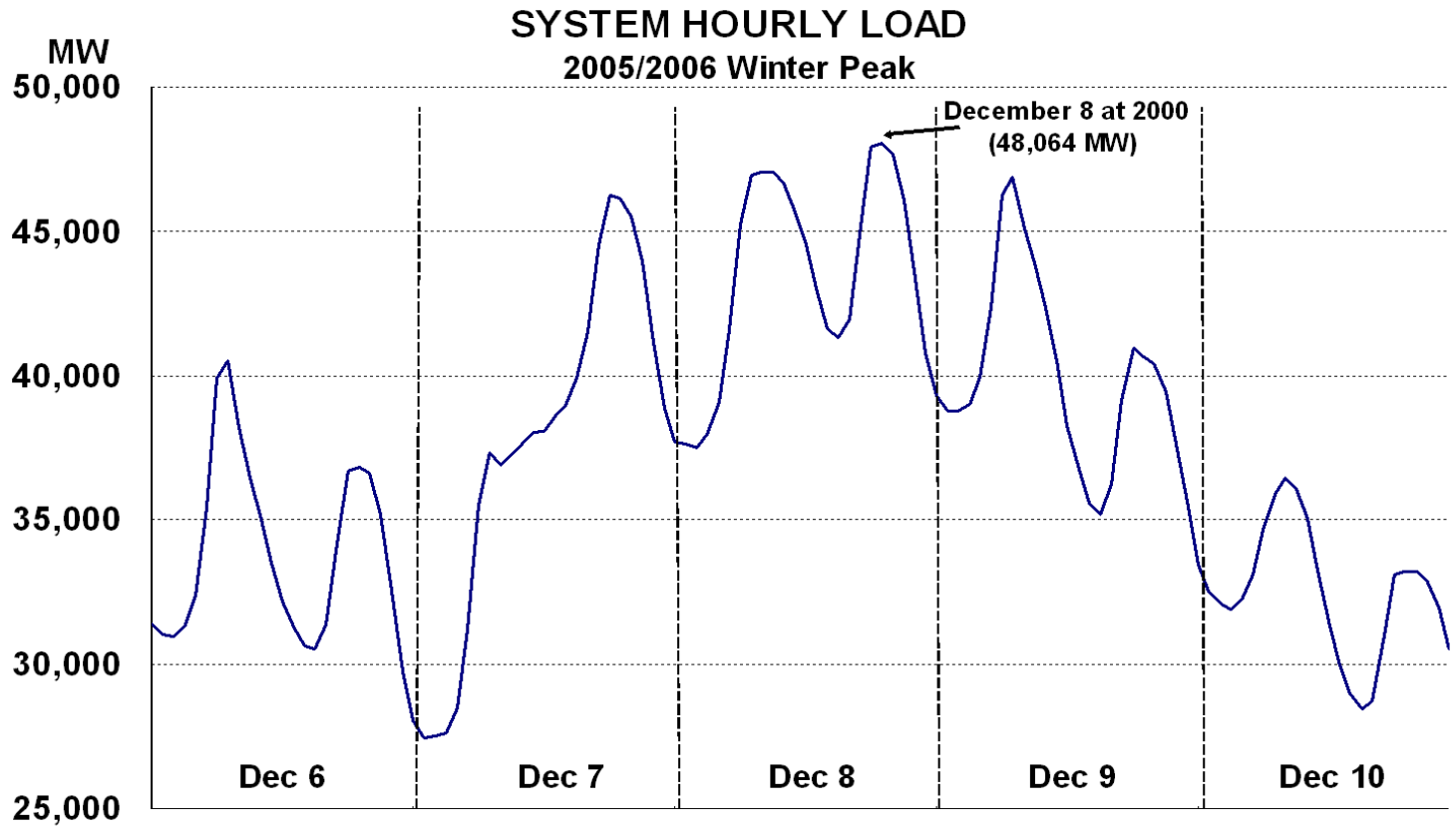


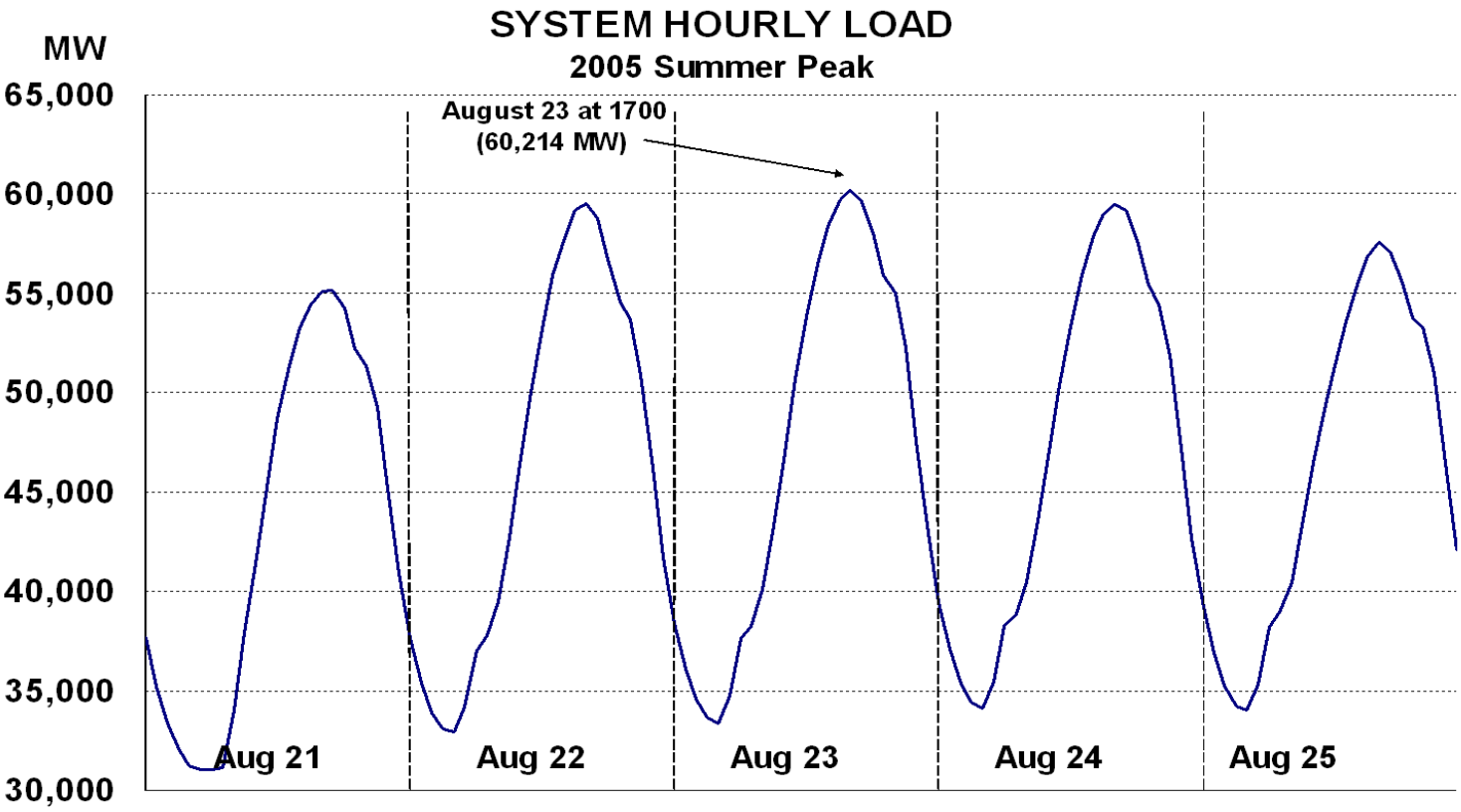
Hourly Load

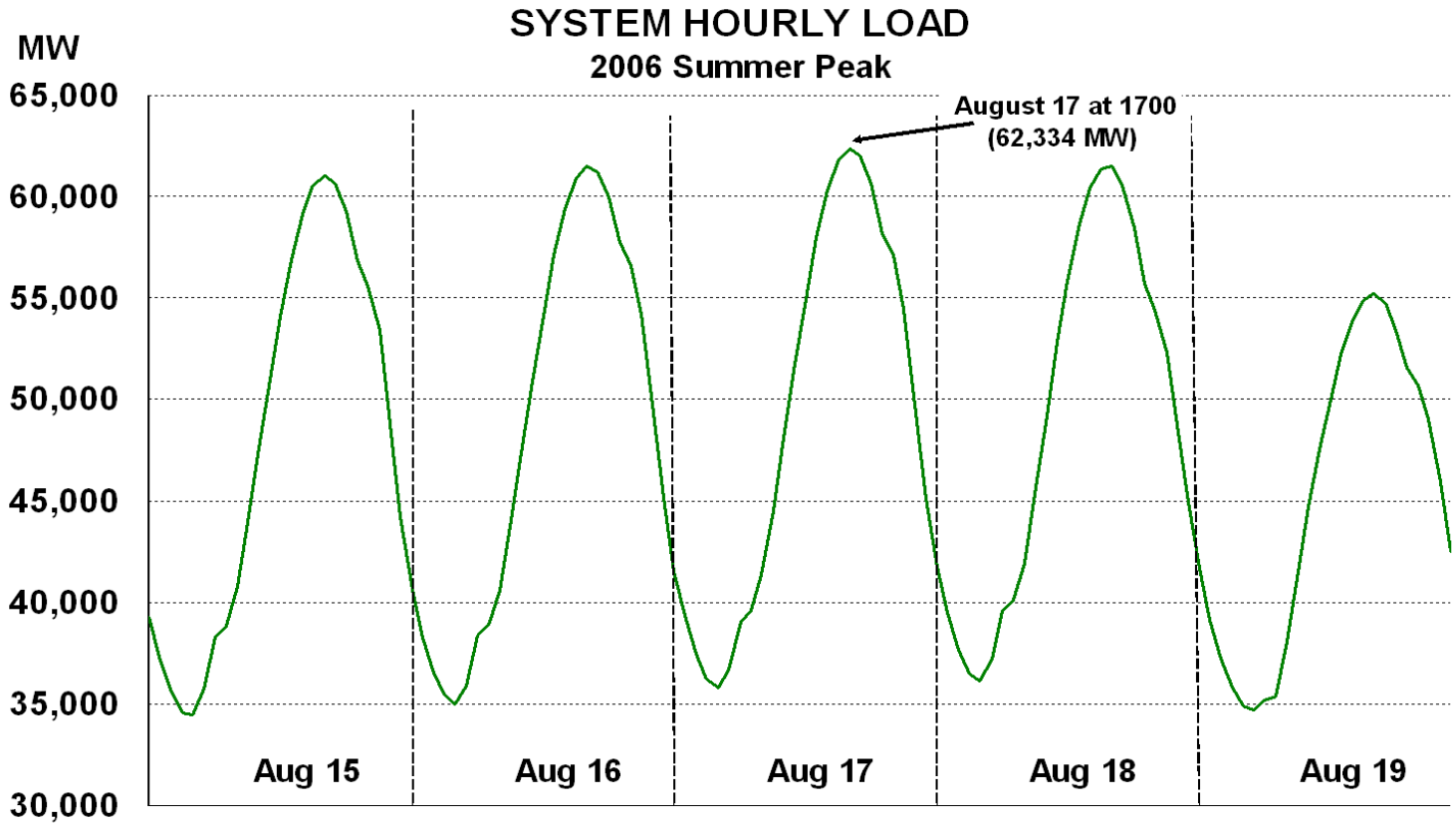
Hourly load is an extremely useful tool for understanding the magnitude change and the pattern of the load being served over a specific time. The following pages illustrate some of the varying load shapes encountered while operating the grid.




SYSTEM HOURLY LOAD
2005 Minimum Load
MW
40,000
38,000
36,000
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
Apr 22
Apr 23
Apr 24
Apr 25
Apr 26
April 24 at 0500
(20,561 MW)

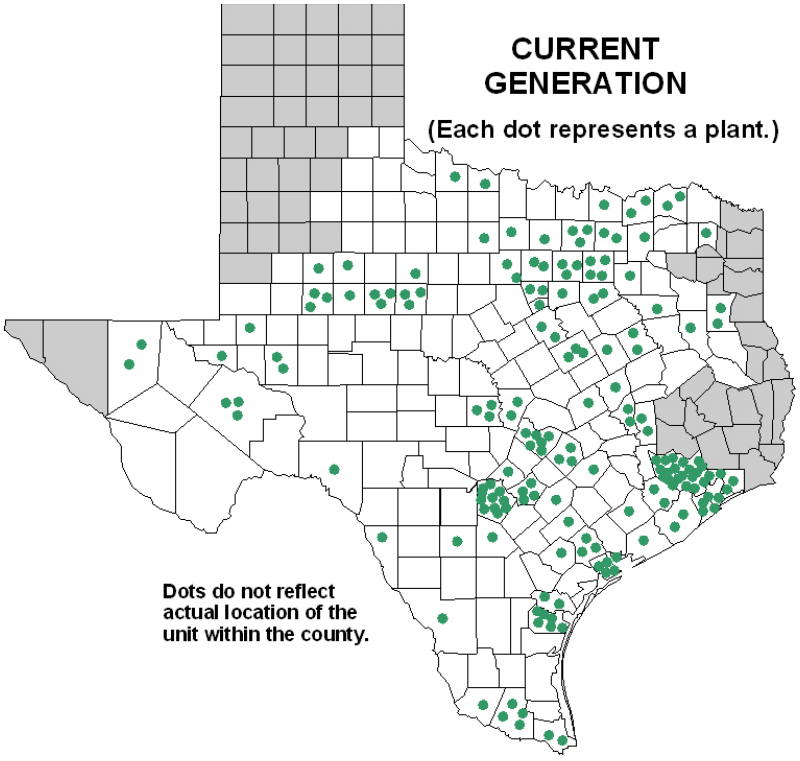

SYSTEM HOURLY LOAD
2005/2006 Winter Peak
MW
50,000
45,000
40,000
35,000
30,000
25,000
December 8 at 2000
(48,064 MW)
Dec 6
Dec 7
Dec 8
Dec 9
Dec 10


SYSTEM HOURLY LOAD
2005 Summer Peak
MW
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
August 23 at 1700
(60,214 MW)
Aug 21
Aug 22
Aug 23
Aug 24
Aug 25

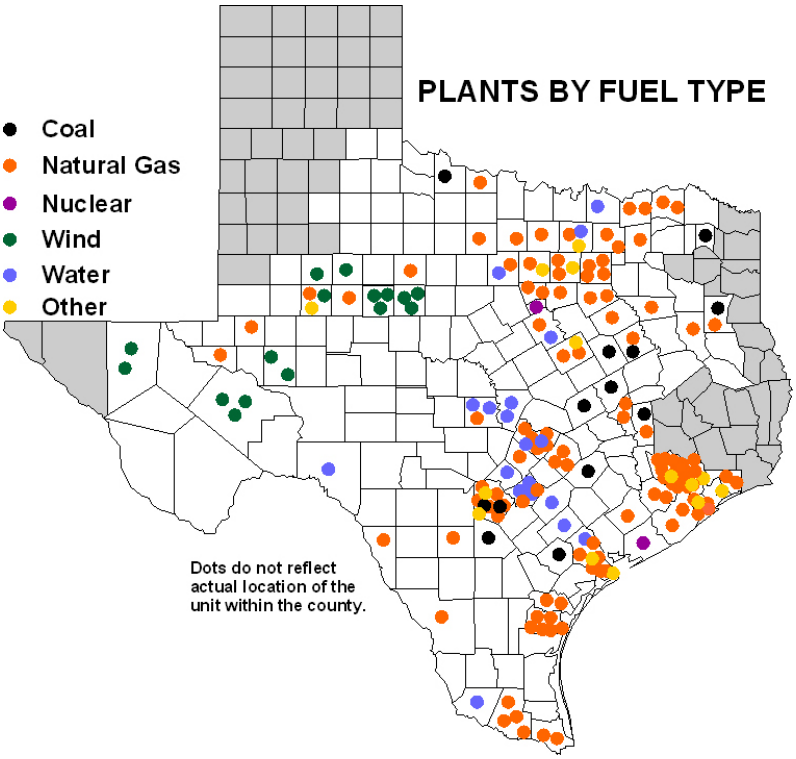

SYSTEM HOURLY LOAD
2006 Summer Peak
MW
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
August 17 at 1700
(62,334 MW)
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19

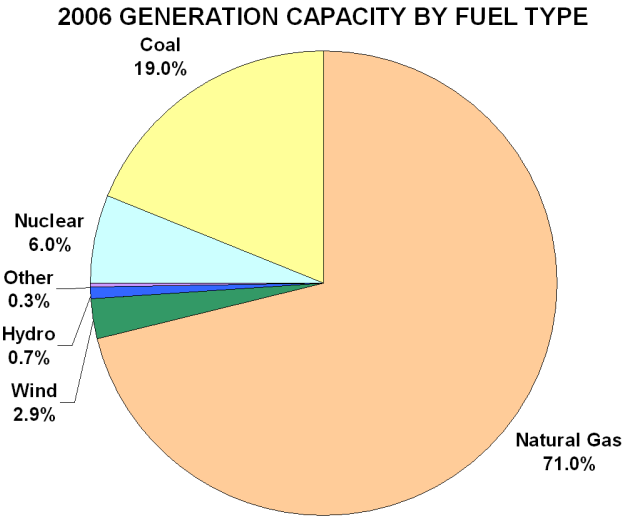
Current Generation

Current installed generation capacity in the ERCOT Region is about 81,000 MW, which includes 7,260 MW of generation that is “mothballed” (suspended operations from the grid for more than six months).

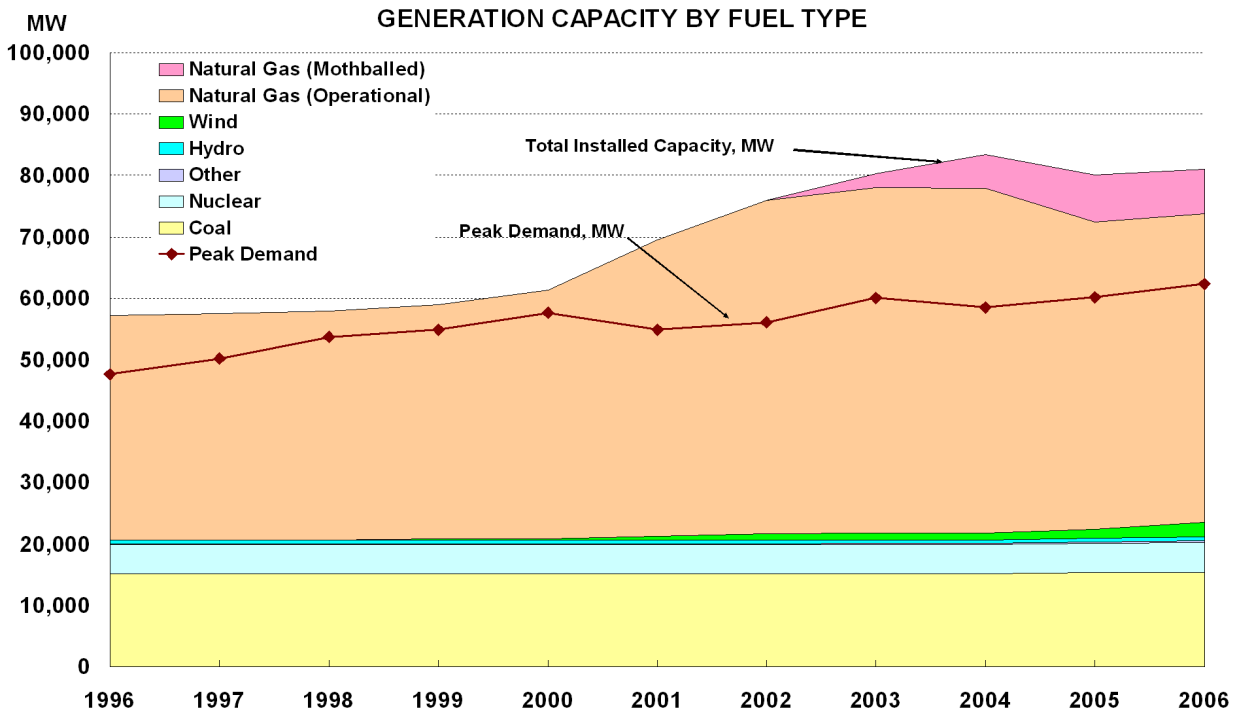


In terms of installed capacity, 71% of capacity in ERCOT is fueled by natural gas, followed by 19% by coal, and 6% by nuclear. It is important to note that nearly all new generation capacity added in the ERCOT system since 2000 is fueled by natural gas. A small portion is fueled by wind and other resources. The map shows the plants by fuel type, and graph shows the installed capacity by fuel type.



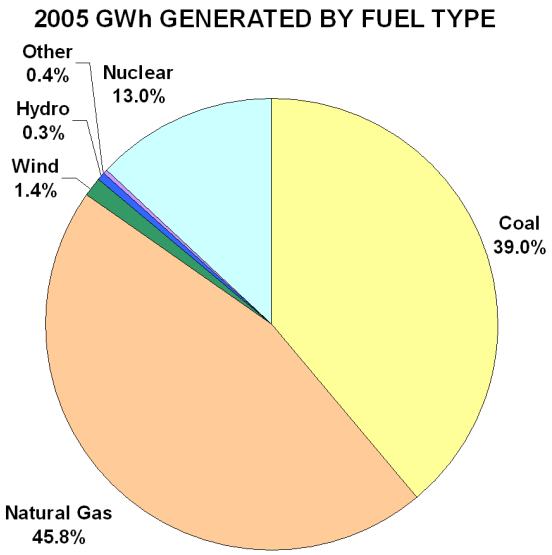


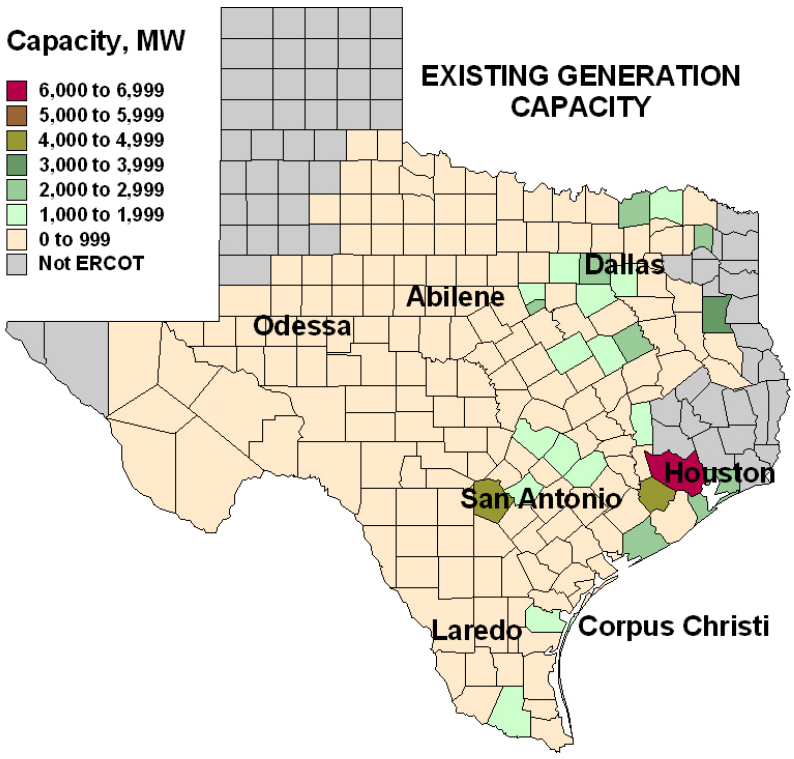
GENERATION



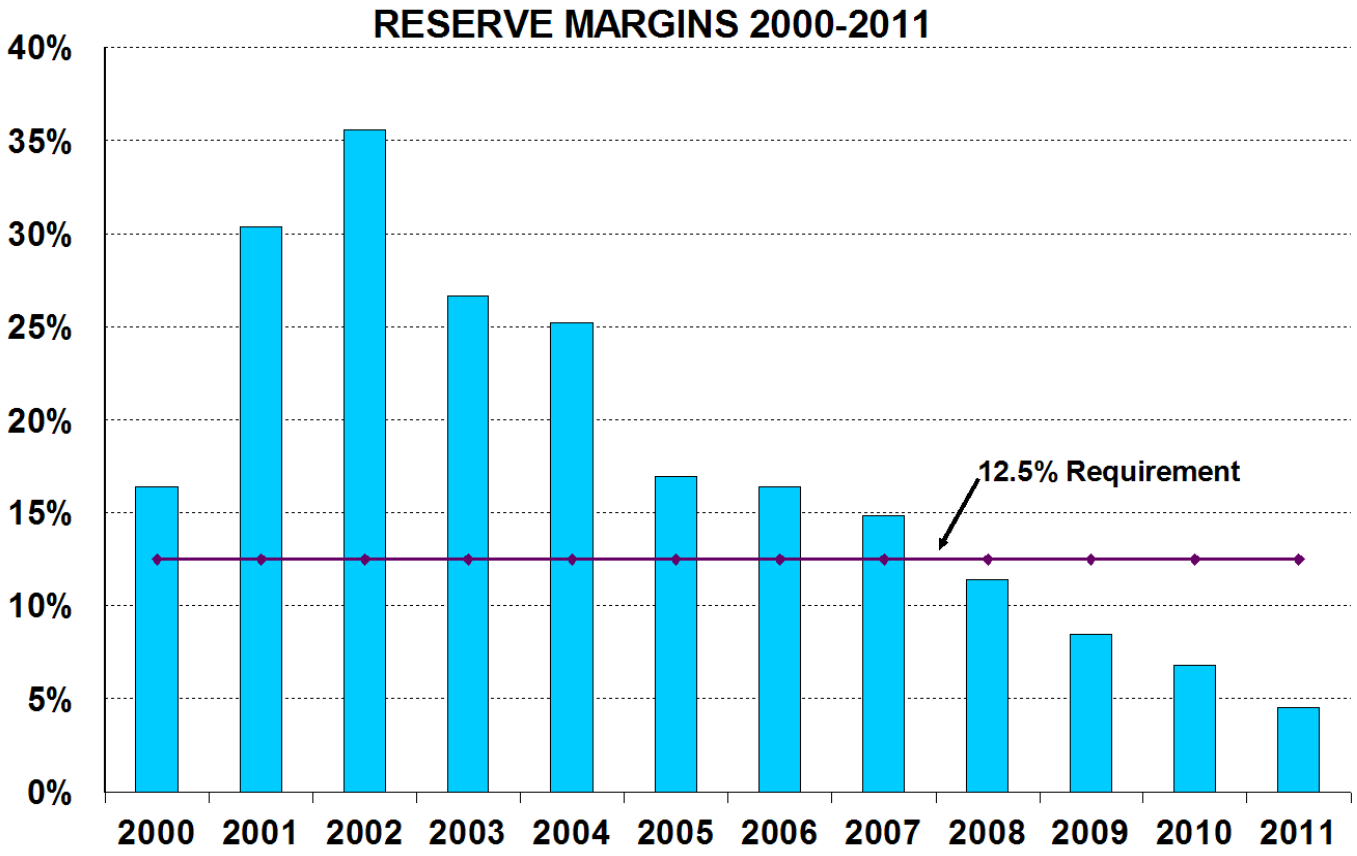
In terms of energy generated, the chart below shows that 46% of the energy generated in ERCOT in 2005 was from natural gas, 39% from coal, and 15% from other sources including nuclear, hydro, and wind.

The existing generation capacity shown by county in this map is based on information from the generating companies and includes switchable capacity (capacity capable of serving ERCOT and another regional council), ties to other regions, private network generation, and distributed generation that has registered with ERCOT.

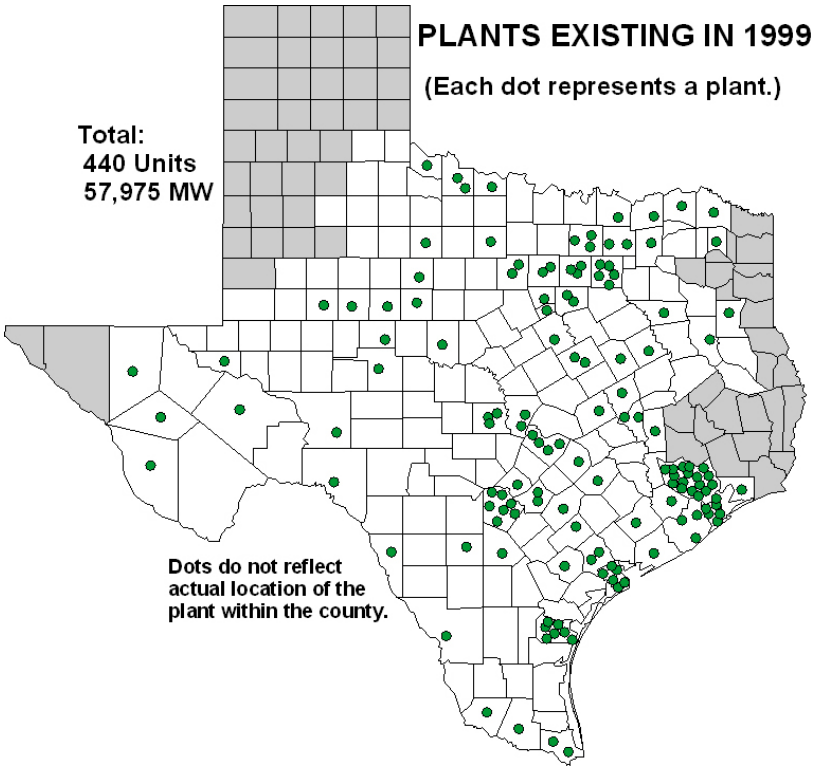




Forecasted Reserve Margins



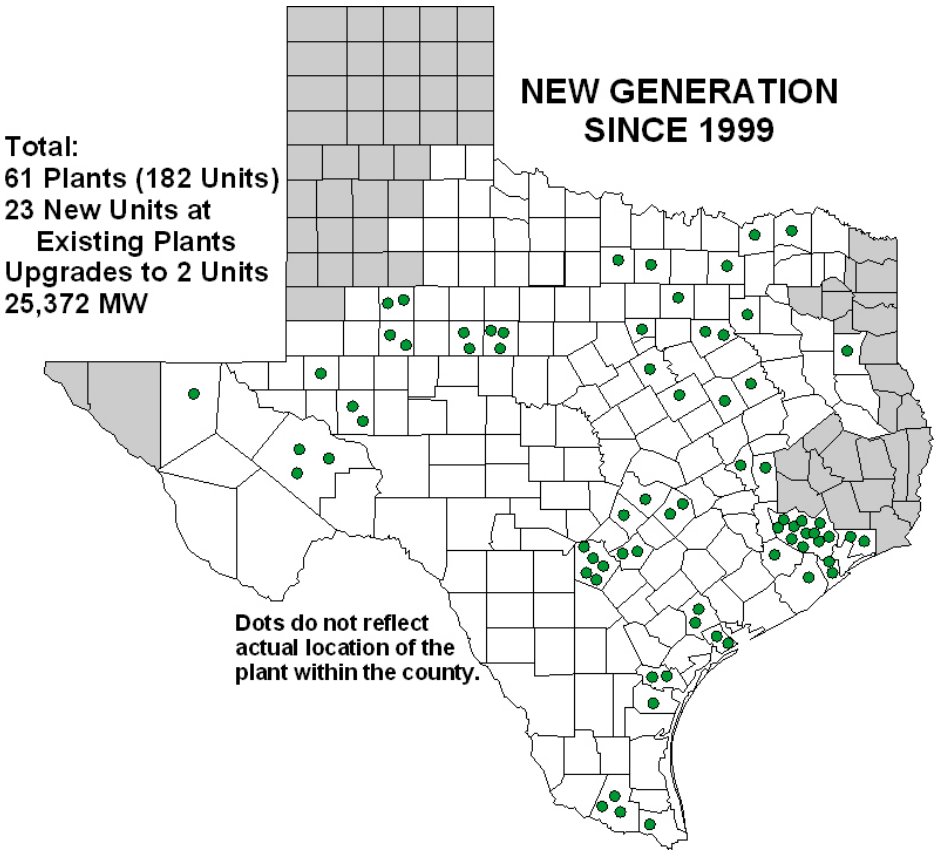
The reserve margin is the percent by which the generating capacity in the area exceeds the peak demand. Through 2007 ERCOT's reserve margins remain above the 12.5% requirement set by the ERCOT Board of Directors. From 1999 through 2004 different methodologies were used to calculate ERCOT's reserve margins. This accounts for some of the wide variation in the reserve margins shown. In 2005 the ERCOT Board of Directors approved a new methodology that recognizes that a generator's contribution to reserve is determined more by availability than by capacity. The reserve margins, reported in the June 2006 Capacity, Demand, and Reserves Report, for 2005 through 2011 were calculated using this new methodology.



Historical Generation Changes

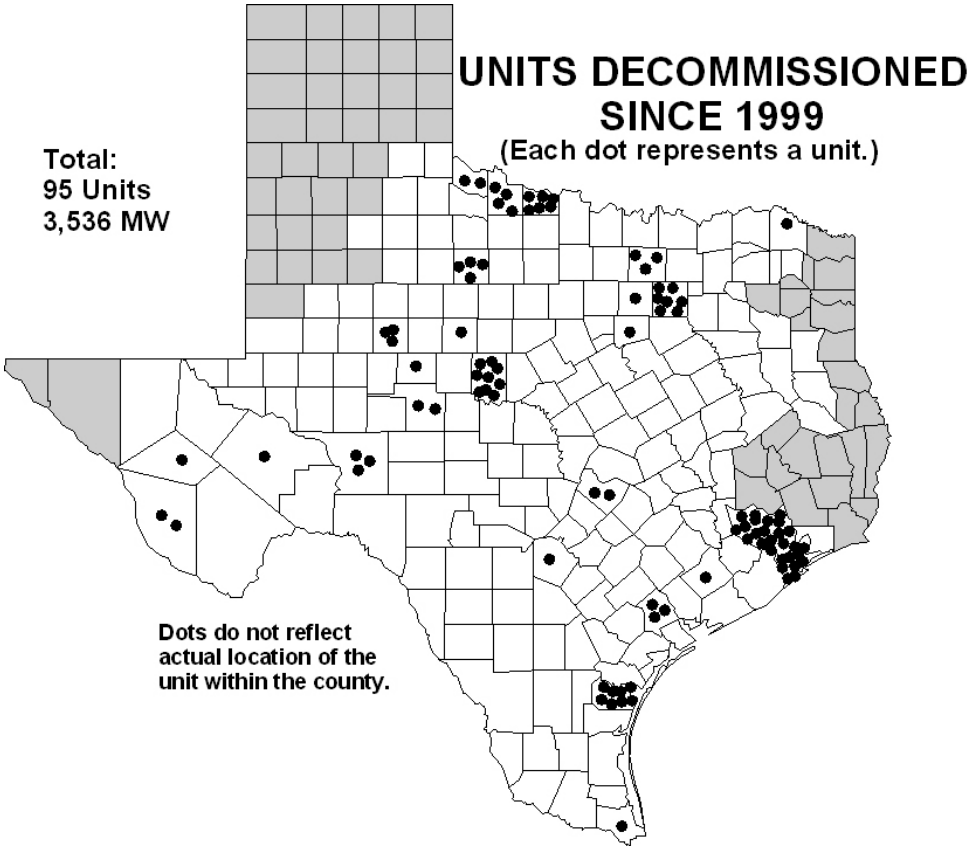
In 1999 ERCOT had approximately 58,000 MW of installed generation capacity. Much of that generation was concentrated in the metropolitan areas of Houston, Dallas/Fort Worth, San Antonio, and Corpus Christi.

GENERATION



Since 1999 the ERCOT system has added 61 plants, added new units to existing plants, and upgraded existing units. The total is over 25,000 MW of new generation. Three of these new plants are capable of serving ERCOT and the Southwest Power Pool (SPP) or the SERC Reliability Corporation (SERC). Much of the new generation is around Houston and in the Rio Grande Valley. Several large wind projects have been built in West Texas.

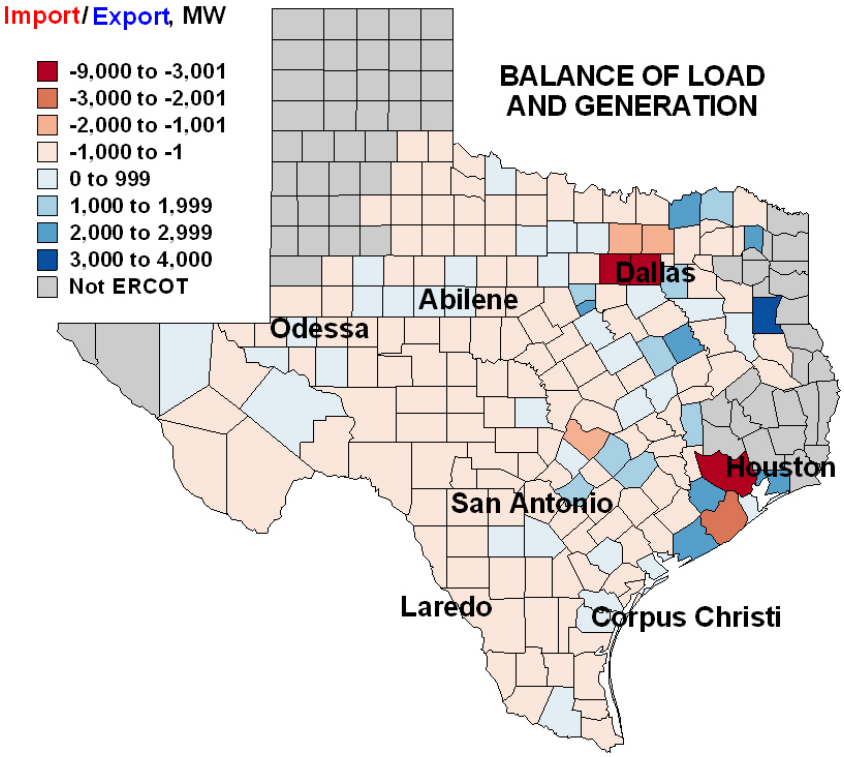
These new plants, especially the wind generation, have resulted in significant changes which have placed new challenges on the adequacy and the reliability of the existing transmission grid.



Since 1999 a total of 95 units have been decommissioned.

Given the current level of generation capacity, load growth, and economic factors, ERCOT expects more units to be decommissioned. Decommissioning of older plants near metropolitan areas due to economics or environmental restrictions requires ERCOT to undertake a careful assessment of the reliability needs to propose maintaining certain units under Reliability Must-Run (RMR) contracts and any transmission alternatives to these RMR sources.

GENERATION



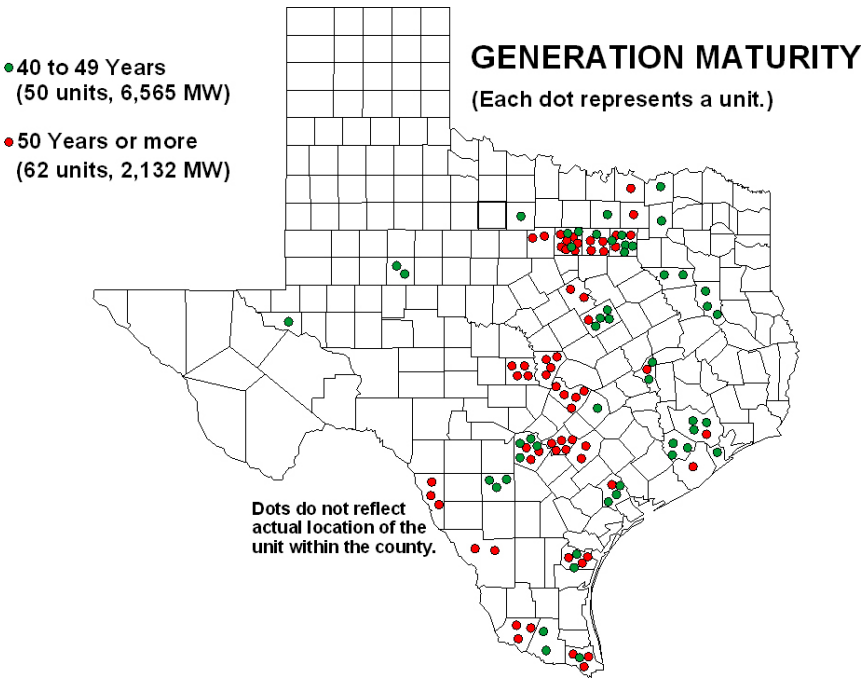
This figure consolidates load and generation by county to show the balance of load and generation for the summer of 2006. If a county has more generation than load (blue on the map), then it will "export' generation to other counties. Whereas if a county has more load than generation (red on the map), then it must "import" generation from other counties. This calculation is used to illustrate dependence on local generation. This map is for illustrative purposes only; the true values will depend on actual load levels and actual generation dispatch. The graphic clearly indicates that Dallas/Fort Worth (DFW), Houston, and Austin are highly dependent on transmission to serve load.

Generation Maturity

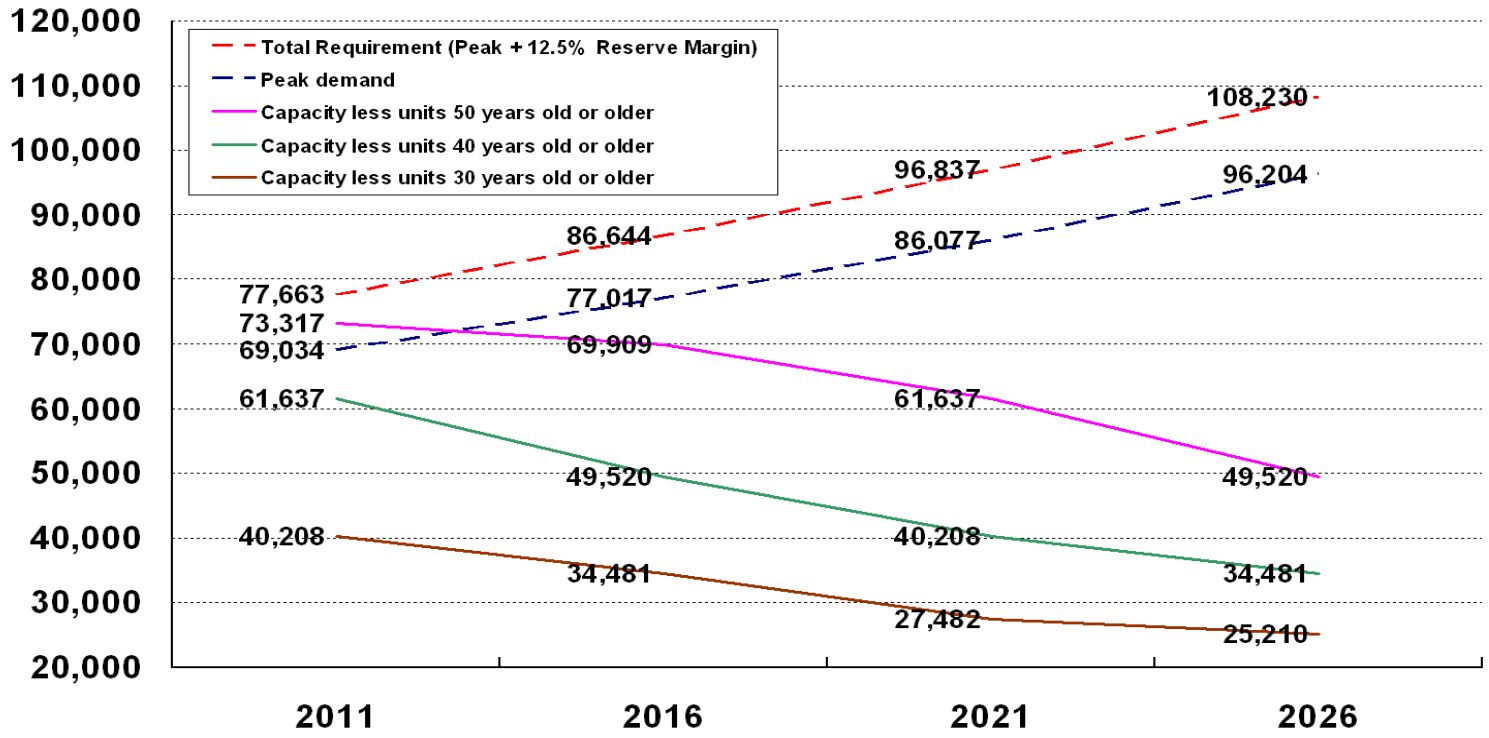
Currently there are about 8,700 MW of generation within ERCOT that is over 40 years in age. Age is one indication of the efficiency and maintenance cost of a generating unit, which are major factors in the decommissioning of units.

Most of the capacity greater than 50 years old is around Dallas/Fort Worth. Other areas with high concentrations of older plants are Central Texas and the Rio Grande border.

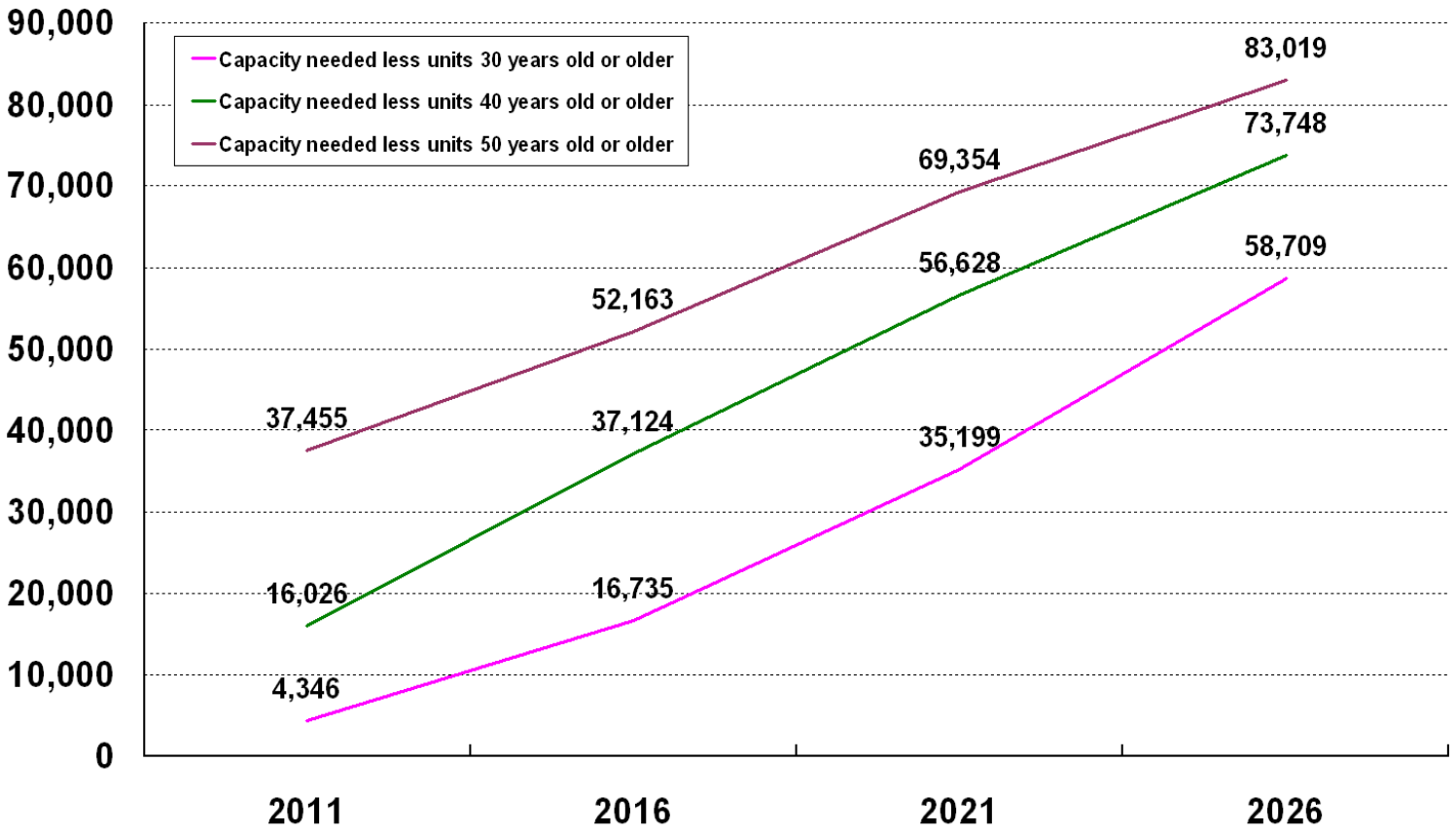
The two graphs on the next page show an analysis of the age of plants and the demand projections. This analysis gives an indication of how much additional generation capacity may be needed in the long term. The values range from 4,346 MW in 2011 to 83,019 in 2026.



MW ERCOT GENERATION CAPACITY AND DEMAND PROJECTIONS

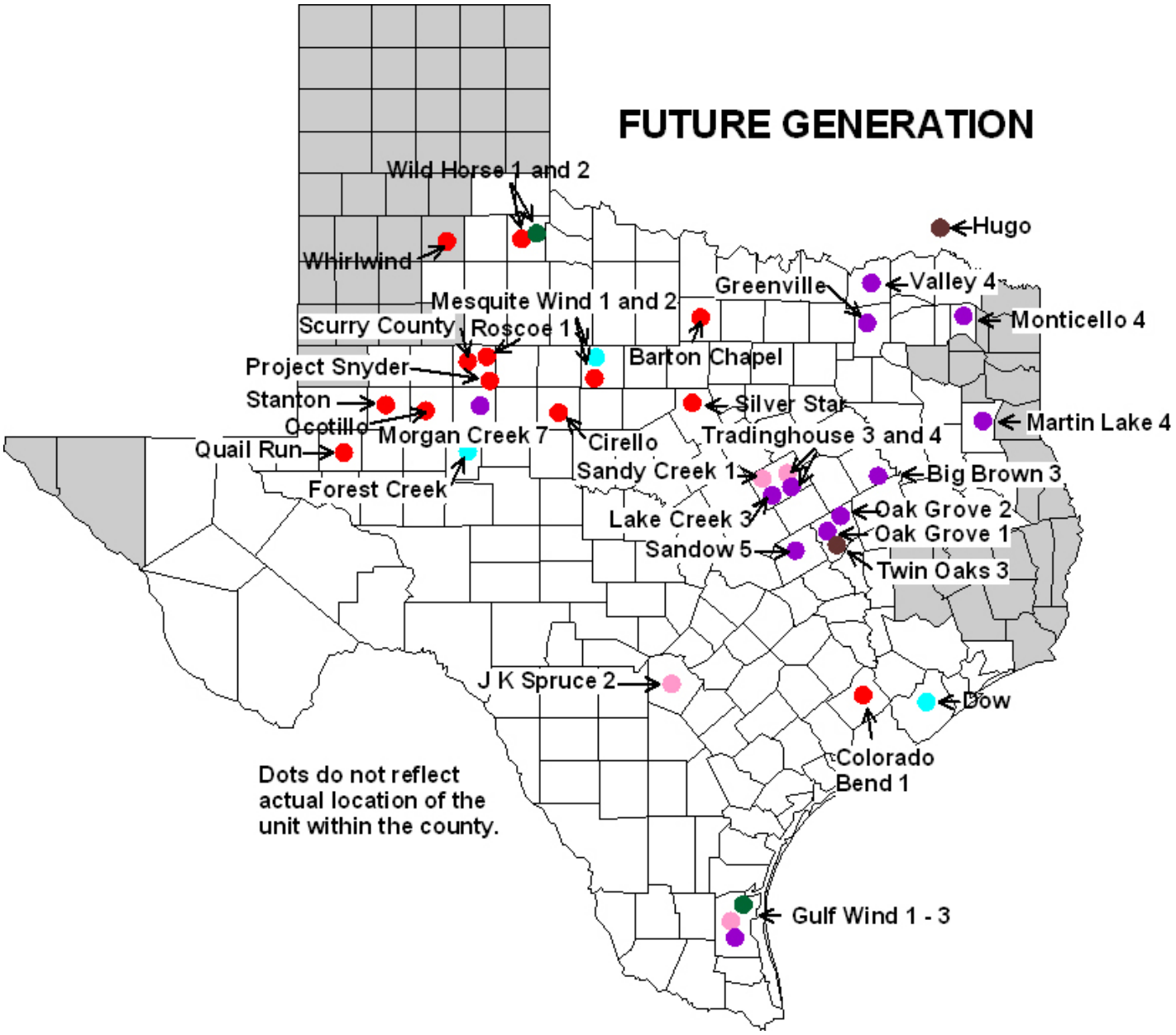


MW POSSIBLE ERCOT GENERATION CAPACITY NEEDED



Future Generation

ERCOT is currently tracking about 57,000 MW of proposed generation capacity, about 17,000 MW of which is public and is shown on the map.



Map Color	In-Service Year	Future Capacity, MW
	2006	615
	2007	1,782
	2008	339
	2009	10,351
	2010	2,708
	2011	1,130

GENERATION

The following table shows the proposed capacity by fuel type that ERCOT staff is currently tracking.

GENERATION INTERCONNECTION REQUESTS BY FUEL TYPE, MW			
Fuel	Public	Not Public	Total
Coal	11,839	1,655	13,494
Natural Gas	2,300	9,600	11,900
Nuclear	0	12,886	12,886
Other	0	1,070	1,070
Wind	3,015	14,353	17,368
Total	17,154	39,564	56,718

The following table shows the requests for new generation in ERCOT between January 1, 2006, and November 30, 2006.

GENERATION INTERCONNECTION REQUEST ACTIVITY IN 2006						
Fuel	Screening Studies Requested		Interconnection Studies Requested		Interconnection Agreements Signed	
	Number	MW	Number	MW	Number	MW
Coal	11	9,163	9	7,449	4	3,260
Natural Gas	11	7,051	4	2,502	2	550
Nuclear	5	12,886	1	86	0	0
Other	3	645	2	380	0	0
Wind	50	9,954	46	9,128	10	1,277
Total	80	39,699	62	19,545	16	5,087
Some projects appear in both screening studies and interconnection studies.						

Robust load growth, a vibrant wholesale market, and renewal of the Production Tax Credit continue to attract merchant plant developers to the Texas market. However, there is still uncertainty associated with the proposed plants because many of the interconnection request are for alternative sites. For this and other reasons, much of this capacity may not be built.

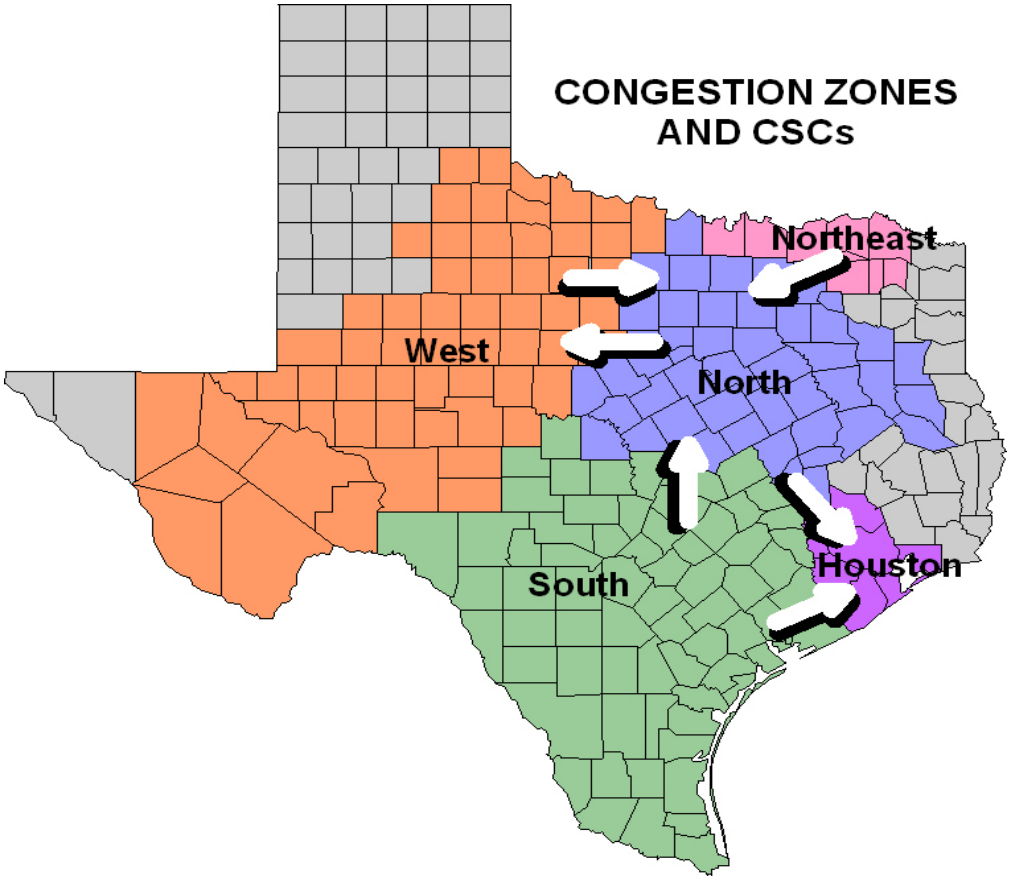
CONGESTION

Transmission congestion occurs whenever higher priced generation must be used rather than lower priced generation in order to maintain the reliable operation of the system. To test the reliability, ERCOT system operators perform a Real-Time Contingency Analysis (RTCA) every five minutes. This analysis identifies when the loss of any single transmission element in the system would result in any remaining portion of the system exceeding its capability limits. It assists the system operators in determining the course of action to remedy the identified congestion. The differences in generation cost quantify congestion and are ultimately borne by the consumer.

ERCOT categorizes congestion as one of two types - zonal and intrazonal (local).

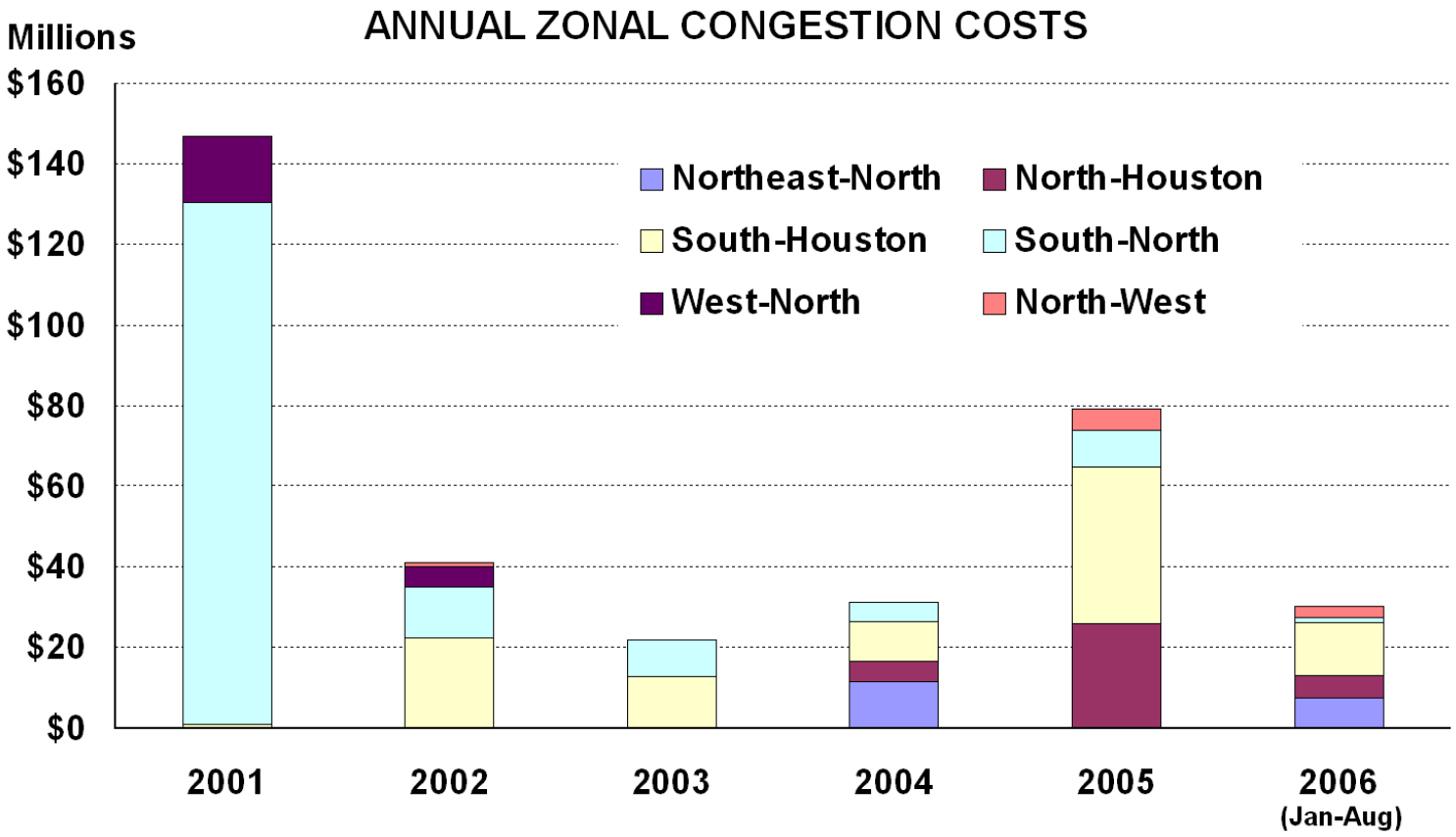
Zonal Congestion

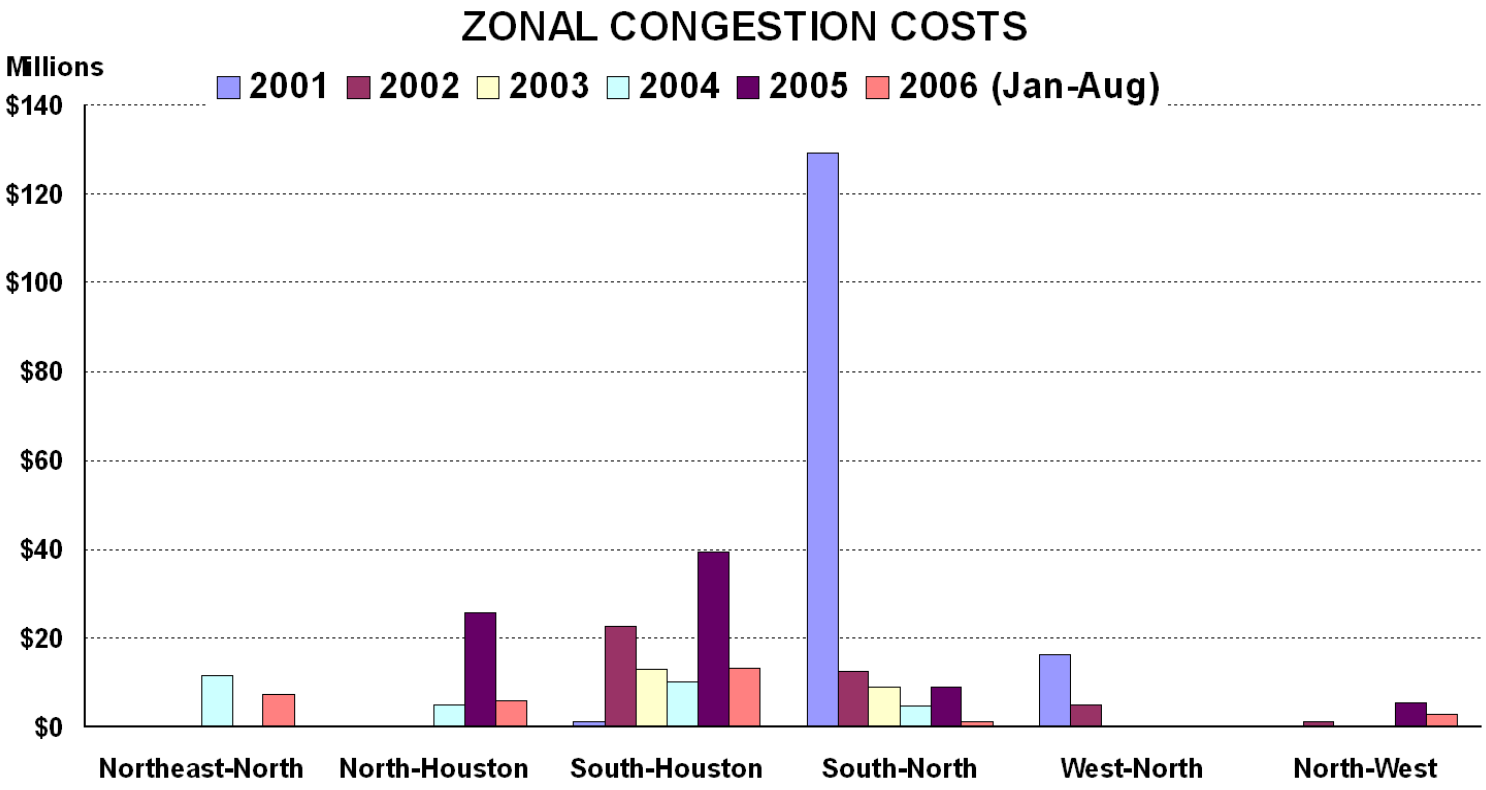
ERCOT has implemented a zonal balancing energy market for the resolution of transmission congestion between five zones as illustrated. A Commercially Significant Constraint (CSC) is generally a 345-kV power line which acts as an interface between two zones and physically limits (due to its design capacity) the economic flow of energy between the zones to a commercially significant degree.



When an ERCOT system operator determines a CSC is congested, the system operator reduces the line loading by issuing instructions to increase the generation in the zone importing the power and to decrease generation in the zone exporting the power. The instructions are based upon the generators' bids available in the balancing market. The resulting overall higher costs are defined as zonal congestion costs and are directly assigned on a pro-rata basis to those market participants scheduling energy over the CSC.

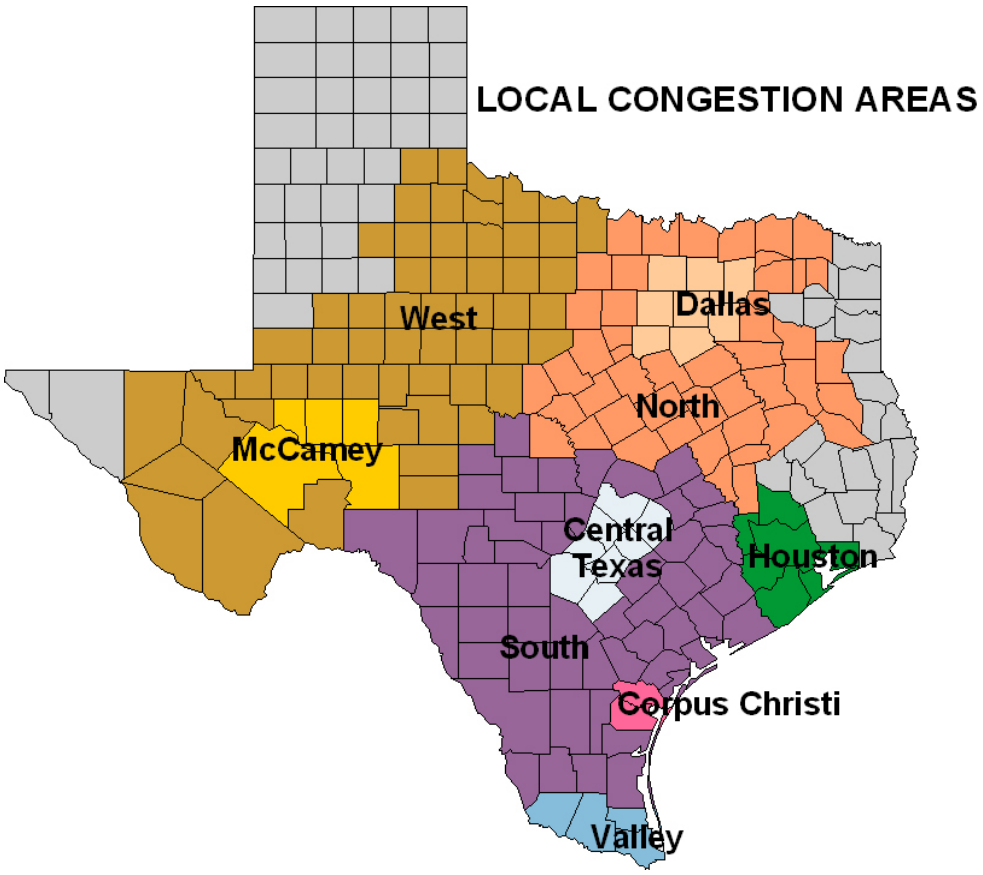
The following graphs show the zonal congestion costs from 2001 through August 2006 by CSC.


ANNUAL ZONAL CONGESTION COSTS
Millions
$160
$140
$120
$100
$80
$60
$40
$20
$0
Northeast-North
North-Houston
South-Houston
South-North
West-North
North-West
2001
2002
2003
2004
2005
2006
(Jan-Aug)


ZONAL CONGESTION COSTS
Millions
2001
2002
2003
2004
2005
2006 (Jan-Aug)
$140
$120
$100
$80
$60
$40
$20
$0
Northeast-North
North-Houston
South-Houston
South-North
West-North
North-West

Intrazonal Congestion

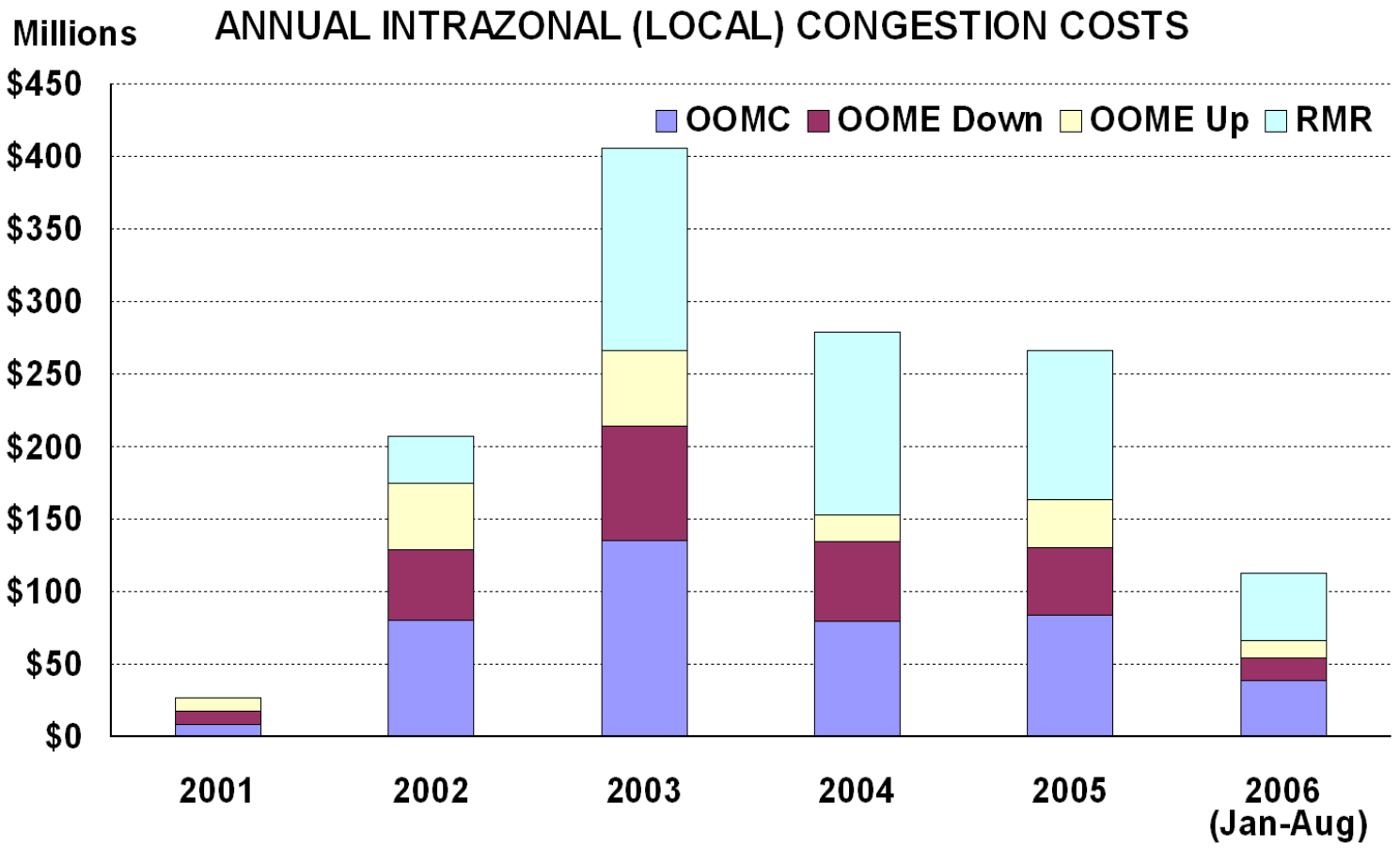
Intrazonal, or local, congestion occurs when the lack of sufficient transmission infrastructure in a given area (within a single congestion zone) results in a limitation, or bottleneck, of the flow of energy into or within that area. ERCOT has identified nine general areas with local constraints as illustrated on this map.

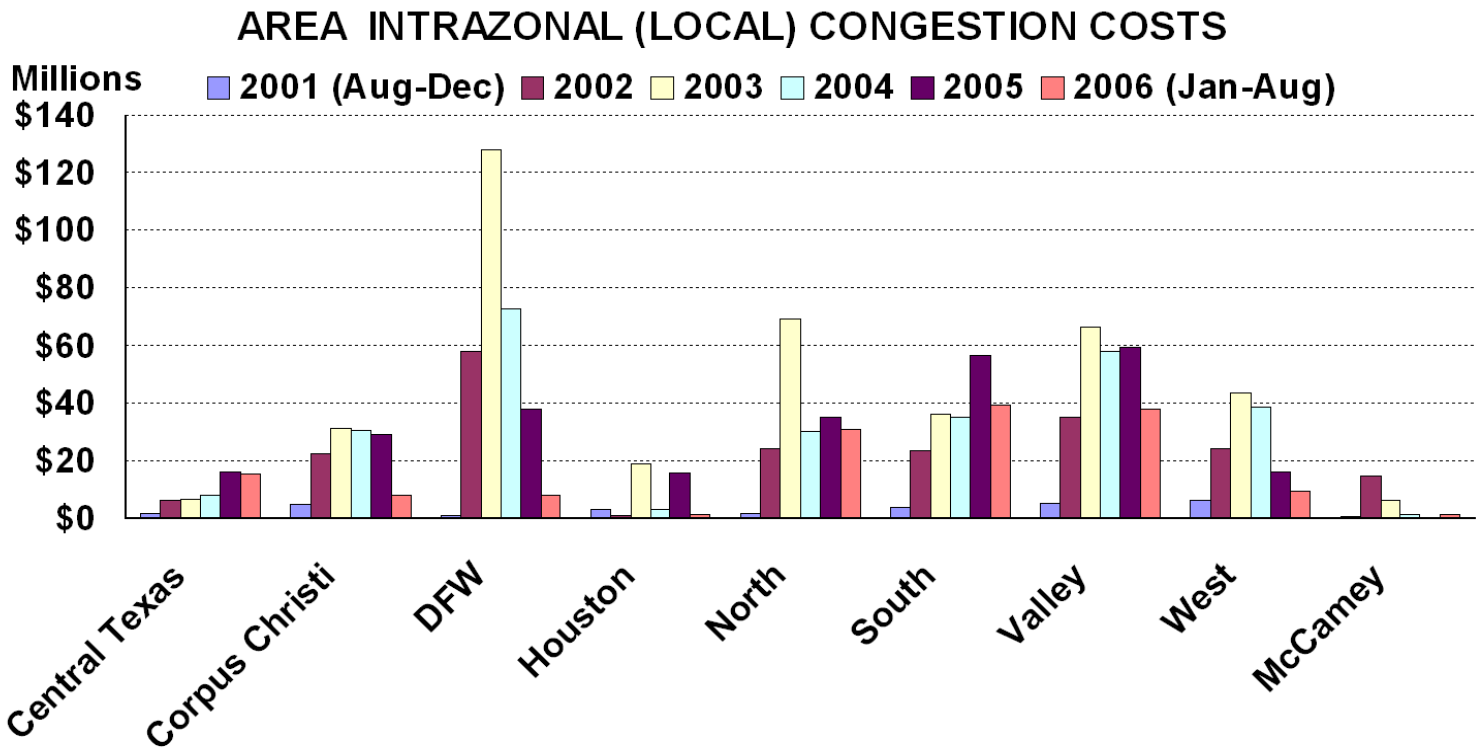


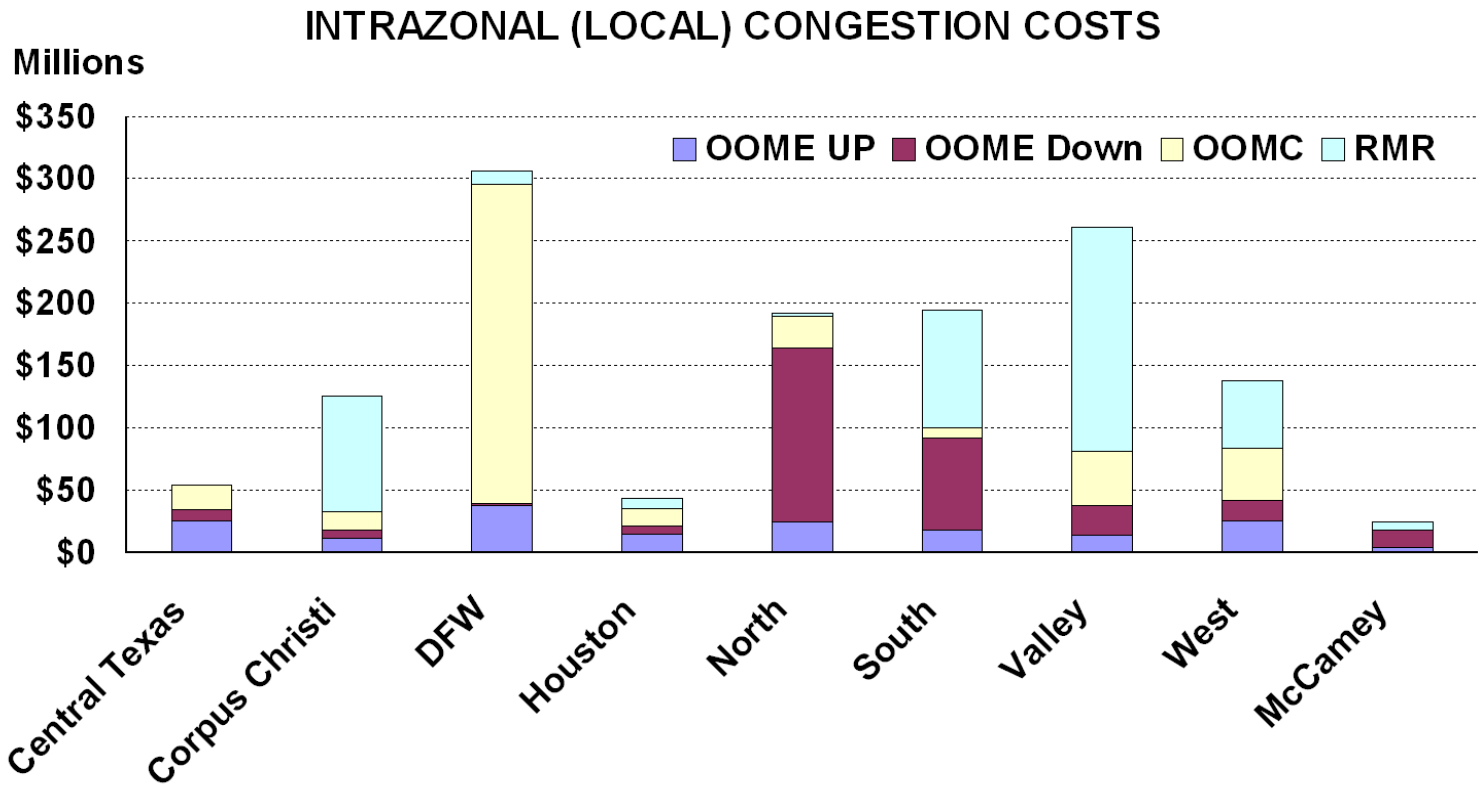
Intrazonal congestion is usually remedied by running higher cost, less efficient generation in the local area to reduce transmission flows and to improve the voltage profiles in the area. To resolve intrazonal congestion, three different ERCOT market services for the use of generation-unit-specific deployments are used. These are Out-of-Merit Energy (OOME), Out-of-Merit Capacity (OOMC), and Reliability Must-Run (RMR). The cost of providing these services is collectively defined as intrazonal (local) congestion costs and is uplifted to all load-serving entities within the ERCOT Region.

As described above, intrazonal congestion costs are highly dependent on local generation availability, the limits of the current transmission infrastructure (including the impact of scheduled and non-scheduled outages), the local area demand, and projected load growth. ERCOT is working diligently with market participants to develop both short-range and long-range plans to minimize intrazonal congestion costs. As a result, due to new transmission and other operational improvements, annual intrazonal congestion costs were reduced from over $400 million in 2003 to $267 million in 2005 and about $150 million from January through August 2006, as illustrated in the graph.

CONGESTION COSTS






INTRAZONAL (LOCAL) CONGESTION COSTS
Millions
$350
$300
$250
$200
$150
$100
$50
$0
OOME UP
OOME Down
OOMC
RMR
Central Texas
Corpus Christi
DFW
Houston
North
South
Valley
West
McCamey

IMPROVEMENT COSTS

Improving the reliability and capability of the ERCOT transmission system for the economic benefit of all users has a price. Since 2005 ERCOT TSPs have completed projects costing approximately $1.3 billion. The projects that are being considered over the next five years to meet the growing electricity needs are estimated to cost $3.1 billion. The financial investment and amount of work required to develop these projects are considerable.

Improvement Projects

Transmission system reinforcements needed to maintain national and regional reliability standards are built by transmission owners and paid for by consumers. Interconnection of new generation and decommissioning of generation may also require the upgrading of additional system elements to maintain reliability.

Through current congestion costs, projected congested elements, and RMR requirements, ERCOT identifies the portions of the transmission grid prone to persistent congestion and increased cost and proposes cost-effective solutions to resolve those constraints and reduce the cost to consumers.

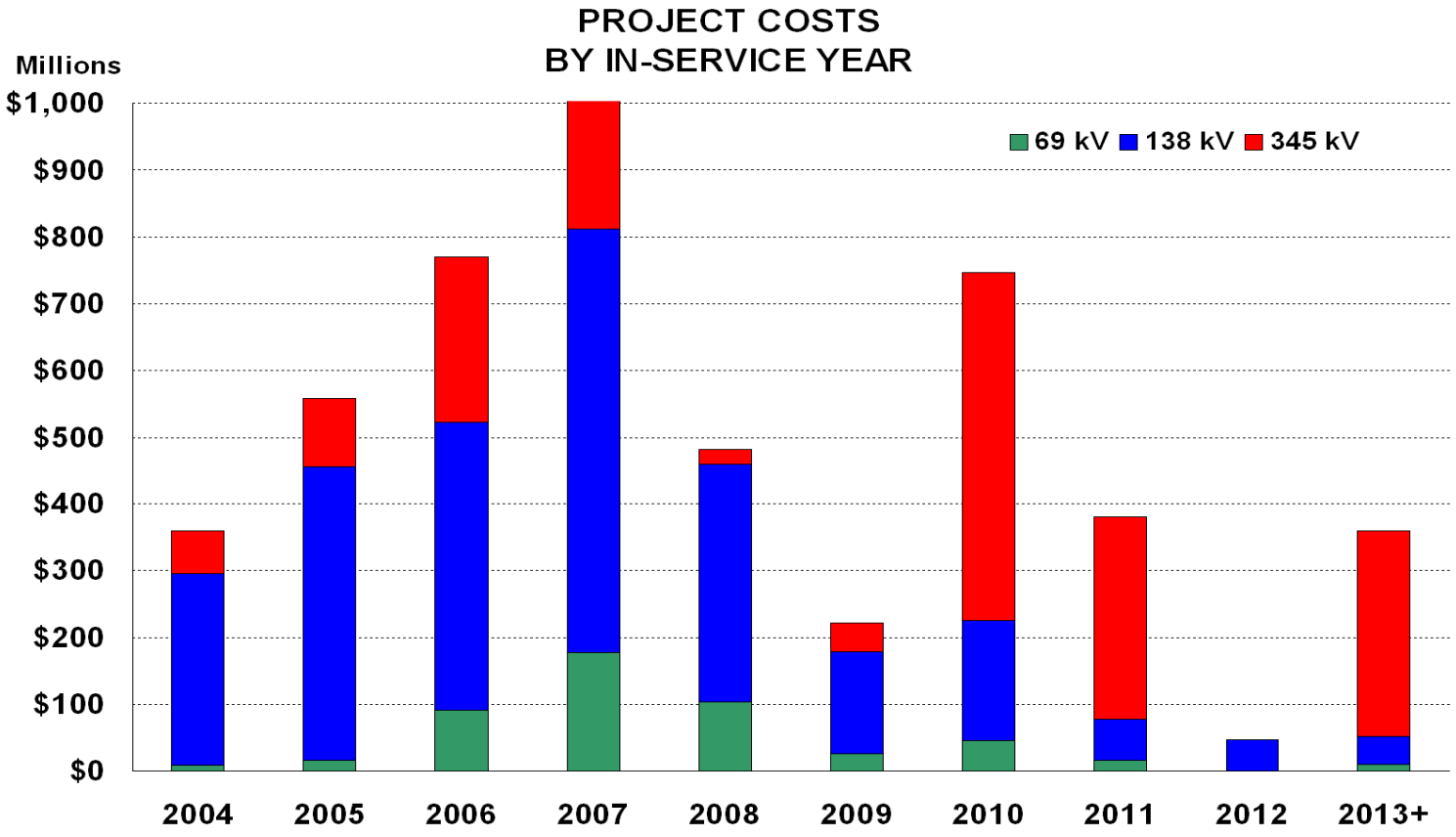
The following figures show improvements based on the projects identified and do not reflect actual overall transmission cost, including operations and maintenance, in a given year. The actual costs for a single project will be spread over several years to account for engineering, regulatory approvals, material, right-of-way procurement, construction, etc. Therefore, ERCOT strongly recommends caution in using the cost figures presented for reasons other than intended by this report.

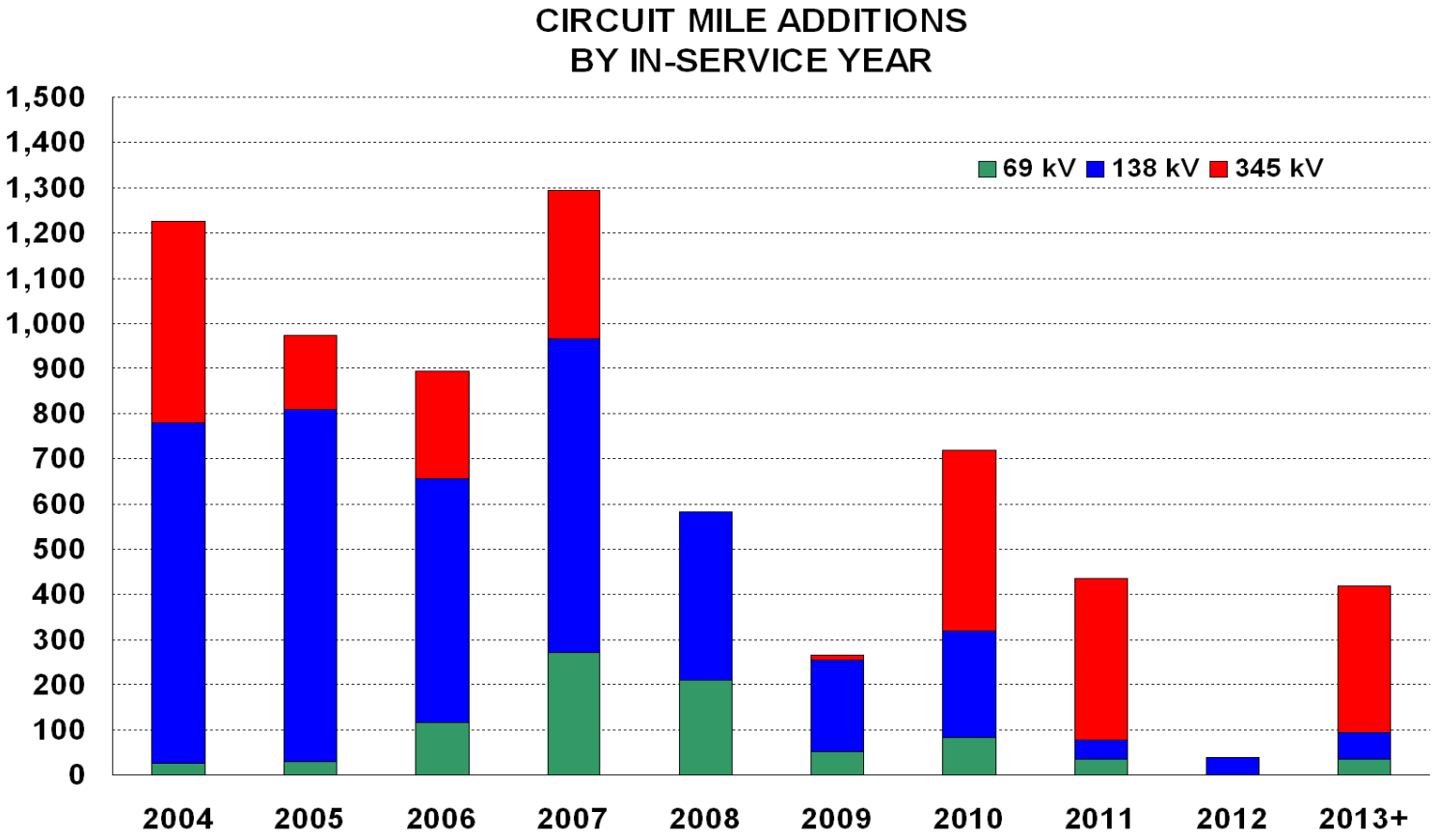
Since 2005 TSPs have completed projects improving 1,800 circuit miles of transmission lines and adding 22,000 MVA of autotransformer capacity. The projects that are now being considered over the next five years are expected to improve 3,295 circuit miles of transmission lines and add 17,900 MVA of autotransformer capacity. The graphs below provide a breakdown of both completed and recommended project costs, circuit miles, and transformer MVA by in-service year.

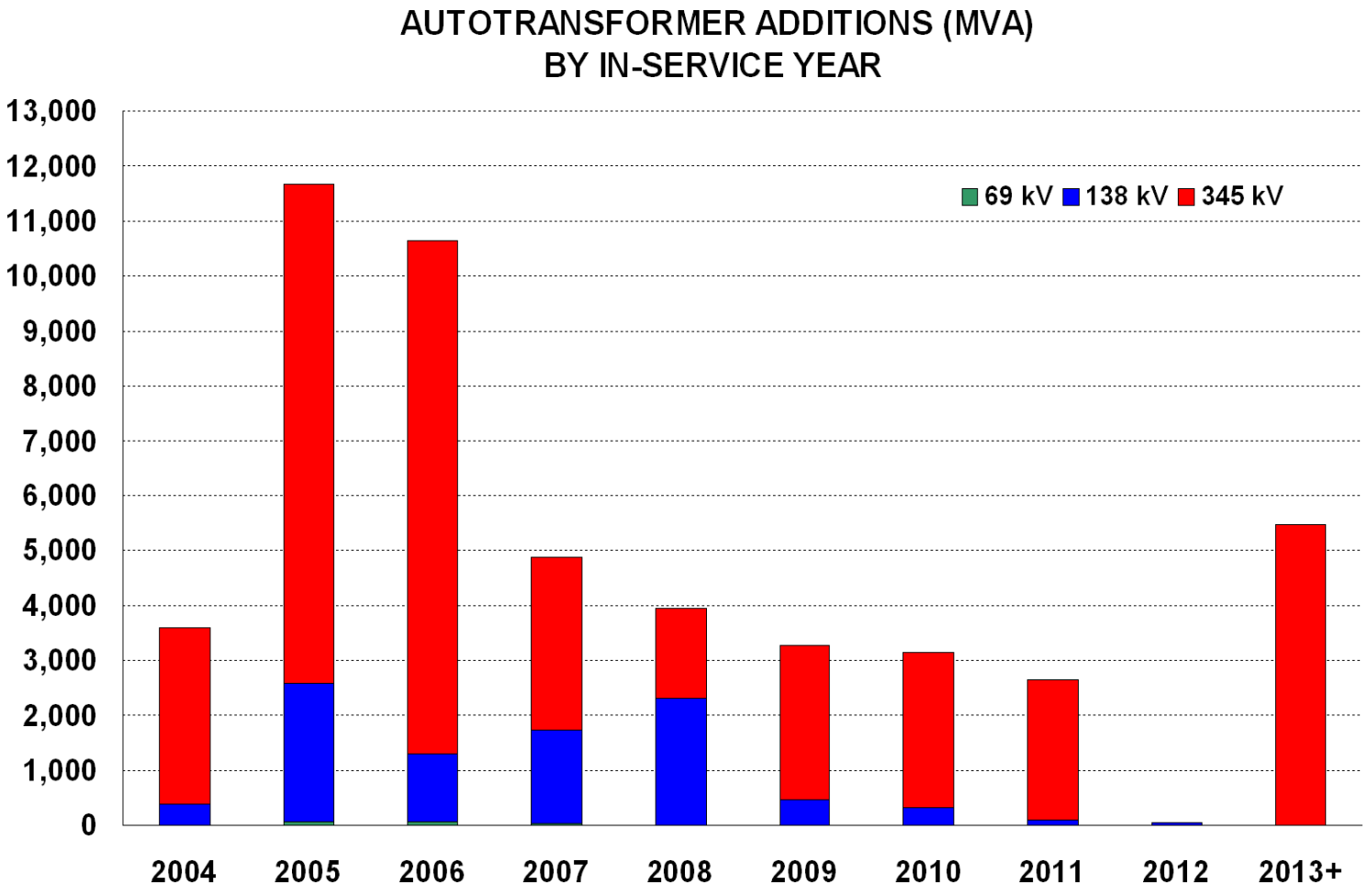
Comparing Improvement Costs to Congestion Costs

Direct comparison of improvements costs and congestion costs is possible only when factoring in the time frame. Improvement costs are spread over many years while congestion costs are paid for on an annual basis. It is imprecise to directly compare them side by side.

IMPROVEMENT COSTS






AUTOTRANSFORMER ADDITIONS (MVA)
BY IN-SERVICE YEAR
69 kV
138 kV
345 kV
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013+

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AREA CONSTRAINTS AND IMPROVEMENTS

This section provides maps showing recent constraints, completed improvements, planned improvements, and projected constraints on the ERCOT power system. Separate graphics, along with discussion and detailed information, are provided by weather zone. The graphics are based upon a geographic map of the power system with highlights of that weather zone. Elements at 345 kV are illustrated in red, 138 kV are in blue, and 69 kV are in green. Power plants are illustrated with square blocks, and stations are indicated with circles.

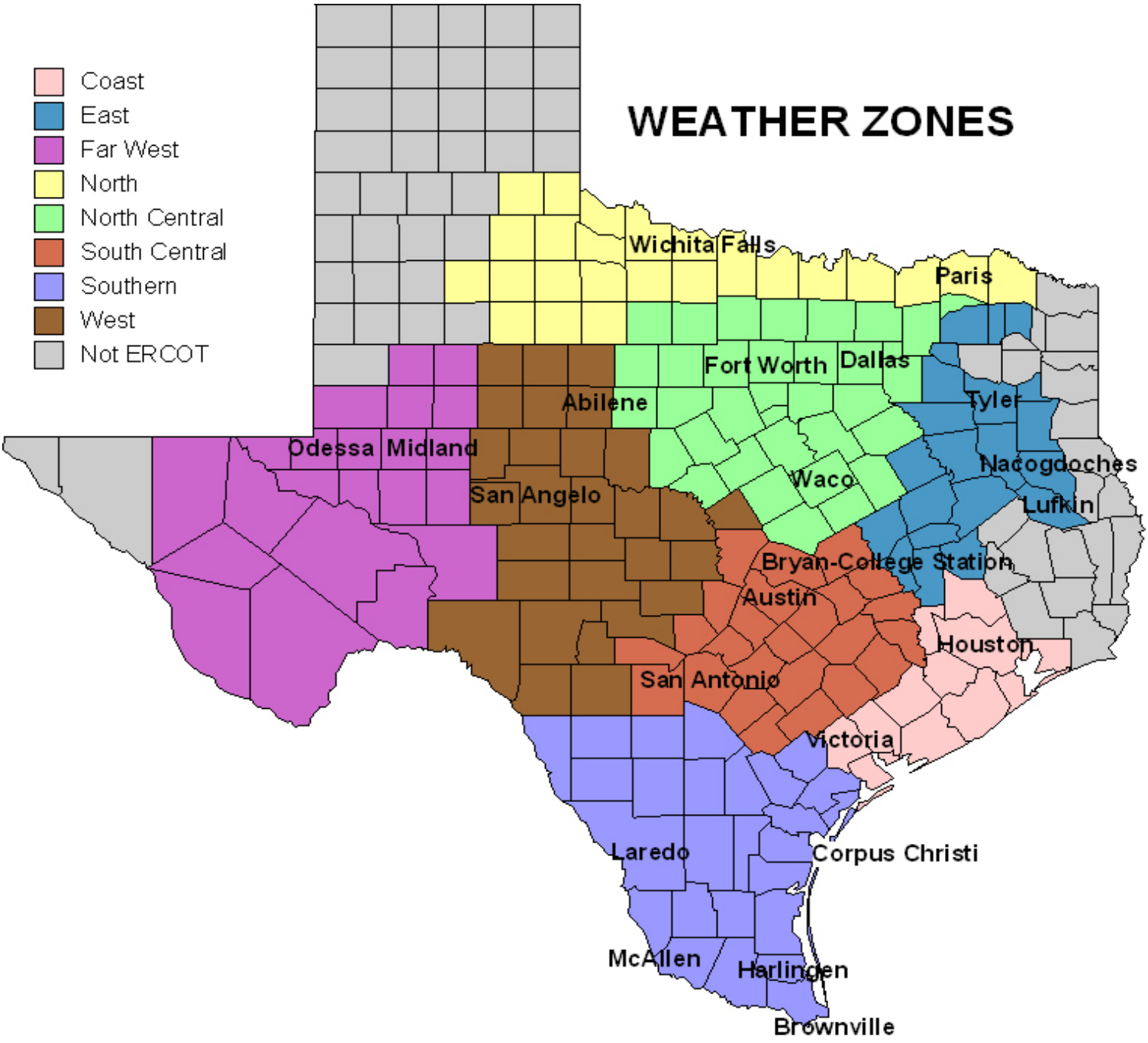
Recent Constraints are the limitations on the system that have caused local congestion in 2006 as reported in monthly operations reports. The illustrated constraints were not necessarily experienced throughout this period. Constraints may change due to generation changes, transmission and generation outages, construction schedules for transmission improvements, and changing load patterns.

Completed Improvements are the additions to the transmission system made in 2005 and 2006.

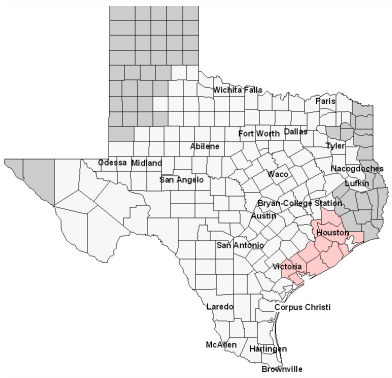
Planned Improvements are the additions currently underway or being studied in ERCOT and TSP analyses. For the first time this section includes the results of ERCOT's five-year plan development. The **ERCOT Review** designation in the planned improvements tables refers to projects which either have been reviewed by the appropriate RPG pursuant the ERCOT planning charter and process or are included in the ERCOT five-year plan. The planned improvements listed in each weather zone section are generally the most expensive projects in that area. The appendix contains a comprehensive list of planned transmission improvements for the ERCOT system.

Projected Constraints are based on the analysis done in ERCOT's annual five-year plan using the UPLAN model. UPLAN is an hourly security-constrained unit-commitment and economic-dispatch model. The UPLAN model determines an optimal unit commitment and dispatch based on the assumption that units will be bid into a nodal market at their variable cost of generation. Security constraints can cause the model to deviate from the most economic dispatch on an hourly basis. The measure of this deviation is marginal congestion which is defined as the Rate-B MVA line capacity multiplied by the shadow price on the limiting transmission element in the hour the congestion occurs. The annual sum of marginal congestion for each limiting constraint is reported in the projected constraints table in descending order of cumulative severity for five years. The amount of annual marginal congestion for each element is categorized by color. Dark brown represents the most severe congestion. Yellow represents the least congestion. Light brown represents a level of severity between yellow and dark brown.

Graphics Directory



Recent Constraints 2006



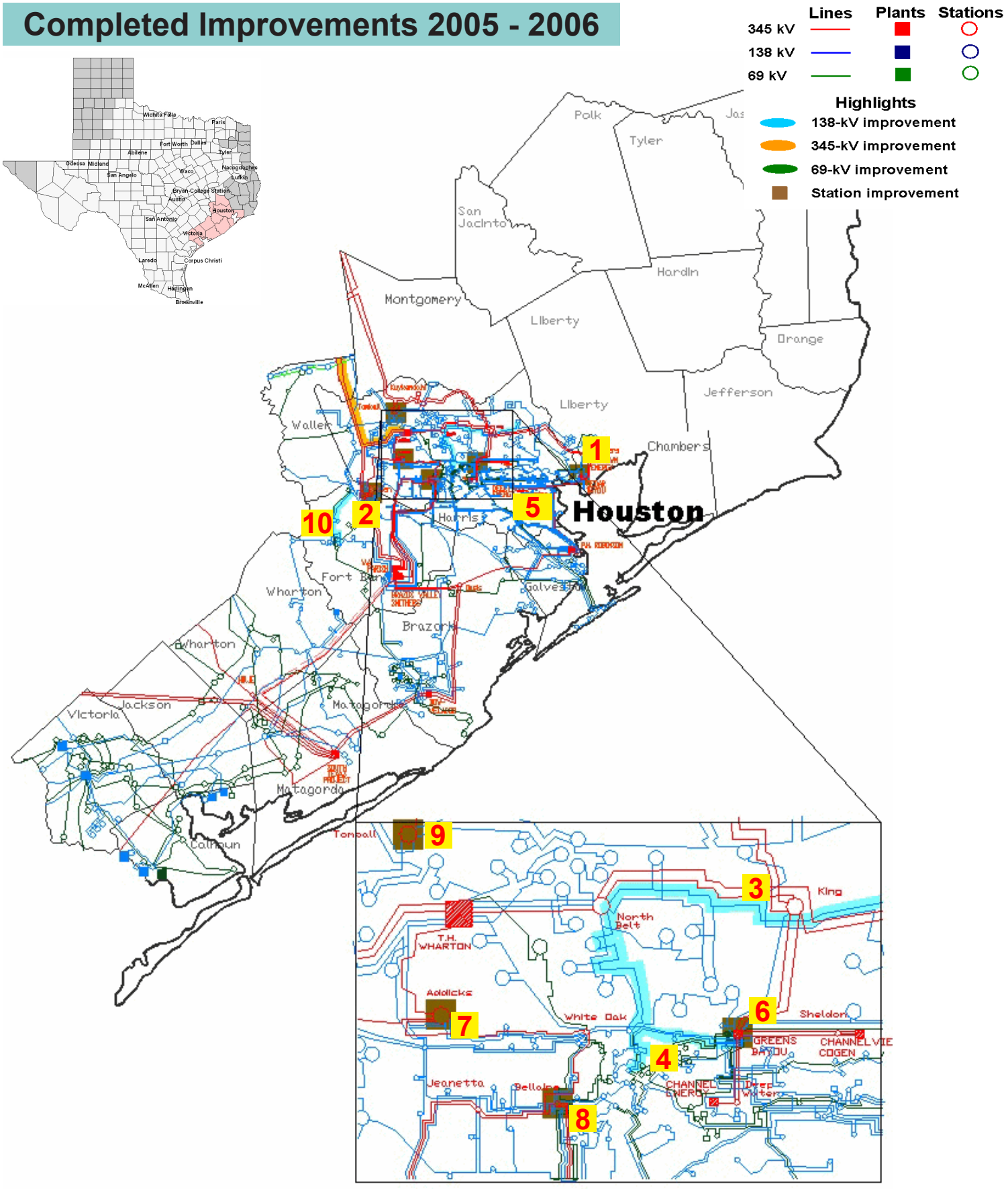
COAST WEATHER ZONE

The Coast weather zone is primarily made up of the Houston area which is one of ERCOT's two largest load centers. In 2005 much of the local generation was decommissioned. This decrease in local generation, combined with the continued load growth in the area, has caused a higher portion of Houston's load to be served by generation outside the Houston area. This has put a strain on the transmission lines importing power into the area from the north and south. Some of the congestion was incurred during the time periods that these lines taken out of service to be upgraded.

Map Index	Constraining Element	Voltage Level, kV
1	STP - W A Parish	345
2	Blessing - Lane City	138
3	Tomball - Jewett	345
4	Prairie View - Hempstead/Waller	138
5	Blessing - Lolita	138

COAST WEATHER ZONE

Completed Improvements 2005 - 2006

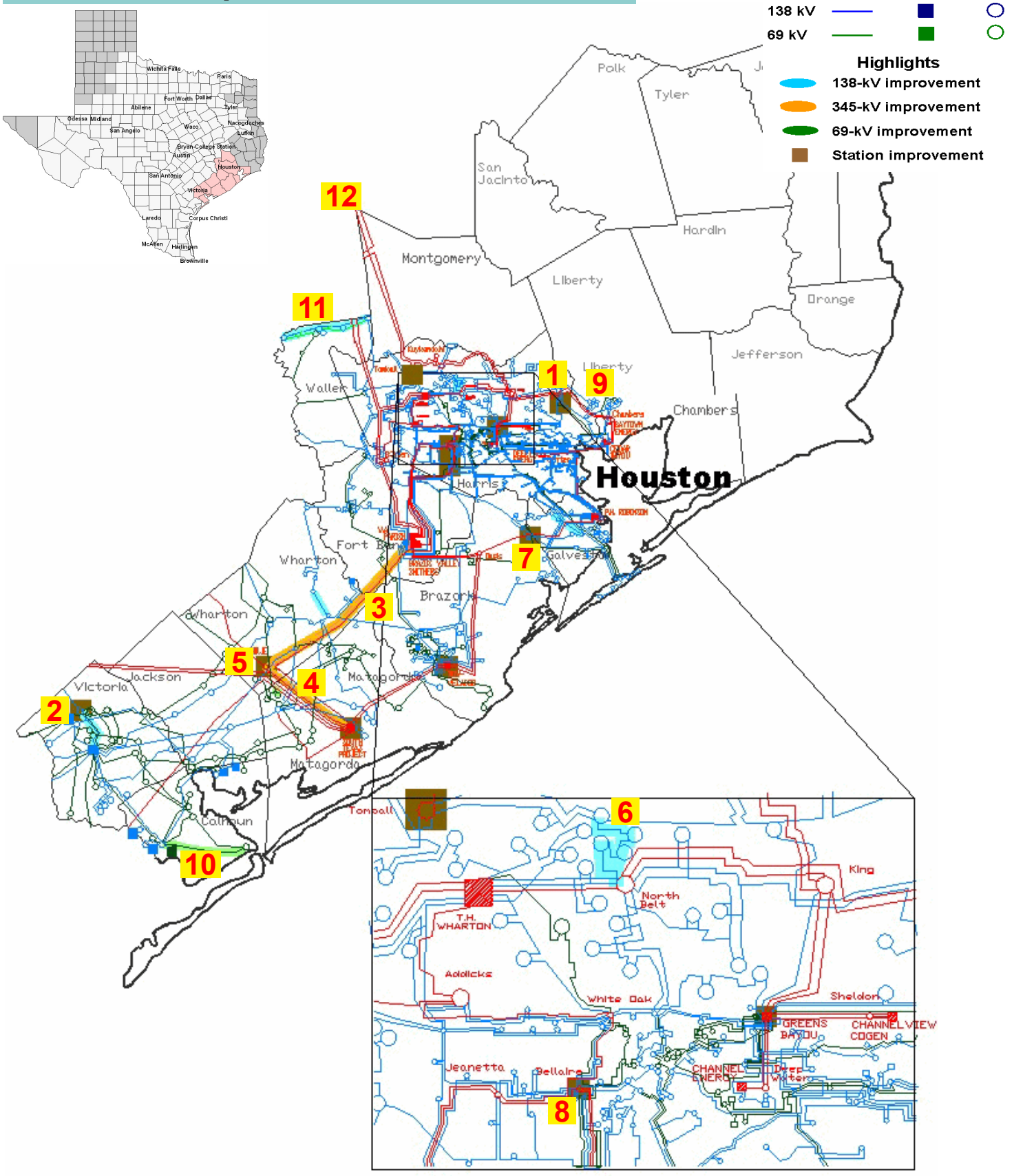


COAST WEATHER ZONE

A number of substation equipment upgrades that increase the rating of the circuits and autotransformers have been accomplished in the Coast weather zone. The map shows upgrades to six 345/138-kV autotransformers and four 138-kV circuits. However, there have been numerous other upgrades to the 345-kV, 138-kV, and 69-kV transmission in the Coast weather zone. Many of these upgrades were accomplished by raising the height of the conductors, by raising the operating temperature of the circuit, or by replacing the conductor. The Coast weather zone has many relatively short lines that have been upgraded. There are far too many of those upgrades to show on this map.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Cedar Bayou autotransformer	345/138	2005	
2	Obrien autotransformer	345/138	2005	
3	Newport - Hardy upgrade	138	2005	27
4	Greens Bayou - Gable St. upgrade	138	2005	13.3
5	Cedar Bayou - Baytown upgrade	138	2005	10.8
6	Greens Bayou autotransformer	345/138	2006	
7	Addicks autotransformer	345/138	2006	
8	Bellaire autotransformer	345/138	2006	
9	Tomball two autotransformers	345/138	2006	
10	Flewellen - Fort Bend upgrade	138	2006	10.8

Planned Improvements 2006 - 2011



COAST WEATHER ZONE

Planned transmission upgrades in the Coast weather zone have focused on increasing the import capability into the Houston area by removing thermal constraints and raising transient voltage stability limits. The Houston Import Project was given "critical" status and consists of several projects that will relieve thermal constraints for imports into Houston. Major components of the Houston Import Project that have not been completed include the new 345-kV Hillje station, a new 345-kV double-circuit line from Hillje to W A Parish, and a new 345-kV single-circuit line from Hillje to STP. These projects are all scheduled for completion by June 2007. Dynamic reactive devices are planned for installation at the 138-kV Bellaire South and Crosby buses in 2008. These devices will be installed to address the need for additional dynamic reactive support in the Houston area.

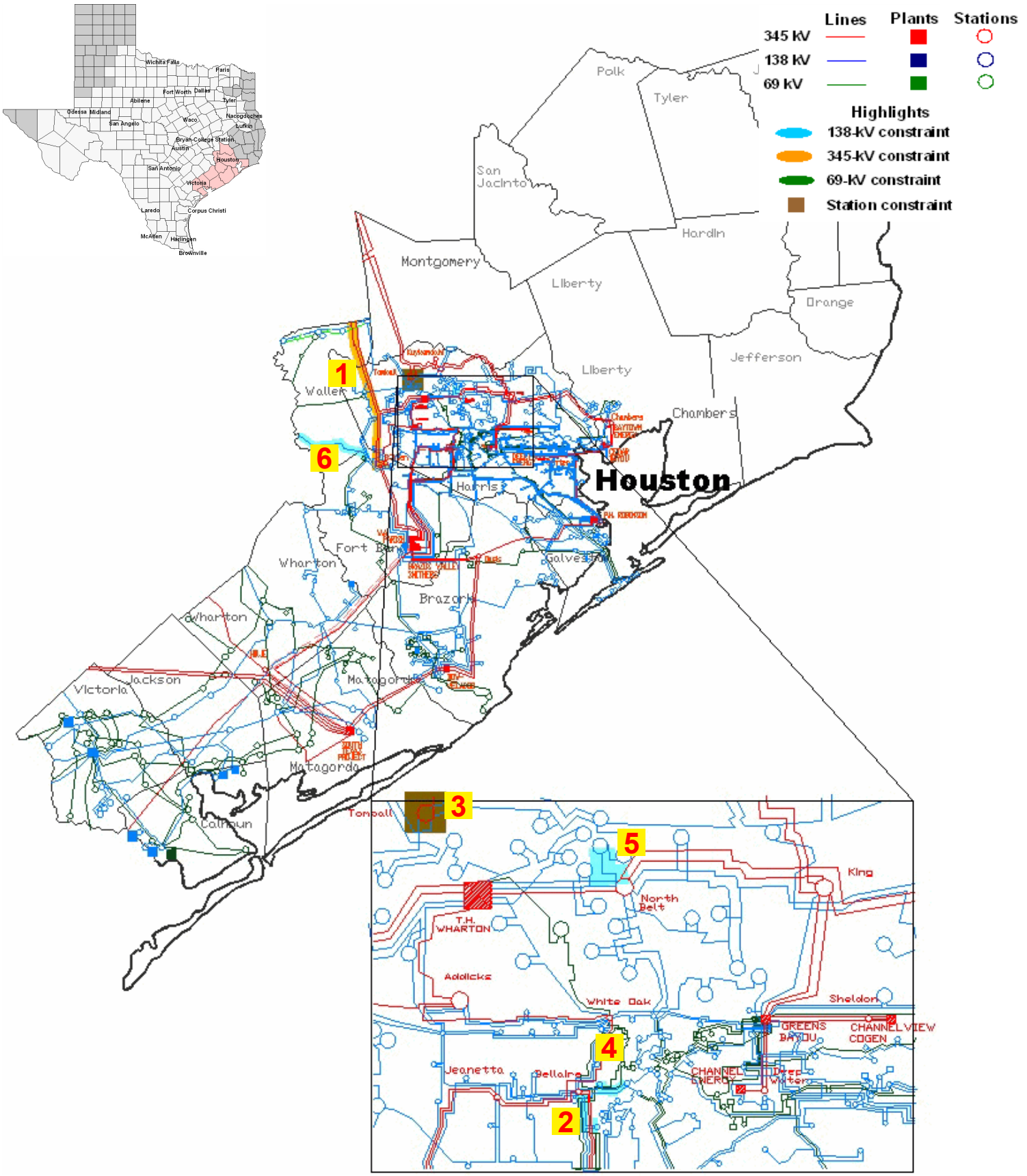
Several other thermal upgrades are also planned in the Houston area. The most notable of these include a new 138-kV station named Dyann in the T H Wharton – South Lane area to facilitate the new Colorado Bend plant, the addition of a 345/138-kV tie between CenterPoint and Texas-New Mexico at Alvin, and construction of a new Union Carbide to Port O'Connor 69-kV line.

Another system upgrade that will have significant impact on the North to Houston import is the upgrade of the Waller to Prairie View to Macedonia 138-kV circuit that is scheduled for 2009. That circuit will be operating with an SPS to protect it from contingency overloads and still allow increased imports.

The addition of the Singleton switching station north of Houston is discussed as a planned improvement in the East weather zone.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Crosby autotransformer upgrade	138/69	2007	✓
2	Dyann switching station	138	2007	N/A
3	Hillje - Parish double circuit	345	2007	✓
4	Hillje - STP single circuit	345	2007	✓
5	Hilje switching station	345	2007	✓
6	Westfield-Northbelt upgrade	138	2007	✓
7	Alvin 345/138-kV autotransformer	345/138	2008	✓
8	Dynamic reactive device at Bellaire	138	2008	✓
9	Dynamic reactive device at Crosby	138	2008	✓
10	Union Carbide - Port O'Connor	69	2008	
11	Waller - Prairie View - Macedonia upgrade	138	2009	✓
12	Singleton switching station	345	Undecided	

Projected Constraints 2006 - 2011



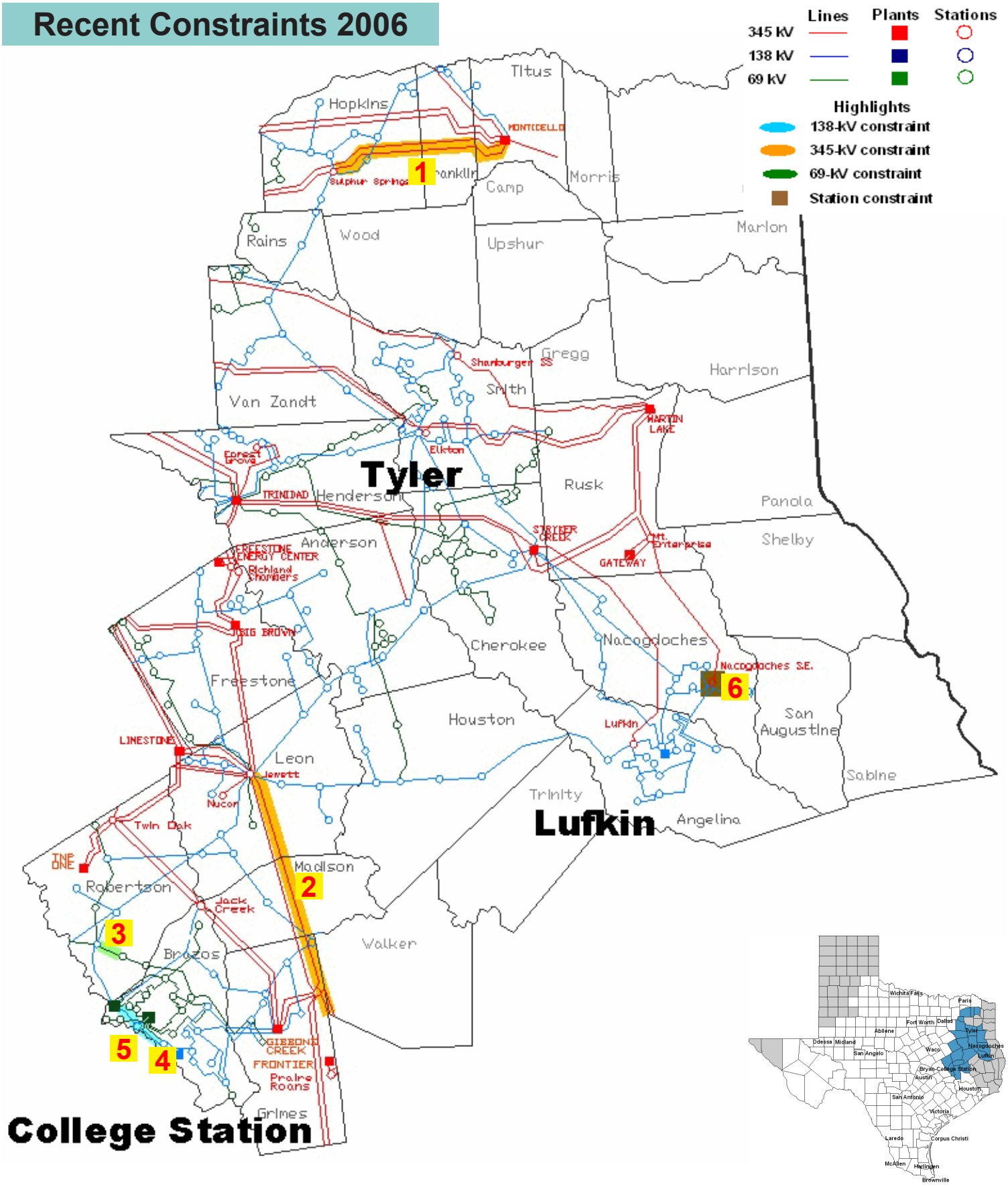
COAST WEATHER ZONE

Recent and planned transmission upgrades have helped reduce congestion into the Houston area as well as improved reliability for that area. However, import limits into the Houston area continue to be a source of transmission congestion. The most notable zonal congestion occurs when limits from the North to Houston Congestion Management (CM) zones are reached. Several future projects are planned to help raise this limit. The improvement with the most immediate impact will be the implementation of an SPS on the Waller to Macedonia 138-kV line in 2007, to be followed by an upgrade of the line in 2009. This improvement will make the limiting constraint the Gibbons Creek to Obrien 345-kV circuit. Eventually, a new Singleton 345-kV switching station and 138-kV work near Tomball will further raise the North to Houston limit. Zonal congestion from the south into the Houston area will be greatly reduced as the 345-kV projects associated with the Hillje Switching Station are completed in 2007.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	Gibbons Creek - OBrien	345					
2	Bellaire - Brays	138					
3	Tomball autotransformer	345/138					
4	Kirby - Garrott	138					
5	Drilco - North Belt	138					
6	Flewellen - Peters	138					

Level of Congestion	High	Medium	Low	None

Recent Constraints 2006

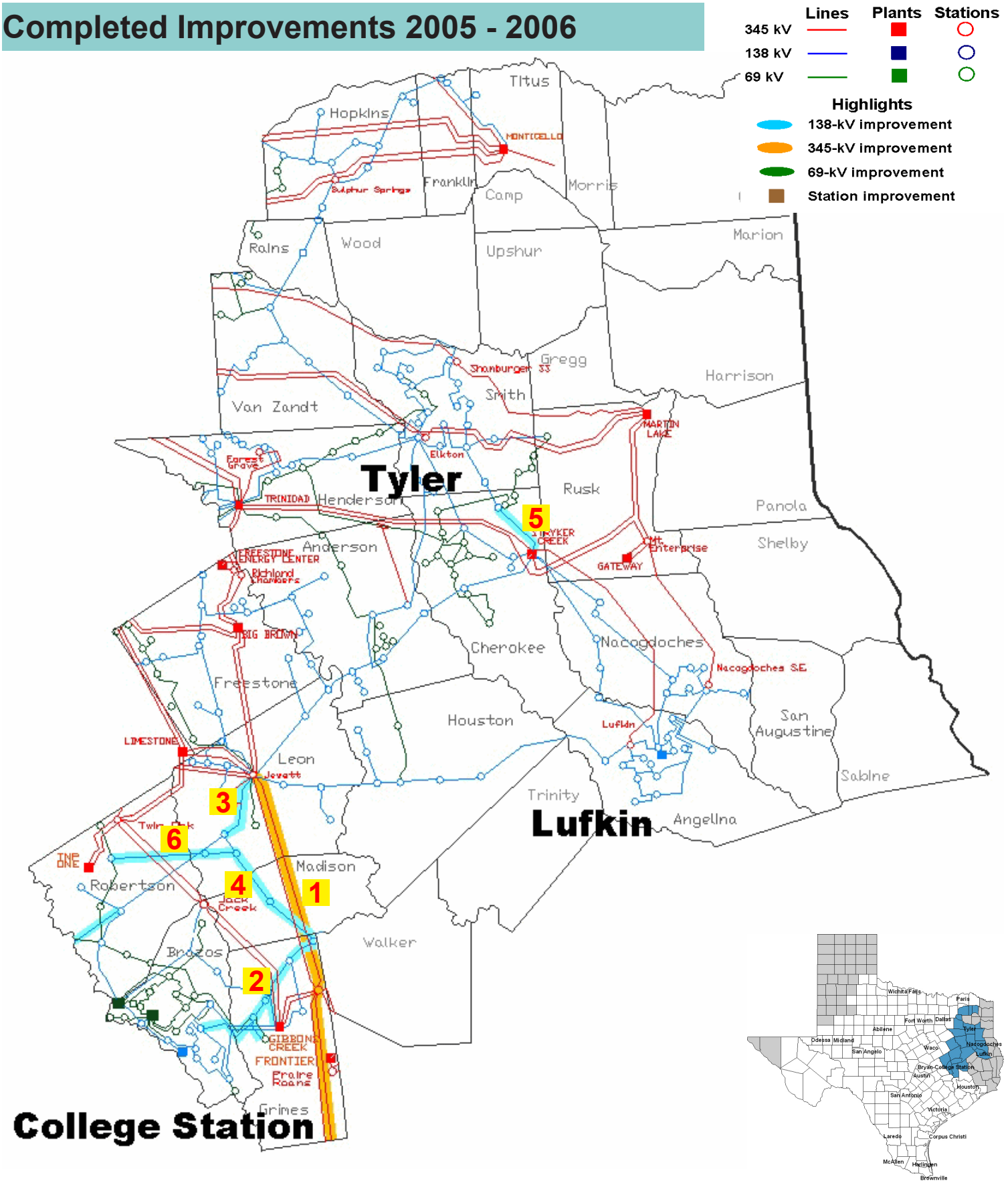


EAST WEATHER ZONE

The East weather zone includes the towns of Bryan, College Station, Tyler, Nacogdoches, and Lufkin. The area has seen moderate load growth in recent years. Load growth and outages due to transmission construction has led to constraints in the Bryan/College Station area. Transmission constraints in the rest of the area are mostly due to transmission construction outages.

Map Index	Constraining Element	Voltage Level, kV
1	Monticello - Sulfur Springs	345
2	Jewett - Tomball	345
3	Hearne - Hearne Switch	69
4	Texas A&M Univ - Dansby	138
5	Dansby - Atkins	138
6	Nacogdoches autotransformer	345/138

Completed Improvements 2005 - 2006

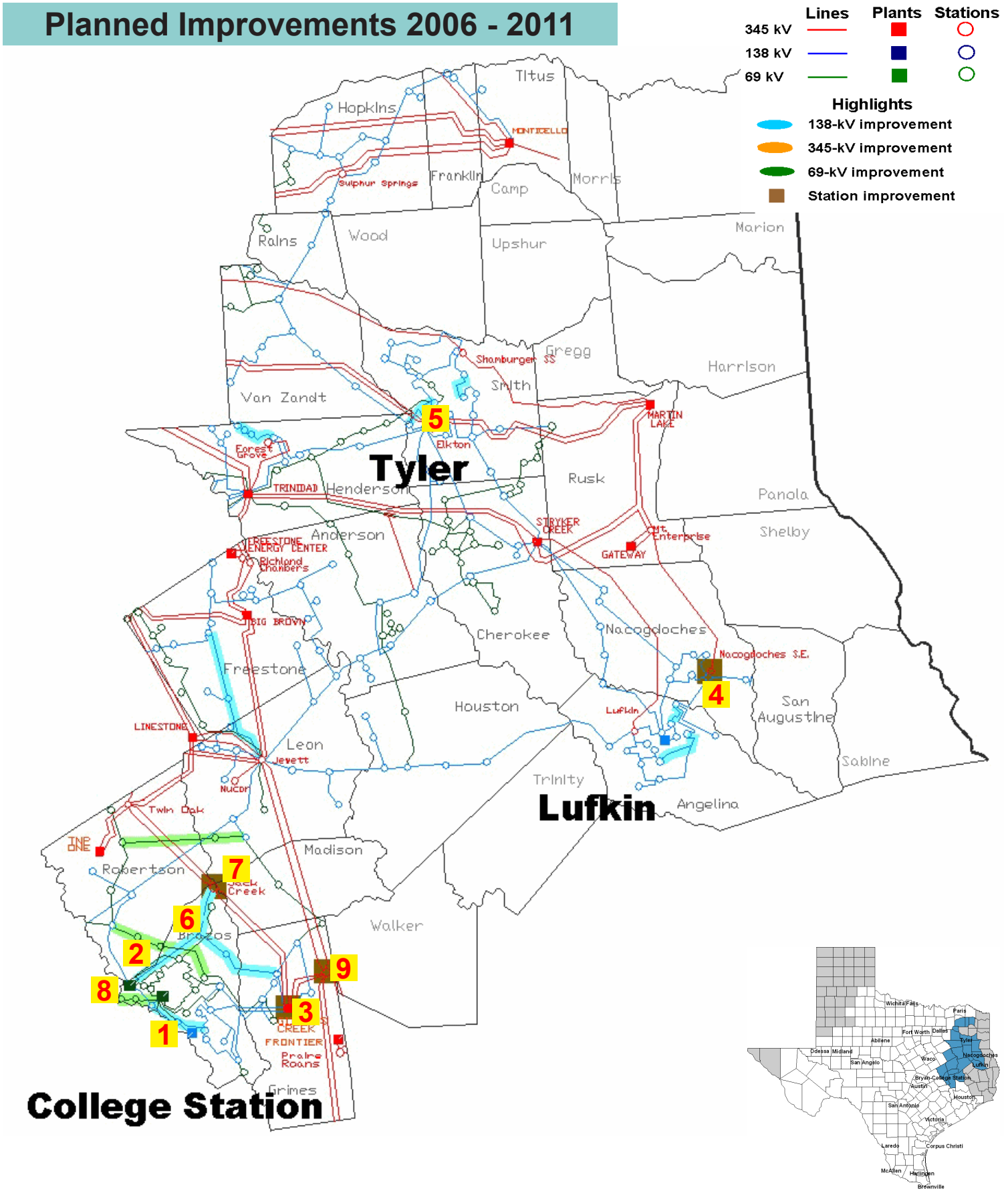


EAST WEATHER ZONE

Most of the East weather zone upgrades were made in the Bryan/College Station area. Load growth in the area has necessitated the conversion of several circuits from 69 kV to 138 kV. The blackout of the Bryan/College Station area in April 2003 helped to spur the development of the Gibbons Creek to College Station Switch project. The The upgrades of the 345-kV circuits from Jewett to T H Wharton and Jewett to Tomball have increased the North to Houston transfer capability. The Stryker Creek to Troup upgrade was driven by load growth in East Texas, and many more circuits will have to be upgraded in the future if load continues to grow in the region.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Jewett - Tomball upgrade	345	2005	117.7
1	Jewett - T H Wharton upgrade	345	2006	96
2	Gibbons Creek to College Station Switch new and upgrade	138	2006	26
3	Jewett to Watson Chapel upgrade	138	2006	21
4	Hilltop Lakes to Iola conversion from 69 kV	138	2006	34.1
5	Stryker Creek to Troup upgrade	138	2006	15.5
6	Hilltop Lakes to Hilltop Lakes Switch upgrade from 69 kV	138	2006	17.2

Planned Improvements 2006 - 2011



EAST WEATHER ZONE

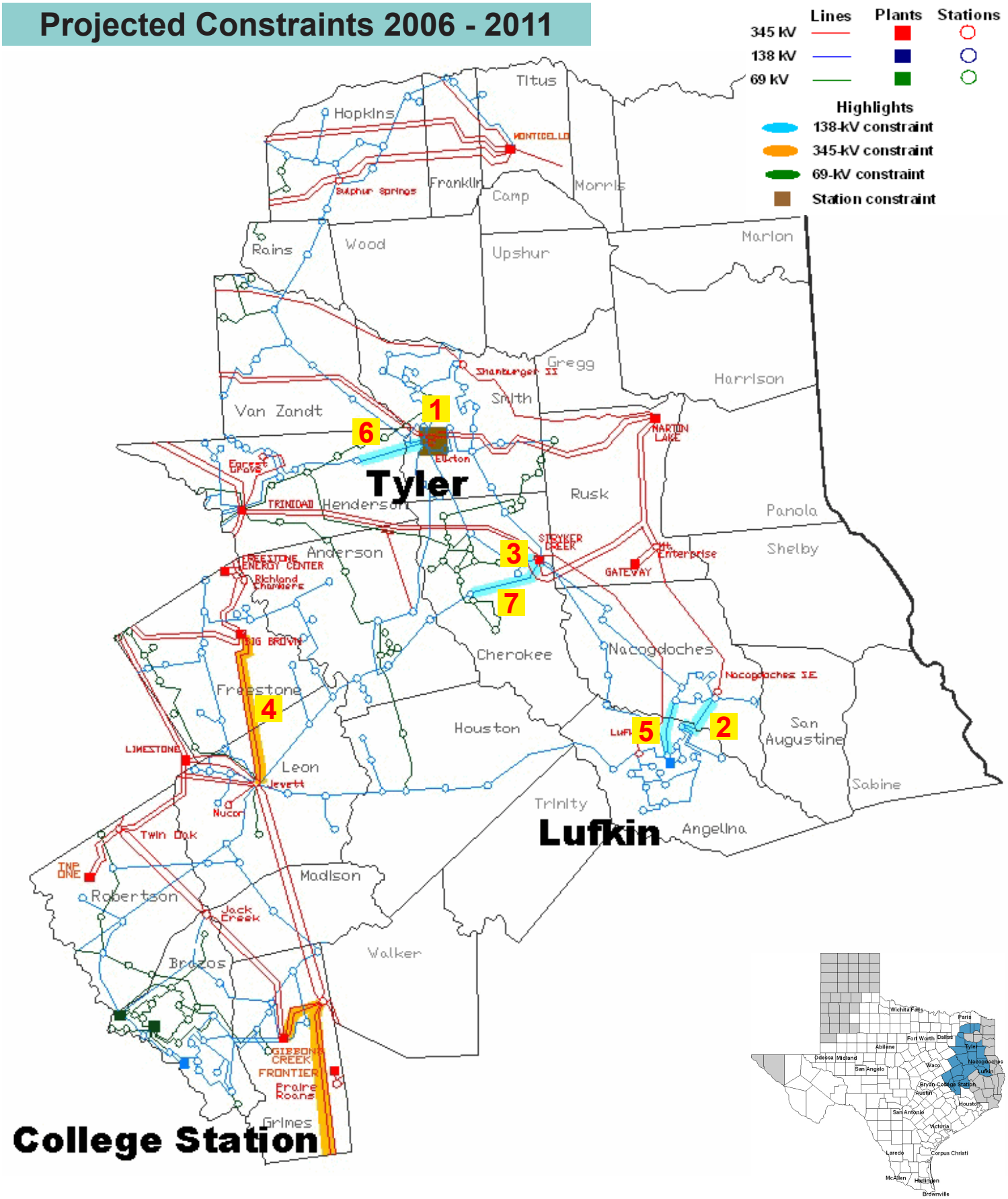
In the East weather zone several significant improvements are scheduled to be completed in the Bryan/College Station area as part of a RPG-approved plan to meet the reliability needs in that area. Many of the improvements included in that plan have already been completed. Projects yet to be completed include the upgrade of the Dansby to Atkins 138-kV line in 2007, a new 138-kV Tabor bus, completion of the Atkins to Jones to Snook conversion, an upgrade of the Hearne to Boonesville 69-kV line, and the new 345-kV station at Jack Creek that will provide 345/138-kV autotransformer on the north side of Bryan. Additional breakers are also planned for the 345/138-kV autotransformers at Gibbons Creek.

The addition of the 345-kV Singleton switching station in northern Grimes County will add outage flexibility to Gibbons Creek and, when coupled with additional autotransformer capacity in the Tomball area, will solve reliability problems in Houston. The new switching station will be located at the intersection of the Jewett to Tomball/T H Wharton and Gibbons Creek to Obrien/Roans Prairie 345-kV double circuits.

In East Texas a second 345/138-kV autotransformer is planned at Nacogdoches, along with upgrades to the 138-kV system between Lufkin and Nacogdoches. In the Tyler area several upgrades are planned for 138-kV lines.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Dansby - Atkins uprade	138	2007	✓
2	Hearne - Boonesville upgrade	69	2007	✓
3	Gibbons Creek upgrade	345	2007	N/A
4	Nacogdoches autotransformer	345/138	2007	✓
5	Elkton - Tyler West upgrade	138	2007	✓
6	Tabor switching station	138	2008	✓
7	Jack Creek switching station	345	2008	✓
8	Atkins - Jones - Snook conversion	138	2011	✓
9	Singleton switching station	138	Undecided	

Projected Constraints 2006 - 2011



EAST WEATHER ZONE

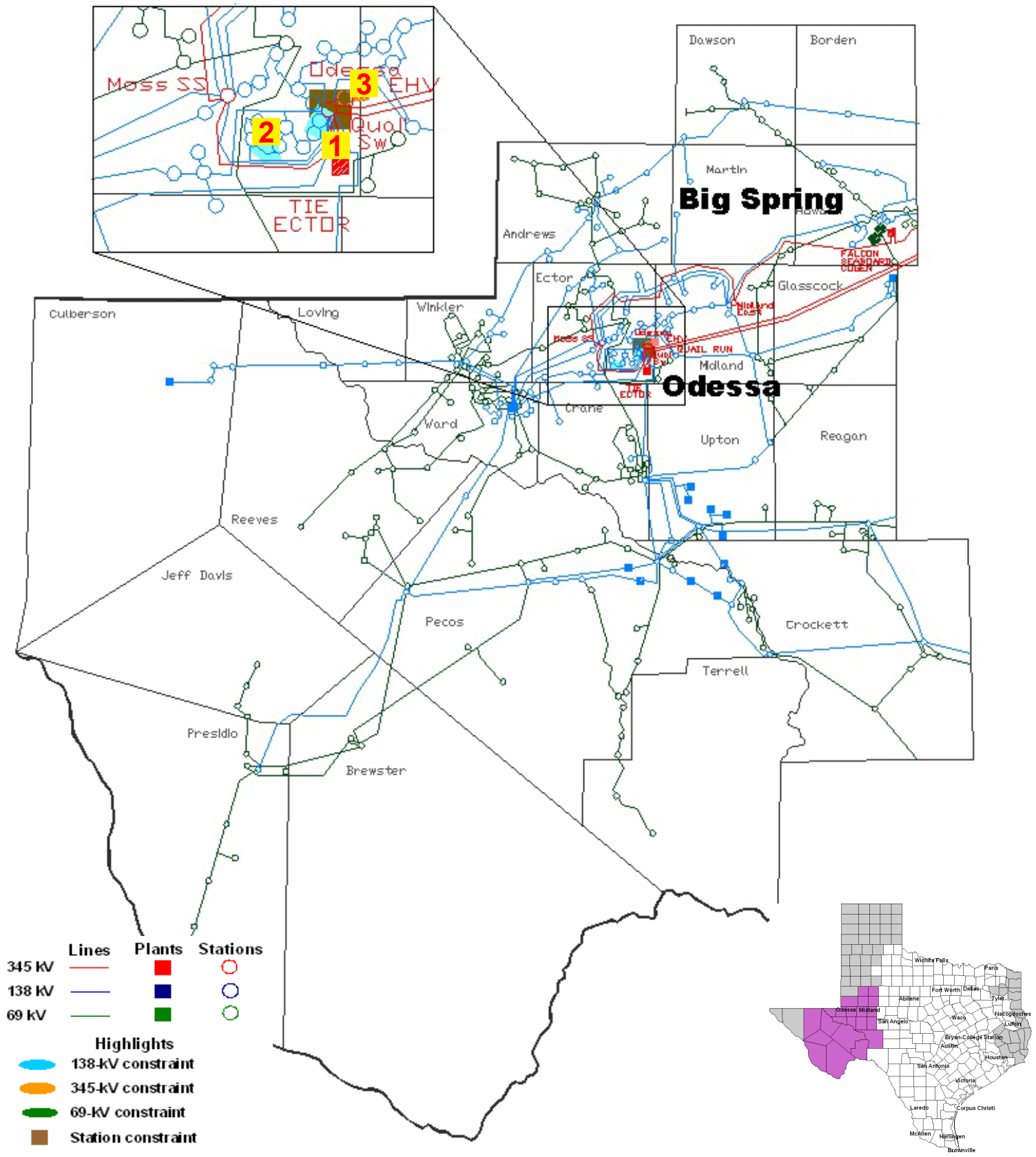
Several large 345-kV lines in the East weather zone are expected to have some degree of congestion in future years. The double-circuit line from Big Brown to Jewett South will see increasing amounts of future congestion that is somewhat relieved by the addition of the Singleton switching station tentatively scheduled for 2011. Congestion on the 345-kV system near Gibbons Creek is also expected. Some 138-kV congestion is also expected near the Stryker, Elkton, and Nacogdoches/Lufkin areas. The potential effect of new thermal generation was not considered in the associated table and map.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	Elkton	345					
2	Nacogdoches SE - North Herty	138					
3	Stryker - Summerfield	138					
4	Big Brown - Jewett South	345					
5	Nacogdoches South - Lufkin	138					
6	Elkton - Athens	138					
7	Stryker - Dialville	138					

Level of Congestion		High		Medium		Low		None

FAR WEST WEATHER ZONE

Recent Constraints 2006

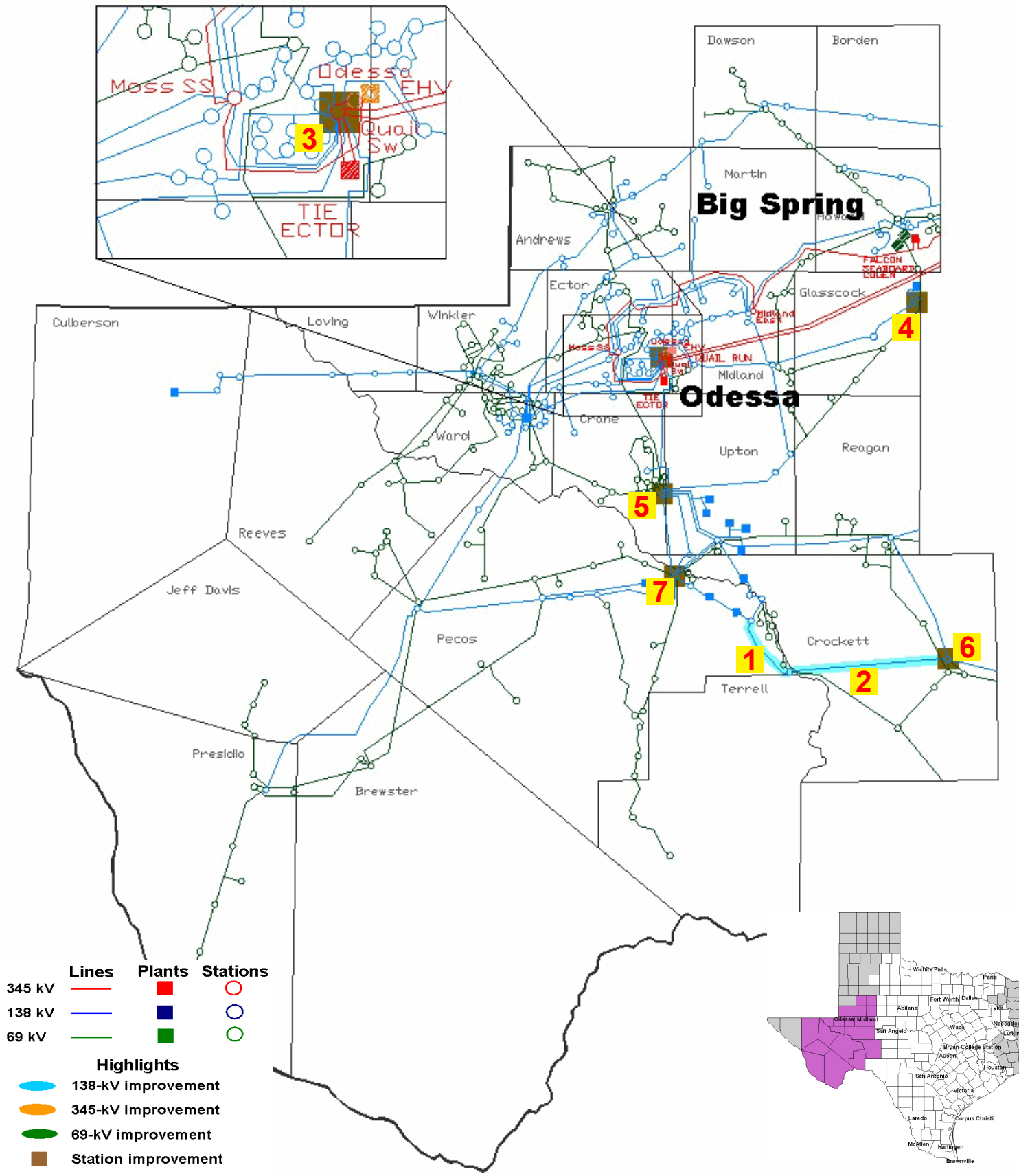


FAR WEST WEATHER ZONE

The Far West weather zone is made up of the mid-sized cities of Midland and Odessa, stretches to the Big Bend area, and includes the McCamey area. Transmission improvements around the McCamey area in recent years have significantly reduced the limitations on wind generation export from the area. Moderate load growth in the Midland/Odessa area has caused some local transmission congestion.

Map Index	Constraining Element	Voltage Level, kV
1	Odessa - Huntsman	138
2	Nylon Tap - Olefin Switch	138
3	Odessa autotransformer	345/138

Completed Improvements 2005 - 2006

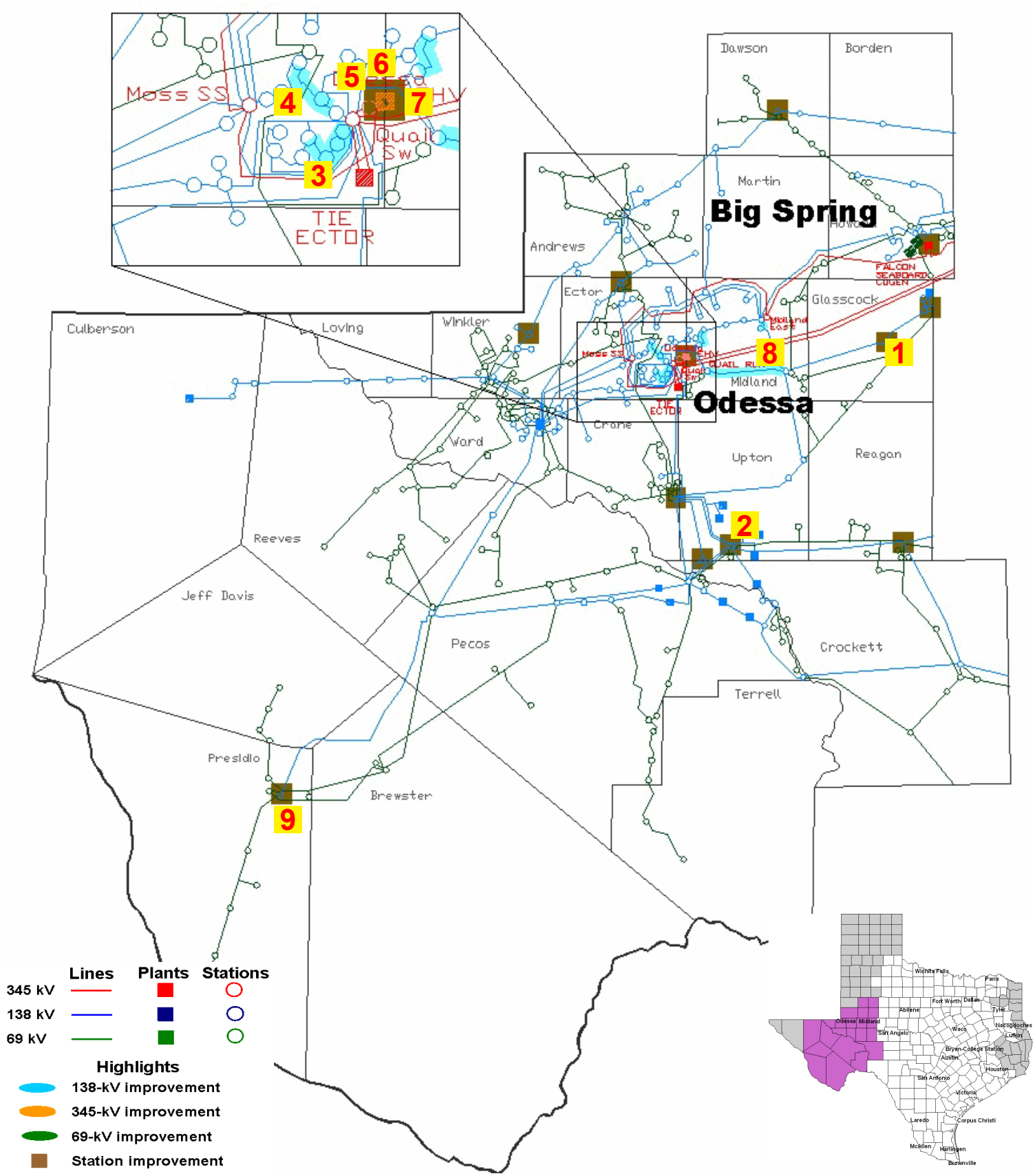


FAR WEST WEATHER ZONE

In 2005 and 2006 two 138–kV circuits were upgraded that improved the transfer capability for the wind generation in the McCamey area. Three dynamic reactive devices (DCRS) were installed to help keep the voltage profile within the operating criteria. Large reactive swings are caused by the fluctuations in the nearby wind generation. The McDonald Road switching station was installed as a hub for new wind generation. The 345/138-kV autotransformer at Odessa was replaced with a larger transformer that will help serve load when generation in the west is not online and also will not overload under certain contingencies.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Mesa View SS to Ft. Lancaster upgrade	138	2005	20
2	Ft. Lancaster to Friend Ranch upgrade	138	2005	43.4
3	Odessa EHV autotransformer replacement	345/138	2006	
4	McDonald Road switching station	138	2006	
5	Crane upgrade +50/-40 MVAR DRCS	138	2006	
6	Friend Ranch +/-25 MVAR DRCS installation	69	2006	
7	Rio Pecos +/-25 MVAR DRCS installation	69	2006	

Planned Improvements 2006 - 2011

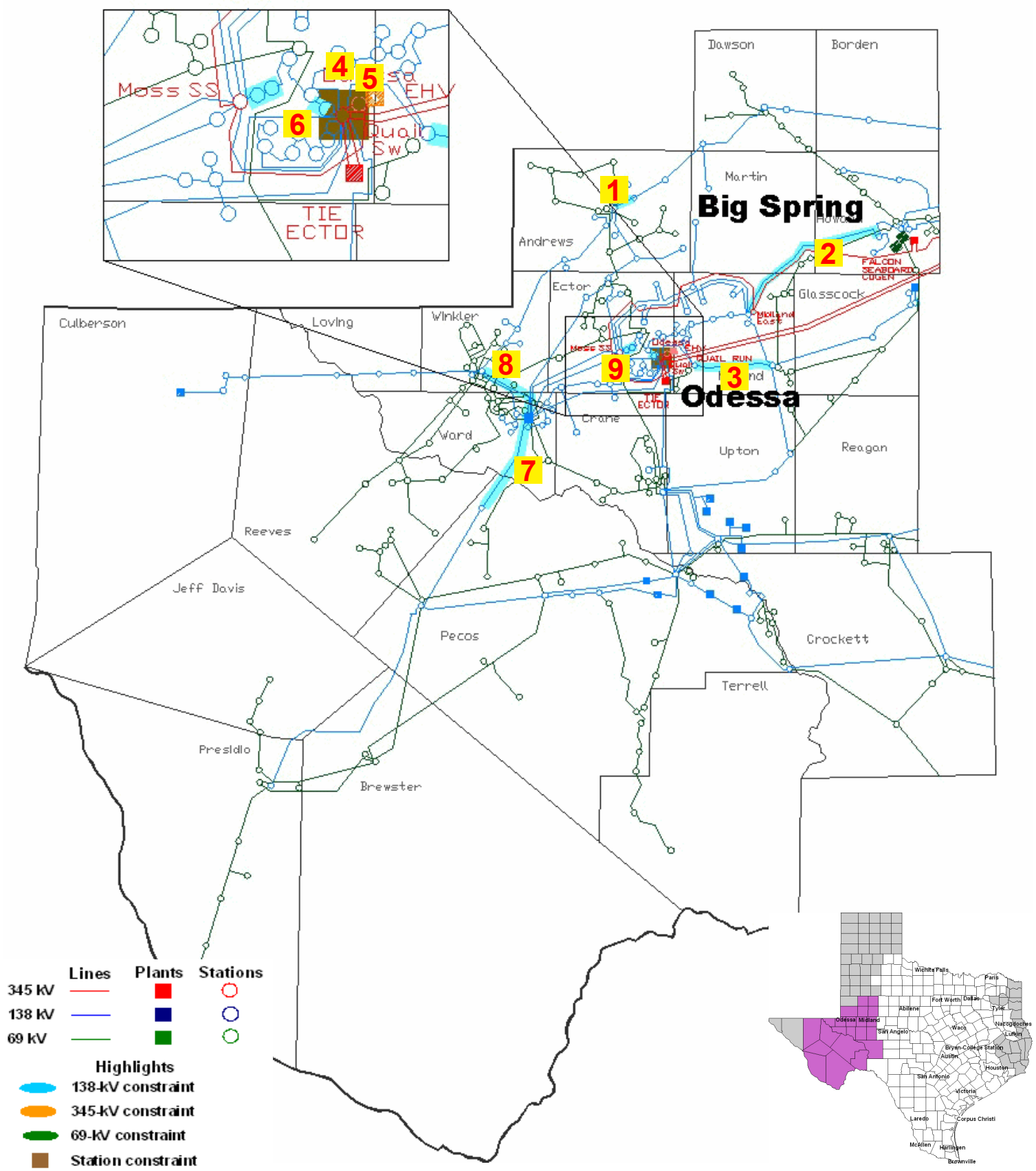


FAR WEST WEATHER ZONE

Transmission improvements planned for the Far West weather zone are primarily in the Midland/Odessa area. These include 345-kV terminal equipment upgrades at Odessa EHV, an upgrade of the Odessa 345/138-kV #1 autotransformer, and 138-kV line upgrades for the Odessa to General Tire and Odessa to Odessa 2 circuits. East of Odessa a new 345-kV Quail switching station will be added to the Odessa EHV to Morgan Creek 345-kV line to facilitate the new Quail Run plant. The T.I. to Spraberry 138-kV circuit will be upgraded in 2007. The remainder of the Spraberry to Morgan Creek 138-kV circuit will be protected from thermal contingency overload by a SPS when new generation is added at McDonald Road. South of the Midland/Odessa area, shunt capacitance will be added in several locations near McCamey.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	McDonald Road switching station	138	2006	N/A
2	McCamery area shunt capacitance	138	2007	N/A
3	Odessa EHV - General Tire upgrade	138	2007	✓
4	Odessa EHV - Odessa 2 upgrade	138	2007	✓
5	Odessa EHV #1 autotransformer upgrade	345/138	2007	✓
6	Odessa EHV terminal equipment upgrades	345	2007	✓
7	Quail switching station	345	2007	
8	T.I. - Spraberry upgrade	138	2007	✓
9	Alamito autotransformer	138/69	2008	✓

Projected Constraints 2006 - 2011



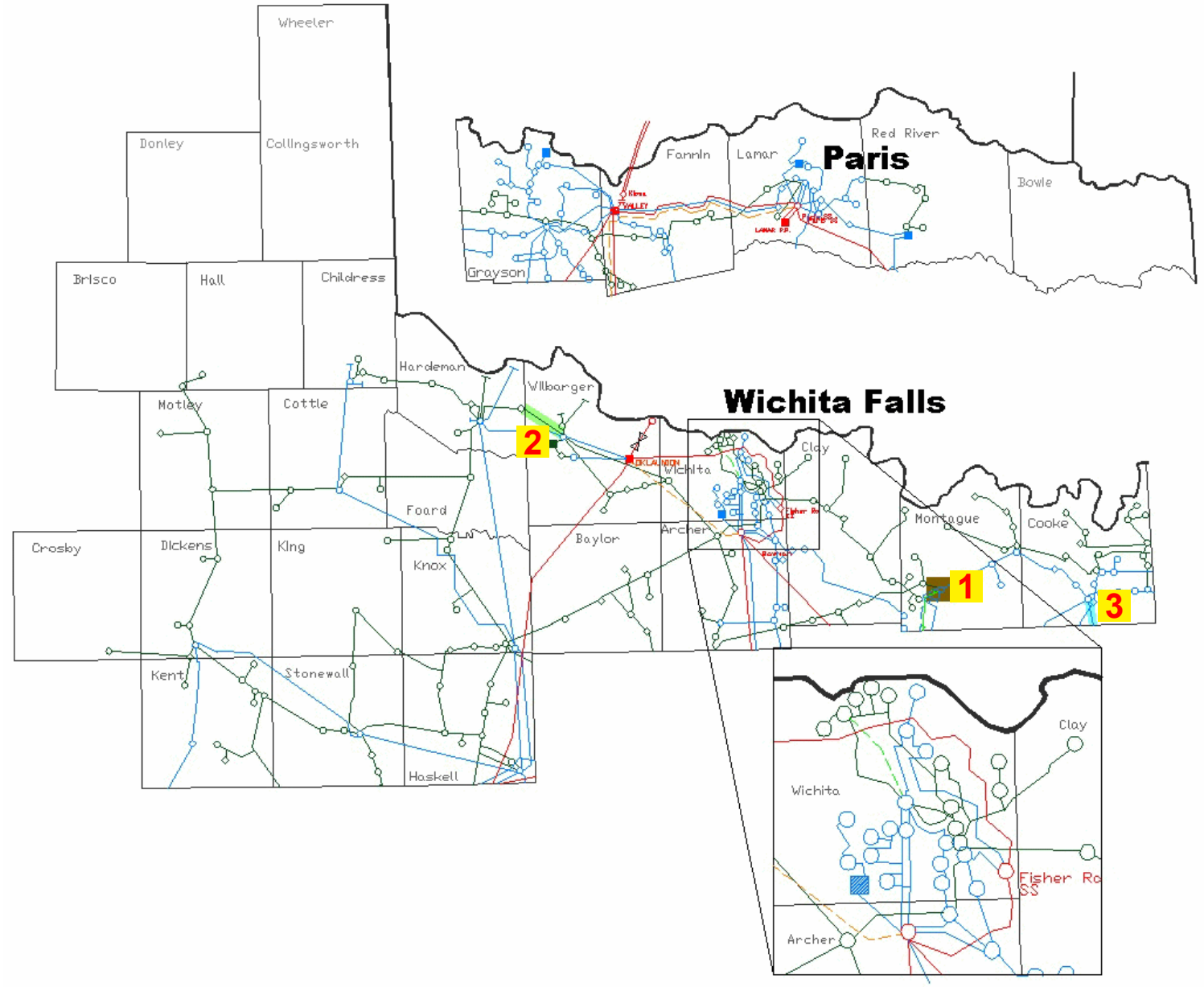
FAR WEST WEATHER ZONE

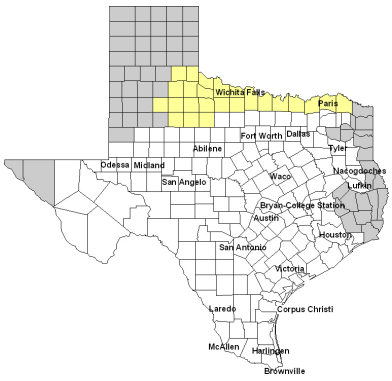
Most of the congestion in the Far West weather zone relates to the existing 345-kV system in the Midland/Odessa area, and the 138-kV system that parallels those lines. Planned 345-kV terminal equipment upgrades increase the rating of the 345-kV lines by approximately 25%. However, this improvement will also increase the need for lower voltage improvements in the underlying system. As in all the zones with wind generation, the amount and placement of new wind generation will greatly impact the location and severity of the associated congestion.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	North Andrews - Exxon Means	138					
2	Midland E - Big Spring W	138					
3	Spraberry - CRMWD7	138					
4	Odessa EHV 1 - Odessa EHV 345	345					
5	Odessa EHV 2T - Odessa EHV	345					
6	Odessa EHV - Odessa	138					
7	Hackberry - Permian Basin	138					
8	Permian Basin - Wind SS	138					
9	Moss - Odessa SW	138					

Level of Congestion	High	Medium	Low	None

Recent Constraints 2006





	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

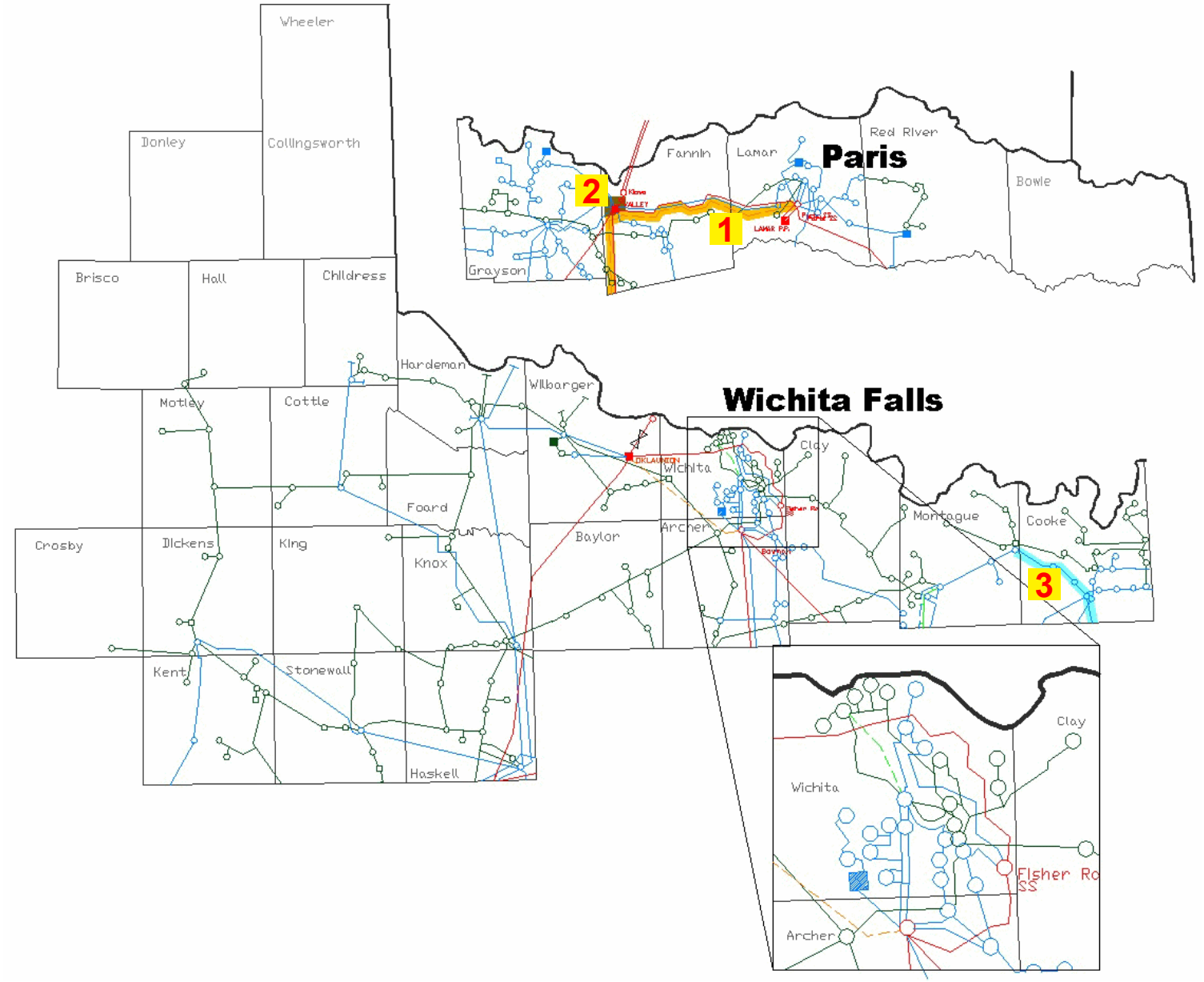
- 138-kV constraint
- 345-kV constraint
- 69-kV constraint
- Station constraint

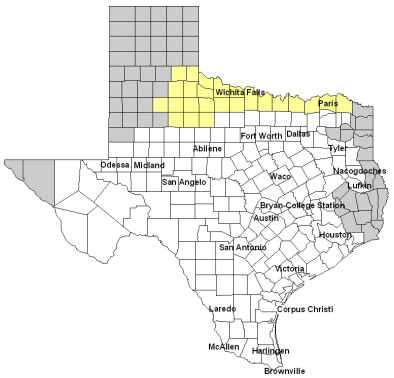
NORTH WEATHER ZONE

The North weather zone includes Wichita Falls and most of the counties bordering Oklahoma along the Red River. The Wichita Falls area has experienced moderate growth, while the area immediately north of the Dallas/Fort Worth metroplex has seen more substantial load growth. The transmission constraints in the area are mostly due to this load growth and transmission construction. Congestion historically experienced in the area has been alleviated due to transmission construction, the use of SPSs, and mothballing of area generation.

Map Index	Constraining Element	Voltage Level, kV
1	Bowie autotransformer	138/69
2	Chilicothe - Vernon	69
3	North Sanger - Spring	138

Completed Improvements 2005 - 2006





	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

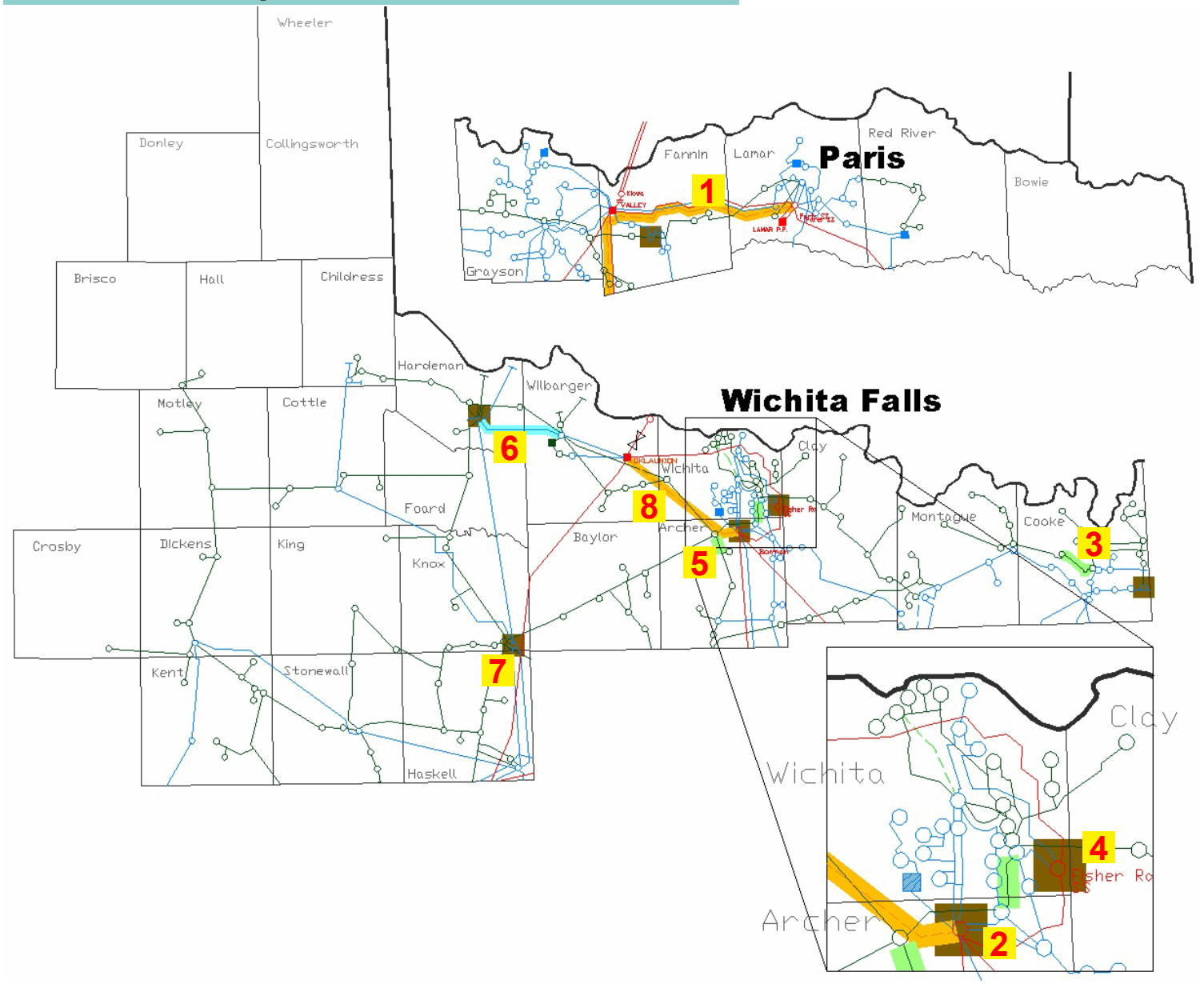
- 138-kV improvement
- 345-kV improvement
- 69-kV improvement
- Station improvement

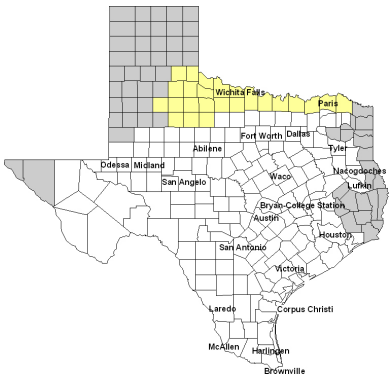
NORTH WEATHER ZONE

A new 345-kV circuit from Paris to Anna that goes through the new Valley South switching station will help to reliably bring in power from the many generators located north and east of the Dallas/Ft.Worth metroplex. This line and switching station will also reduce the need for some of the Special Protection Schemes (SPSs) that have been implemented to maintain reliable service when generation construction occurred faster than transmission construction occurred. The rebuilt Spring to St Jo 138-kV circuit and the 345/138-kV autotransformer will help serve the growing load in North Texas when local generation is off-line.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Paris Switch - Anna Switch line and Valley South switching station	345	2006	88.7
2	Valley autotransformer	345/138	2006	
3	Spring to St. Jo upgrade	138	2006	23.4

Planned Improvements 2006 - 2011





	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

- 138-kV improvement
- 345-kV improvement
- 69-kV improvement
- Station improvement

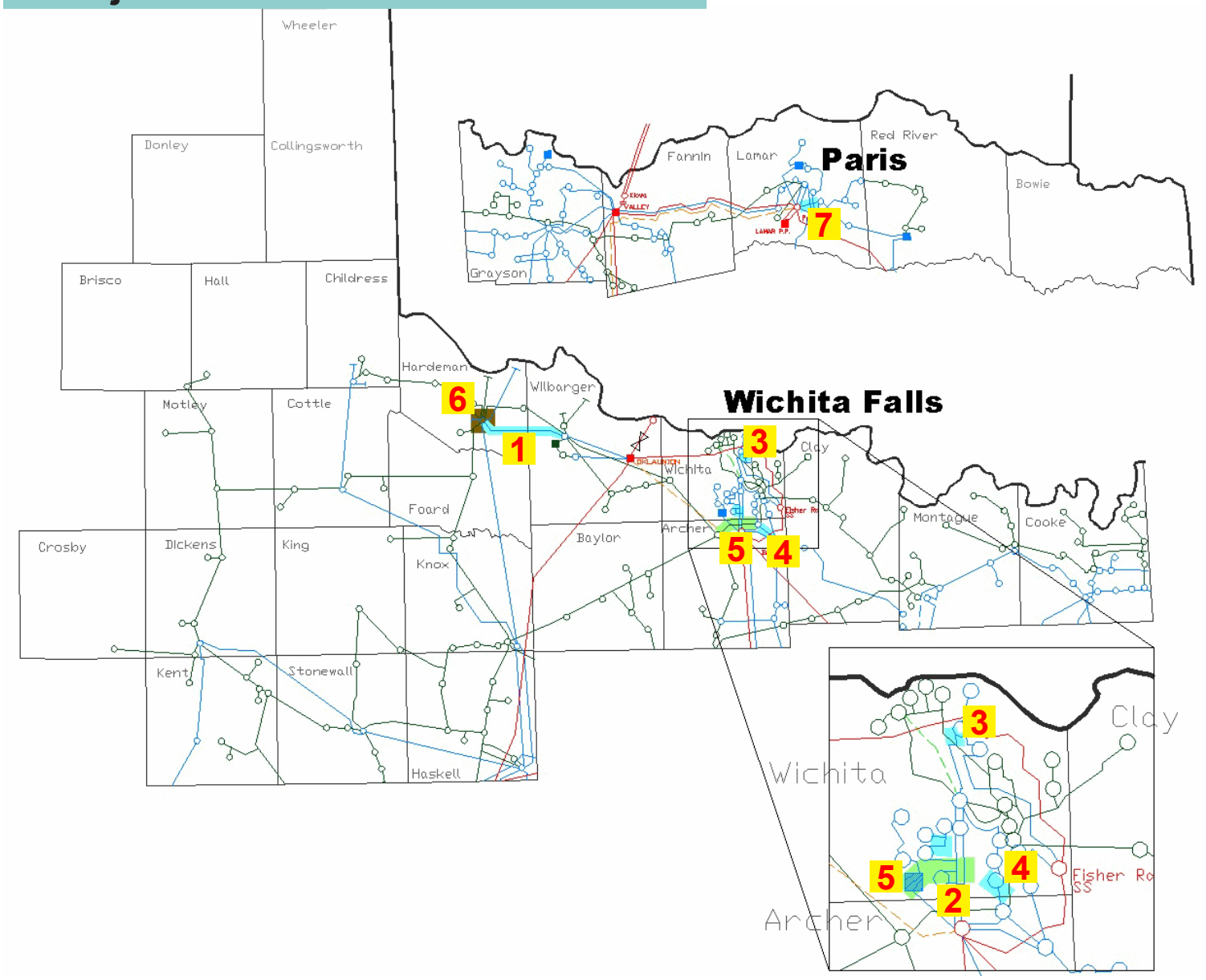
NORTH WEATHER ZONE

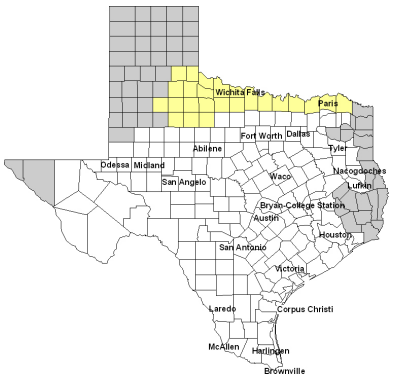
The major planned improvement for the North weather zone is a new 345-kV line from Oklaunion to Bowman that will complete a 345-kV loop around the Wichita Falls area in 2011. In addition, 345-kV terminal equipment upgrades at Bowman and Fisher Road will increase the capacity of the Bowman to Fisher Road 345-kV line by approximately 25% in 2007.

Several lower voltage improvements are also planned internal to Wichita Falls including an upgrade of the Holiday to Blackwell 69-kV line in 2007. In the Vernon area, part of the existing 69-kV system is scheduled to be converted to 138 kV. The remaining 69-kV system coming out of the Vernon area will be sectionalized to prevent congestion. These improvements are, in part, driven by increased wind generation in the area.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Paris - Valley South - Anna	345	2007	✓
2	Bowman terminal equipment upgrade	345	2007	N/A
3	Commerce - Wolfe City upgrade	138	2007	✓
4	Fisher Road terminal equipment upgrade	345	2007	N/A
5	Holliday - Blackwell upgrade	69	2007	N/A
6	Lake Pauline - Vernon conversion	138	2008	✓
7	Paint Creek switching station	345	2008	✓
8	Oklaunion - Bowman	345	2011	✓

Projected Constraints 2006 - 2011





	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

- 138-kV constraint
- 345-kV constraint
- 69-kV constraint
- Station constraint

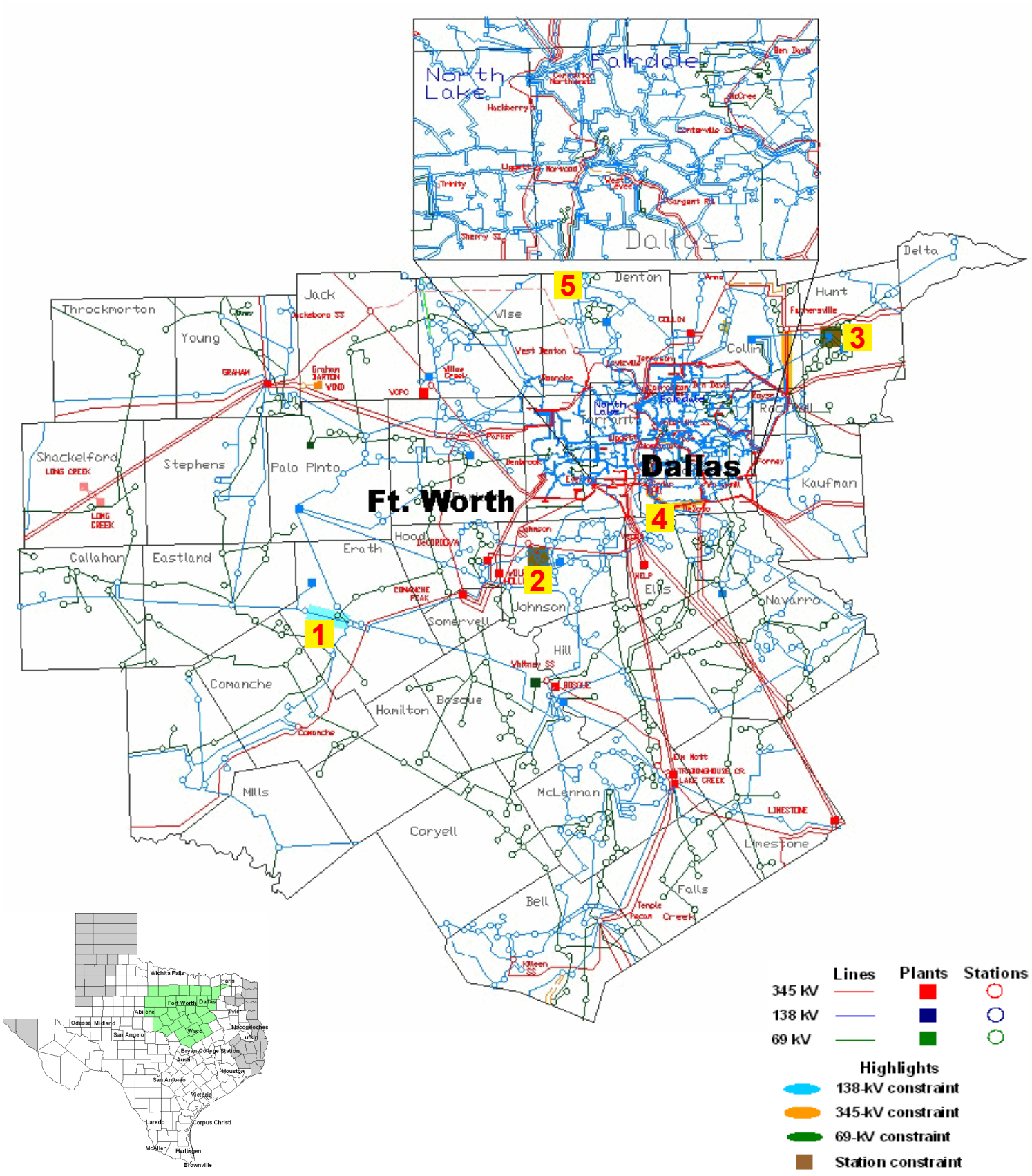
NORTH WEATHER ZONE

Future congestion in the North weather zone is centered in the Wichita Falls and Vernon areas. Congestion in these areas will be a result of expected new wind generation and the inability of the lower voltage 138-kV and 69-kV lines to serve local load. The conversion of some of the 69-kV system in the Vernon area will relieve some of the most severe overloads.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	Lake Pauline 138 - Vernon Main Street	69					
2	Wichita Falls Cogen - Parkway	138					
3	PPG - AC Rochester	138					
4	South Wichita Falls - Arrowhead	138					
5	Lake Wichita - Holliday	69					
6	Lake Pauline 69 - Lake Pauline 138	138					
7	Paris switching station - Paris	138					

Level of Congestion		High		Medium		Low		None

Recent Constraints 2006

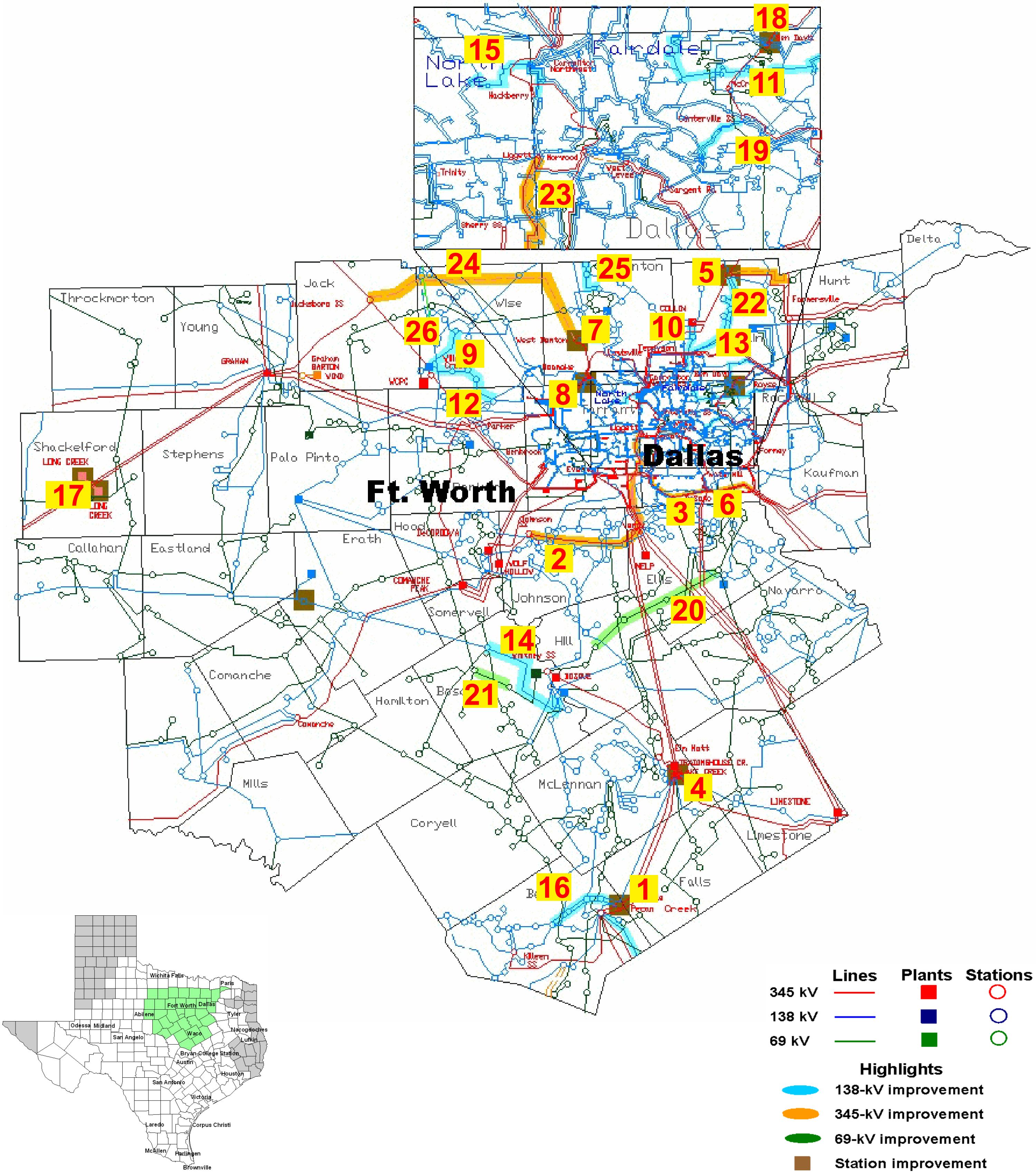


NORTH CENTRAL WEATHER ZONE

The North Central weather zone is comprised of the Dallas/Fort Worth metroplex, Waco, Temple, and Killeen and extends west to the eastern edge of Abilene. This zone has realized considerable load growth, particularly in the Dallas/Fort Worth metroplex. Many older, natural-gas-fueled generation units in the area have been mothballed or decommissioned in recent years. The combination of the decrease in local generation and the significant increase in load has caused congestion on the lines importing power into the region. Additionally, power transfers from West Texas, due to the increase in wind generating resources in the west, have caused transmission constraints in the western part of the zone.

Map Index	Constraining Element	Voltage Level, kV
1	Stephenville - Lingleville	138
2	Concord autotransformer	345/138
3	Greenville Steam second autotransformer	138/69
4	Watermill - Cedar Hill	345
5	North Sanger - Spring	138

Completed Improvements 2005 - 2006

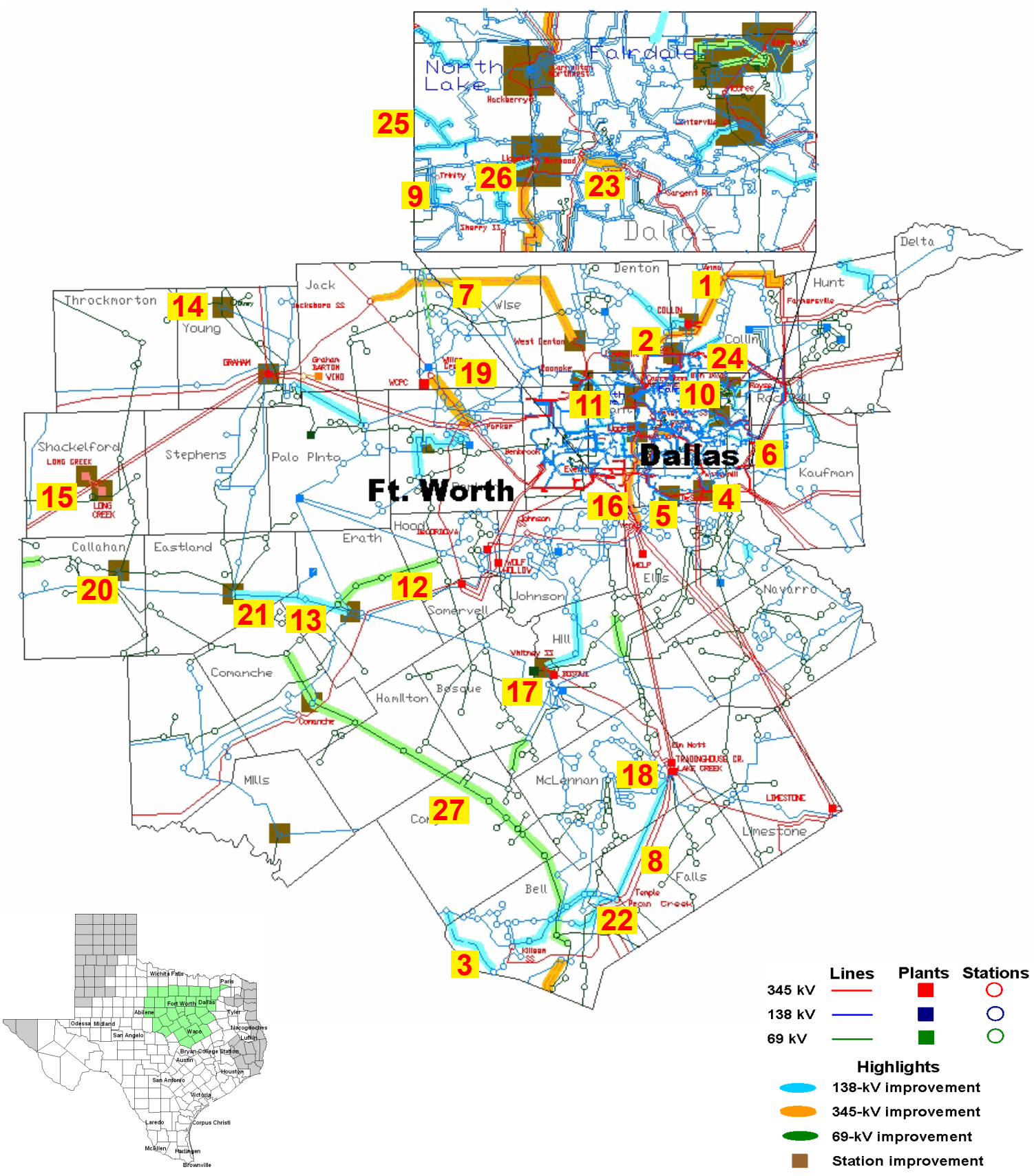


NORTH CENTRAL WEATHER ZONE

There are numerous small upgrades that occurred in the region. Four new 345/138-kV autotransformers were added and one was upgraded. Three lines are shown that were constructed or rebuilt to fully integrate the Jack County combined-cycle plant. Two new 345-kV circuits were added and three 345-kV circuits were upgraded to help get power into the Dallas/Ft. Worth metroplex. A new switching station was added to help serve the growing load in the Temple/Killeen area. The Long Creek 345-kV switching station was added to connect a wind farm. Several 138-kV and 69-kV upgrades were completed to reliably serve load growth in the region, especially in the Dallas/Ft. Worth area.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Temple Pecan Creek switching station	345	2005	
2	Venus - Johnson Switch upgrade	345	2005	24.1
3	Watermill - Cedar Hill second circuit	345	2005	17.3
4	Lake Creek second autotransformer	345/138	2005	
5	Anna autotransformer	345/138	2005	
6	Watermill -T ricorner upgrade	345	2005	11.4
7	West Denton autotransformer upgrade	345/138	2005	
8	Roanoke Switch autotransformer	345/138	2005	
9	Rebuild Bowie to Cottondale Sw 69-kV line with 138-kV const.	138	2005	30
10	Collin - Renner upgrade for double circuit	138	2005	27.8
11	Rockwall - E. Richardson upgrade	138	2005	25.5
12	Rebuild Reno to Cottondale Sw 69-kV line with 138-kV const.	138	2005	19.3
13	Royse - Ben Davis upgrade	138	2005	17.5
14	Whitney - Walnut Springs upgrade	138	2005	17.4
15	Hackberry - Grapevine Ball St. upgrade	138	2005	12
16	Temple Elm Creek - Temple NW - Belton upgrade	138	2005	19.2
17	Long Creek switching station	345	2006	.2
18	Ben Davis second autotransformer	345/138	2006	
19	Centerville Switch - Parkdale upgrade	138	2006	16.8
20	Peoria to Forreston upgrade	69	2006	31
21	Powell to Meridian upgrade	69	2006	9.7
22	Anna Switch - Allen Switch upgrade	138	2006	42
23	Venus - Liggett	345	2006	43.4
24	Jacksboro Switch - W. Denton	345	2006	72
25	North Denton - Spring upgrade	138	2006	17.9
26	Jack County - Wise County Switch	138	2006	16

Planned Improvements 2006 - 2011



NORTH CENTRAL WEATHER ZONE

Numerous improvements are planned in the Dallas/Ft. Worth (DFW) area to relieve congestion and allow the growing load to be served more efficiently. Two of the primary improvements on the north side of DFW are the completion of the Jacksboro-West Denton 345-kV double circuit and the upgrade of the Anna to Collin to Northwest Carrolton 345-kV circuit. On the south side of DFW two noteworthy 345-kV changes that will be completed by spring 2007 are the 345-kV Venus to Liggett and Venus to Sherry lines. In the central DFW area the West Levee to Norwood 345-kV line will be completed in 2008. There are also numerous autotransformer and 138-kV line upgrades scheduled for the DFW area.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Anna - Collin	345	2007	✓
2	Collin - Northwest Carrollton	345	2007	
3	Copperas Cove - Ding Dong	138	2007	
4	Desoto - Cedar Hill upgrade	138	2007	✓
5	Desoto autotransformer	345/138	2007	✓
6	Forney - East Mesquite upgrade	138	2007	✓
7	Jacksboro - West Denton double circuit	345	2007	✓
8	Lake Creek - Temple Pecan upgrade	138	2007	✓
9	Mayfield NT - Cedar Hill upgrade	138	2007	✓
10	Plano W - Richardson tap upgrade	138	2007	✓
11	Roanoke - Keller upgrade	138	2007	✓
12	Stephenville - Granbury upgrade	69	2007	✓
13	Stephenville - Lingleville upgrade	138	2007	✓
14	Graham terminal equipment	345	2007	✓
15	Long Creek (Mesquite) terminal equipment	345	2007	✓
16	Venus - Liggett	345	2007	✓
17	Venus - Sherry	345	2007	✓
18	Lake Creek - Robinson upgrade	138	2008	✓
19	Parker - Willow Creek	345	2008	N/A
20	Putnam phase-shifting transformer	138/69	2008	✓
21	Stephenville - Leon upgrade	138	2008	✓
22	Temple Pecan - Temple Switch upgrade	138	2008	N/A
23	West Levee - Norwood line	345	2008	✓
24	Allen - Plano Custer upgrade	138	2009	✓
25	Handley - White upgrade	138	2009	✓
26	Liggett autotransformer upgrade	345/138	2009	✓
27	Downing - Poage upgrade	69	2010	N/A

West of DFW several improvements and changes are scheduled to be completed to primarily relieve congestion expected to occur as a result of increased wind generation. The most significant of these is the replacement of 345-kV terminal equipment at Graham and Long Creek (formerly Mesquite) that will increase the emergency rating of the associated 345-kV lines by approximately 25% by the end of 2007. Additional wind-related improvements

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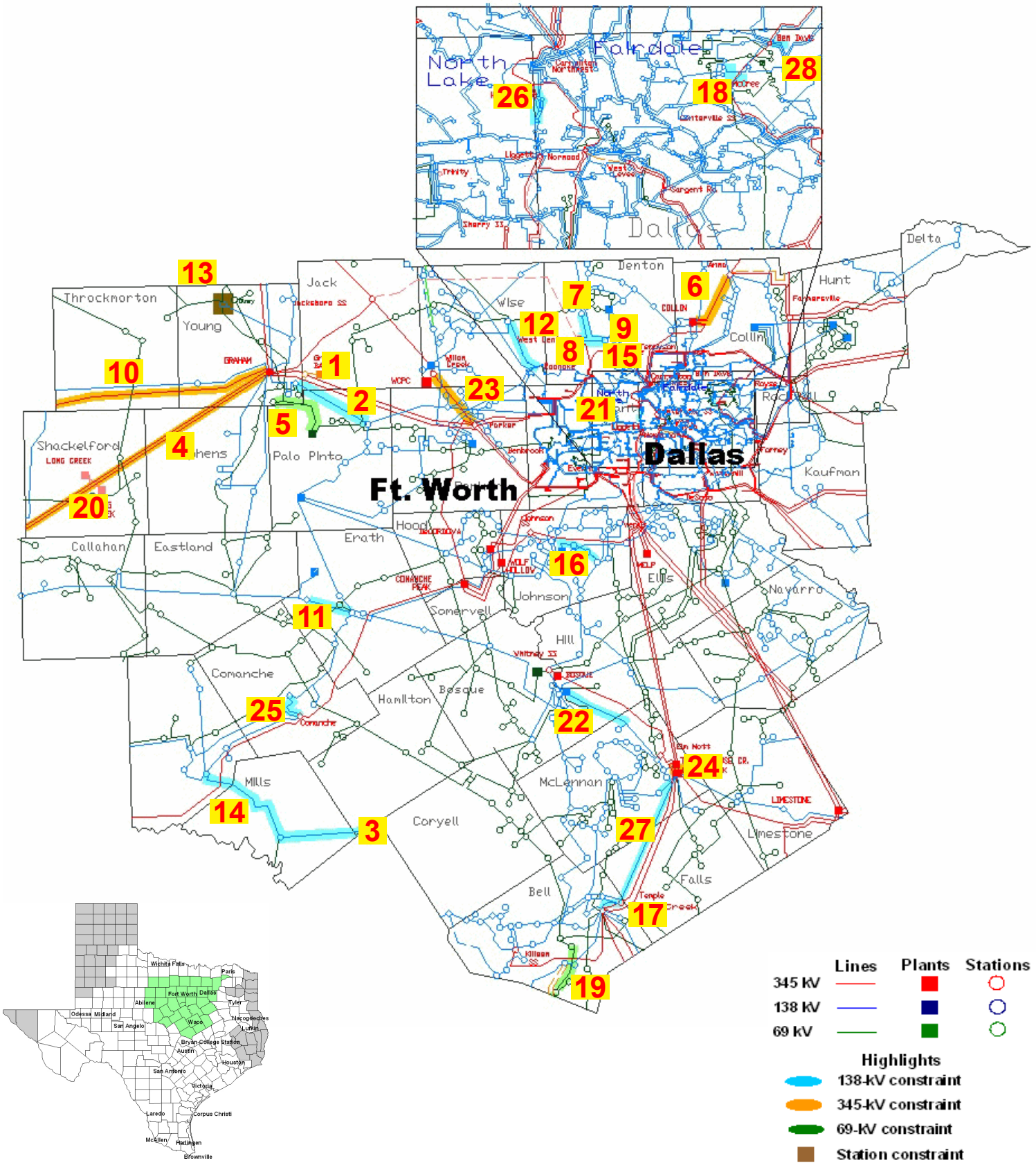
will include upgrades of the Stephenville to Granbury 69-kV circuit in 2007, the Leon to Stephenville 138-kV circuit in 2008, and the Downing to Poage 69-kV circuit in 2010. A 138/69-kV phase shifting transformer is scheduled to be installed at Putnam in 2008. Wind-related congestion on the 69-kV system will be minimized by sectionalizing the 69-kV system at several key points.

Planned improvements in the Waco and Temple areas include the upgrade of the 138-kV circuit between Lake Creek and Temple Pecan, the completion of the Copperas Cove to Ding Dong 138-kV loop, as well as several 138-kV improvements internal to Temple, Waco, and Killeen.

NORTH CENTRAL WEATHER ZONE

Projected Constraints 2006 - 2011



NORTH CENTRAL WEATHER ZONE

Most of the expected congestion in the North Central zone is associated with importing energy into the Dallas/Fort Worth area and transporting wind energy out of West Texas.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	Graham SS - Barton	138				High	High
2	Oran - Graham SS	138		High	High		
3	Evant 13 - Goldthwaite13	138		High	High	Low	High
4	Graham - Long Creek	345	High				
5	Morris Sheppard - South Ben Switch	69			High		
6	Collin SS - Anna SS	345	High				
7	Jim Christal C - West Denton C	138	High		High		
8	Jim Christal C - West Denton	138				High	High
9	Iron Horse C - Iron Horse D	138		High	High		
10	Paint Creek 345 - Graham	345		Low	Low	High	
11	Lingleville M - Clip Gen Tap	138	High				
12	Decatur - Rhome	138	Low	High			
13	Olney	138	Low	High	Low		
14	Goldthwaite13 - Brownwood SS	138		Medium	Medium	Low	High
15	Fr. Worth C - West Denton	138				Medium	High
16	Tenaska - Keene	138		Medium	High		
17	Temple SS - Temple PEC	138				Low	High
18	Shiloh - McCree	138					High
19	Bell County - Temple Taylor Valley #1	138			High		
20	Long Creek - Abilene Mulberry Creek (East)	345	High				
21	Roanoke - Roanoke 138 Tap #1	138				Low	Medium
22	Bosque Switch - Rogers	138	Low	Low	Low	Low	
23	Willow Creek - Parker	345	Medium				
24	Lake Creek - Tradinghouse	345		Low	Low	Low	Low
25	Hasse M - Comanche TAp	138	Low	Low	Low	Low	Low
26	Hitachi Tap 1 - Hackberry	138					Medium
27	Lake Creek - North Temple SS	138	Medium				
28	Walnut-Castle	138				Medium	

Level of Congestion High Medium Low None

Terminal equipment upgrades on the 345-kV system connecting West Texas and the Dallas/Forth Worth area will increase the amount of wind energy leaving West Texas by increasing the capacity of those lines by about 25%. However, these improvements also force the 138-kV and 69-kV systems in many places to become the most limiting elements. The 138-kV and 69-kV lines near Graham are especially affected, as are the 138-kV and 69-kV lines connecting West Texas and Central Texas. The actual sites of the future wind farms will greatly affect where the congestion occurs. The congested elements illustrated in the associated table and map were based in part on the projected location of future wind generation.

Difficulties in serving load in the Dallas/Fort Worth area will continue to be a source of transmission congestion. In

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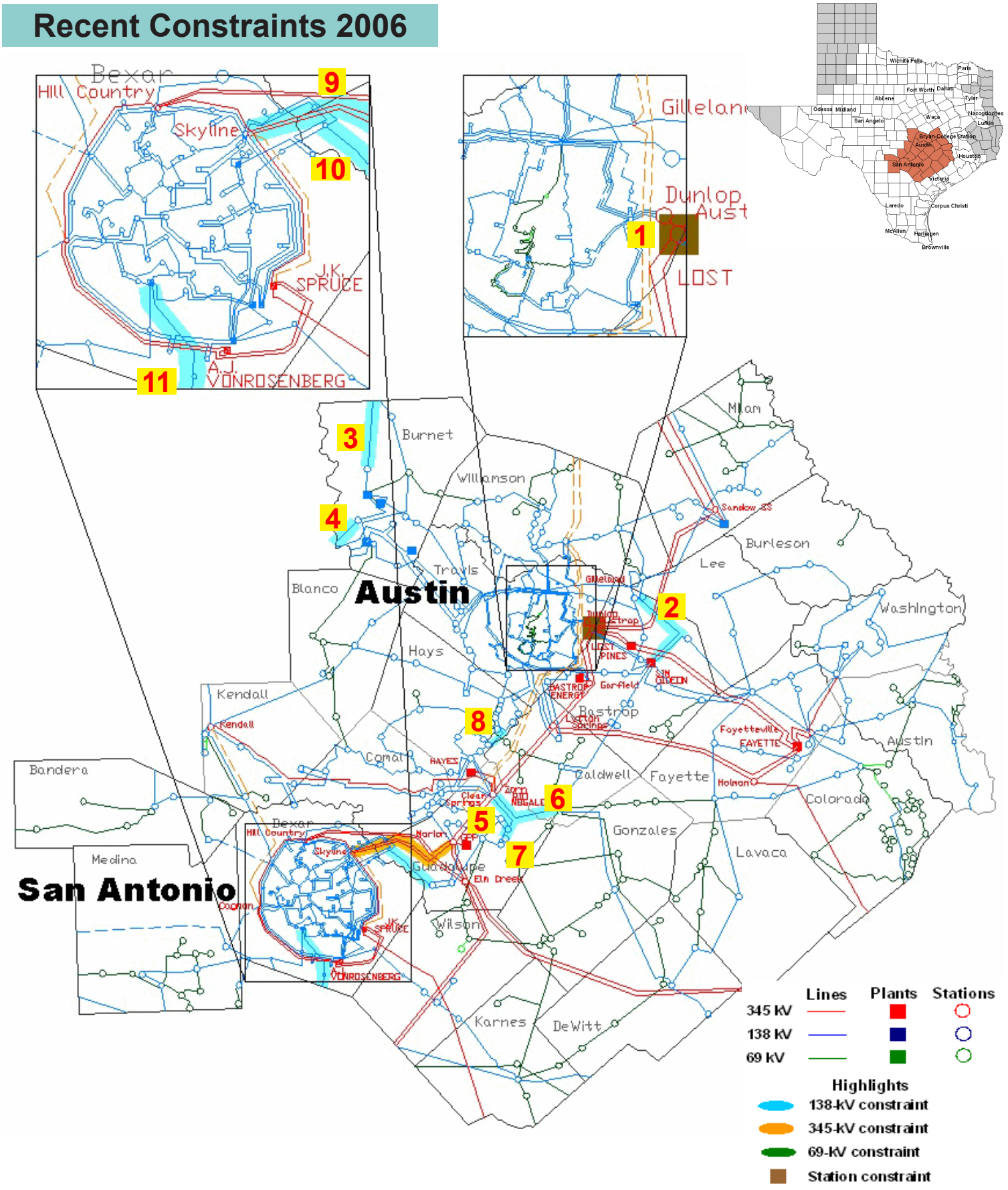
particular, the cities of Denton and Garland are likely to see congestion until planned transmission improvements in those areas are completed.

Some amount of South to North zonal congestion in the Temple area is also expected until improvements to the underlying 138-kV system are completed in 2007.

Recent Constraints 2006



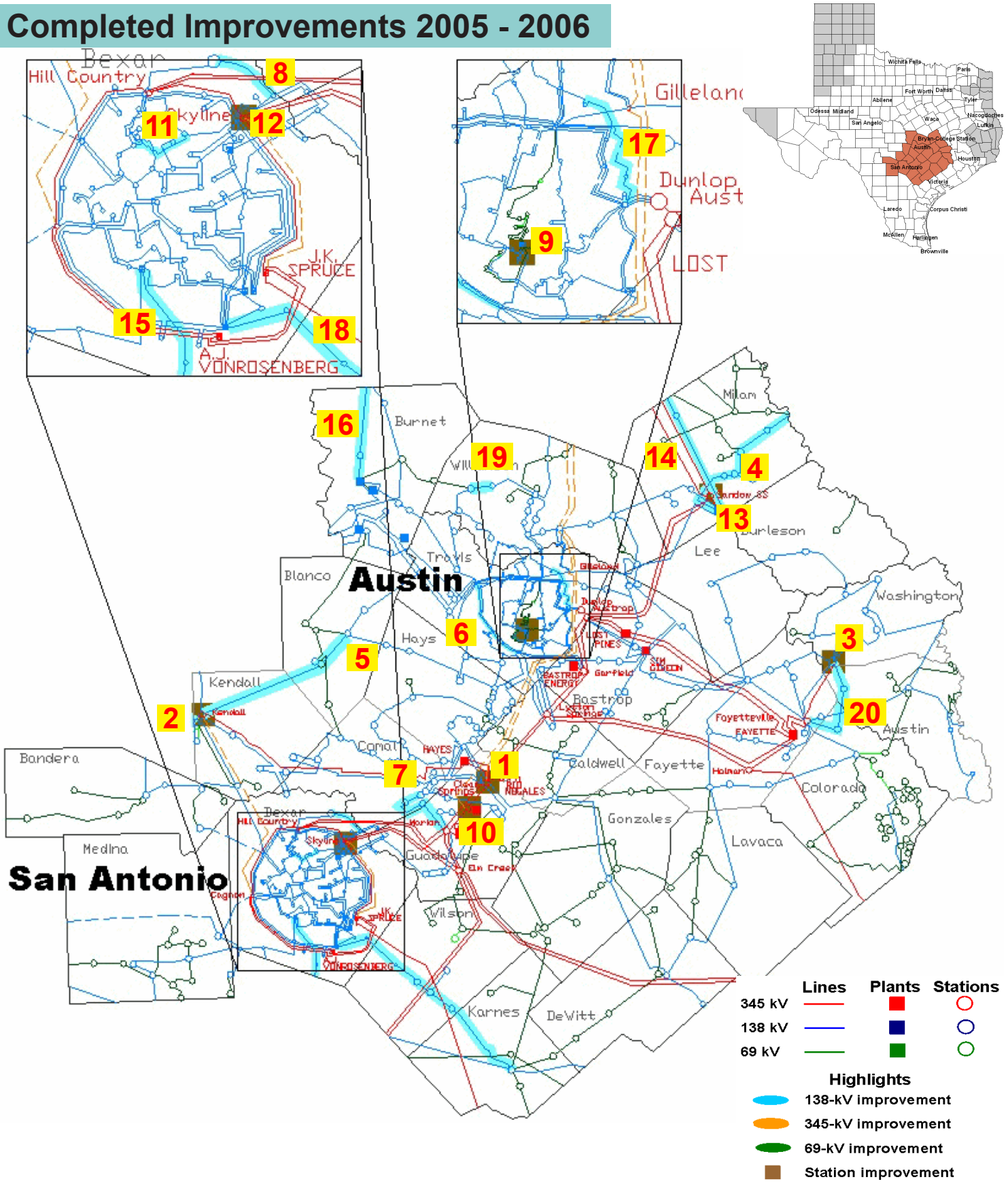
SOUTH CENTRAL WEATHER ZONE

The South Central weather zone primarily consists of the cities of Austin and San Antonio and their surrounding suburbs. Transmission congestion in the zone is due to a variety of factors. Significant load growth has resulted in some transmission constraints. Another factor contributing to constraints is the addition of several new generation facilities in the last several years. This increase in generation has caused large power flows from Central Texas to North Texas. Finally, further congestion has resulted during the construction periods when transmission elements are taken out of service for upgrades.

Map Index	Constraining Element	Voltage Level, kV
1	Austrop autotransformer	345/138
2	Butter - Sim Gideon	138
3	Graphite - Lampasas	138
4	Sherwood Shores - Ferguson	138
5	Zorn - Seguin	138
6	Zorn - Luling	138
7	Seguin - Seguin West	138
8	Canyon - San Marcos	138
9	Marion - Skyline	345
10	Schertz - Parkway	138
11	Leon Creek - Pleasanton	138

SOUTH CENTRAL WEATHER ZONE

Completed Improvements 2005 - 2006

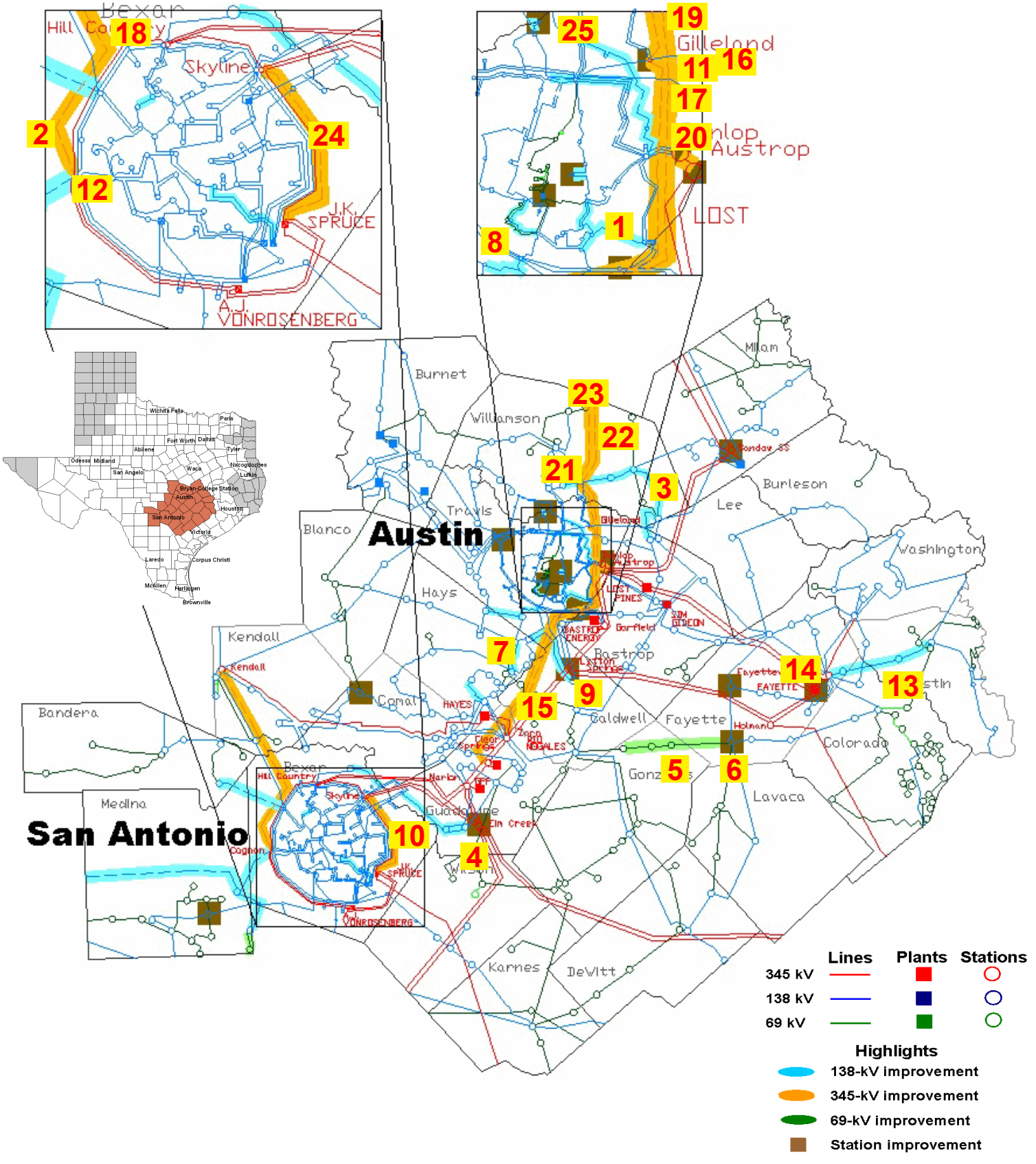


SOUTH CENTRAL WEATHER ZONE

The area between Austin and San Antonio is growing rapidly. Three new 345/138-kV autotransformers have been installed, and three more have been upgraded or replaced with higher capacity autotransformers in the South Central weather zone. Three new 138-kV circuits have been constructed. These three along with the nine most significant 138-kV upgrades are highlighted on the map. One major 69-kV to 138-kV conversion occurred between Fayetteville and Salem. A 95 MVA statcom was installed inside on the Austin 138-kV system to give Austin enough dynamic reactive support after the retirement of some of the generation units within Austin. Parts of the Hill Country area are growing rapidly, and a new 345-kV circuit from Cagnon to Kendall will be put into service in 2007. In preparation for this new circuit some of the 138-kV circuits at Kendall have been upgraded.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Zorn autotransformer	345/138	2005	
2	Kendall second autotransformer	345/138	2005	
3	Salem autotransformer upgrade	345/138	2005	
4	Sandow - Minerva -Robertson upgrade	138	2005	44.9
5	Kendall - Miller Creek upgrade	138	2005	40.4
6	HiCross - Marshall Ford upgrade	138	2005	16.5
7	Reconductor Marion - Comal	138	2005	12.1
8	Stonegate - Green Mountain	138	2005	11
9	Installation of 95-MVA statcom at Pedernales	138	2005	
10	Clear Springs autotransformer	345/138	2006	
11	Reconductor Harmony Hills to Castle Hills to Med. Center	138	2006	6.3
12	Replace autotransformers 2 and 4 at Skyline	345/138	2006	
13	Sandow Switch autotransformer and 138-kV bus	345/138	2006	
14	Sandow - Rogers - Temple Switch upgrade	138	2006	38.7
15	Reconductor Leon Creek to Pleasanton	138	2006	15.4
16	Coronado - Graphite Mine - Lampasas upgrade	138	2006	27.5
17	Decker - Techridge	138	2006	23.2
18	Braunig - Kenedy upgrade	138	2006	14
19	Andice - Glasscock	138	2006	11
20	Fayetteville - Salem conversion from 69 kV	138	2006	24.1

Planned Improvements 2006 - 2011



SOUTH CENTRAL WEATHER ZONE

The most significant improvement in the South Central weather zone will be the completion of the Clear Springs to Salado 345-kV double-circuit line in 2010. This project will help deliver energy to Central Texas load and address transmission reliability needs in that area. The project will parallel the existing north to south 345-kV corridor and provide new autotransformer capacity at key sites that include the Gilleland Creek station northeast of Austin and the Hutto station located in southern Williamson County.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Bergstrom - Kingsbery upgrade	138	2007	N/A
2	Cagnon - Kendall	345	2007	✓
3	Elgin - Taylor upgrade	138	2007	✓
4	Elm Creek switching station	345	2007	✓
5	Flatonia - Harwood upgrade	69	2007	N/A
6	Flatonia autransformer	138/69	2007	N/A
7	San Marcos - Kyle reconfiguration	138	2007	✓
8	Burleson -S eaholm conversion	138	2008	N/A
9	Lytton Springs autotransformer	138/69	2008	✓
10	Schertz - Parkway upgrade	138	2008	✓
11	Decker - Techridge upgrade	138	2009	N/A
12	Cagnon autotransformer	345/138	2010	✓
13	Fayetteville - Bellville South upgrade	138	2010	✓
14	Fayetteville autotransformer	345/138	2010	✓
15	Gilleland - Clear Springs (CSS)	345	2010	✓
16	Gilleland - Techridge (CSS)	138	2010	✓
17	Gilleland switching station (CSS)	345	2010	✓
18	Hill country autotransformer	345/138	2010	✓
19	Hutto - Gilleland (CSS)	345	2010	✓
20	Hutto - Zorn (CSS)	345	2010	✓
21	Hutto switching station (CSS)	345	2010	✓
22	Salado - Hutto double circuit (CSS)	345	2010	✓
23	Salado switching station (CSS)	345	2010	✓
24	Skyline - Spruce	345	2010	✓
25	Techridge - Howard Lane	138	2010	N/A
CSS - Clear Springs-Salado 345-kV line				

In the Austin area the previously mentioned Gilleland Creek station will provide a new 345/138-kV autotransformer northeast of Austin. Another new 345/138-kV autotransformer is being considered at a new station near Austrop. A new 138-kV line will be built from Gilleland to Techridge to Howard Lane. The Burleson to Cardinal Lane and the Cardinal Lane to Seaholm circuits will be reconductored and converted to 138 kV. The Bergstrom to Kingsbery, the Decker to Techridge, and Techridge to Howard Lane 138-kV lines will be upgraded. Several 138-kV stations are also needed for serving new load. More than 130 MVAR of additional shunt capacitance is planned for the Austin area. The two remaining Holly units will be retired in September 2007.

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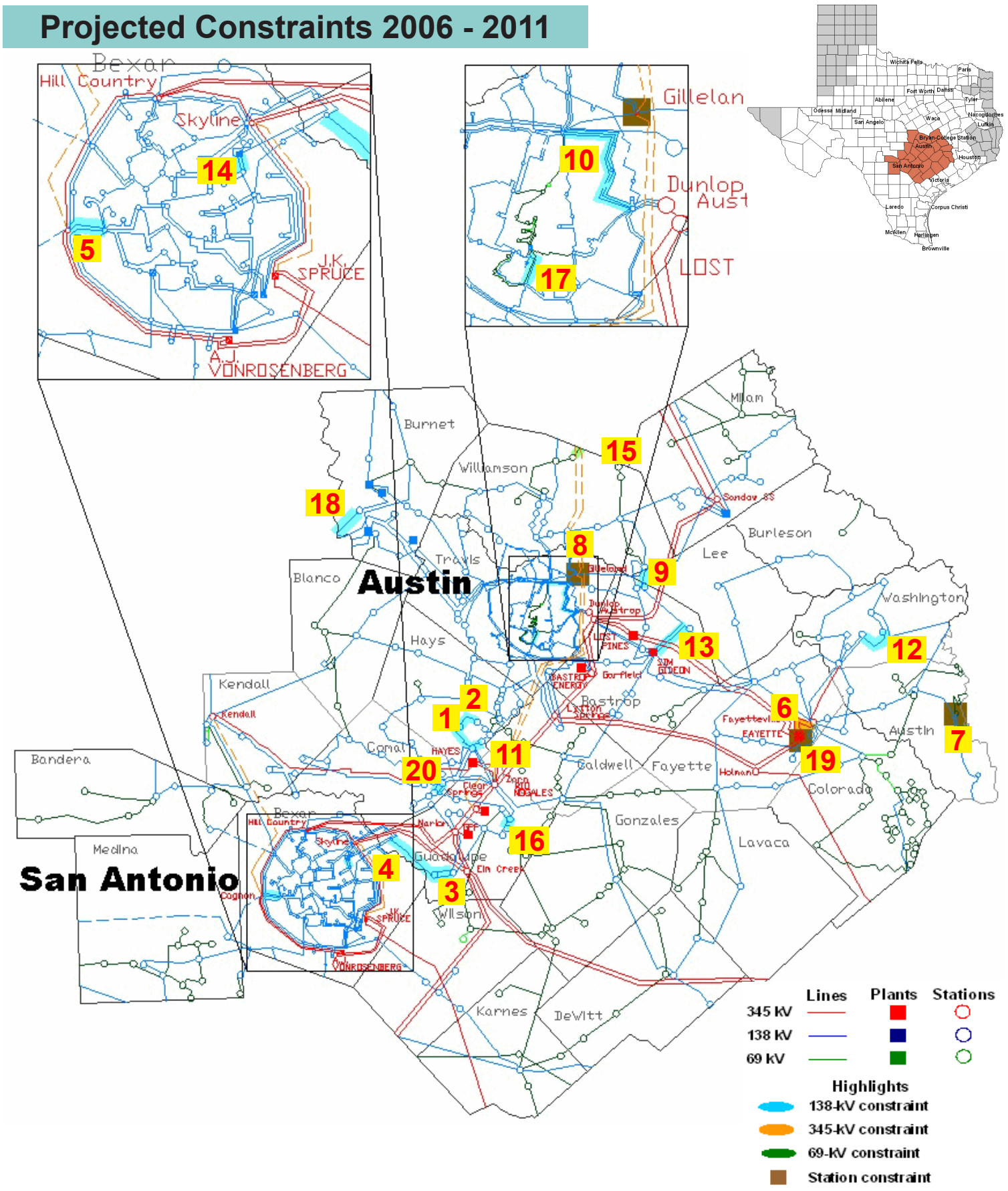
SOUTH CENTRAL WEATHER ZONE

The San Antonio area has several 345-kV upgrades scheduled including the Cagnon to Kendall 345-kV circuit which will be completed in 2007, and a second Skyline to Spruce 345-kV line will be installed as a result of new generation at Spruce in 2010. Additional 345-kV autotransformer capacity is planned at Hill Country and Cagnon in 2010. East of San Antonio the Elm Creek switching station should be in service by summer 2007. It will be located at the crossing of the San Miguel to Marion and STP to Skyline/Hill Country 345-kV double-circuit lines. Southwest of San Antonio a new 138-kV line is planned between Castroville and Uvalde. This improvement is discussed in the West Weather Zone Planned Improvements section.

Multiple improvements are scheduled for the area between San Antonio and Austin. These projects include a reconfiguration of the San Marcos to Kyle 138-kV line to bypass Canyon avoiding contingency overloads of an adjacent 138-kV circuit. Energizing the second Cibolo to Schertz 138-kV circuit in 2007 and rebuilding the Schertz to Parkway circuit in 2008 have been recommended by ERCOT. Finally, adding a third 345/138-kV autotransformer at Lytton Springs or Zorn and rebuilding parts of the adjacent 138-kV lines will address reliability concerns in the area as well as help prevent future congestion resulting from energy transfers into the Austin area. Other transmission projects driven by load growth are planned for this area and the western part of the Hill Country. These include 138-kV transmission line additions in Hays, Medina, and Kerr counties that will address reliability of service and area load growth concerns.

In the area between Austin and Houston, a second Fayetteville 345/138-kV autotransformer is planned for 2011 along with upgrades to the Fayetteville to Willow Springs to New Brenham to Bellville South 138-kV circuit. Also planned for this area is the addition of a second 138/69-kV autotransformer at the Flatonia substation along with a project to increase the capacity of the Flatonia to Harwood 69-kV line to address loading issues on local lines.

Projected Constraints 2006 - 2011



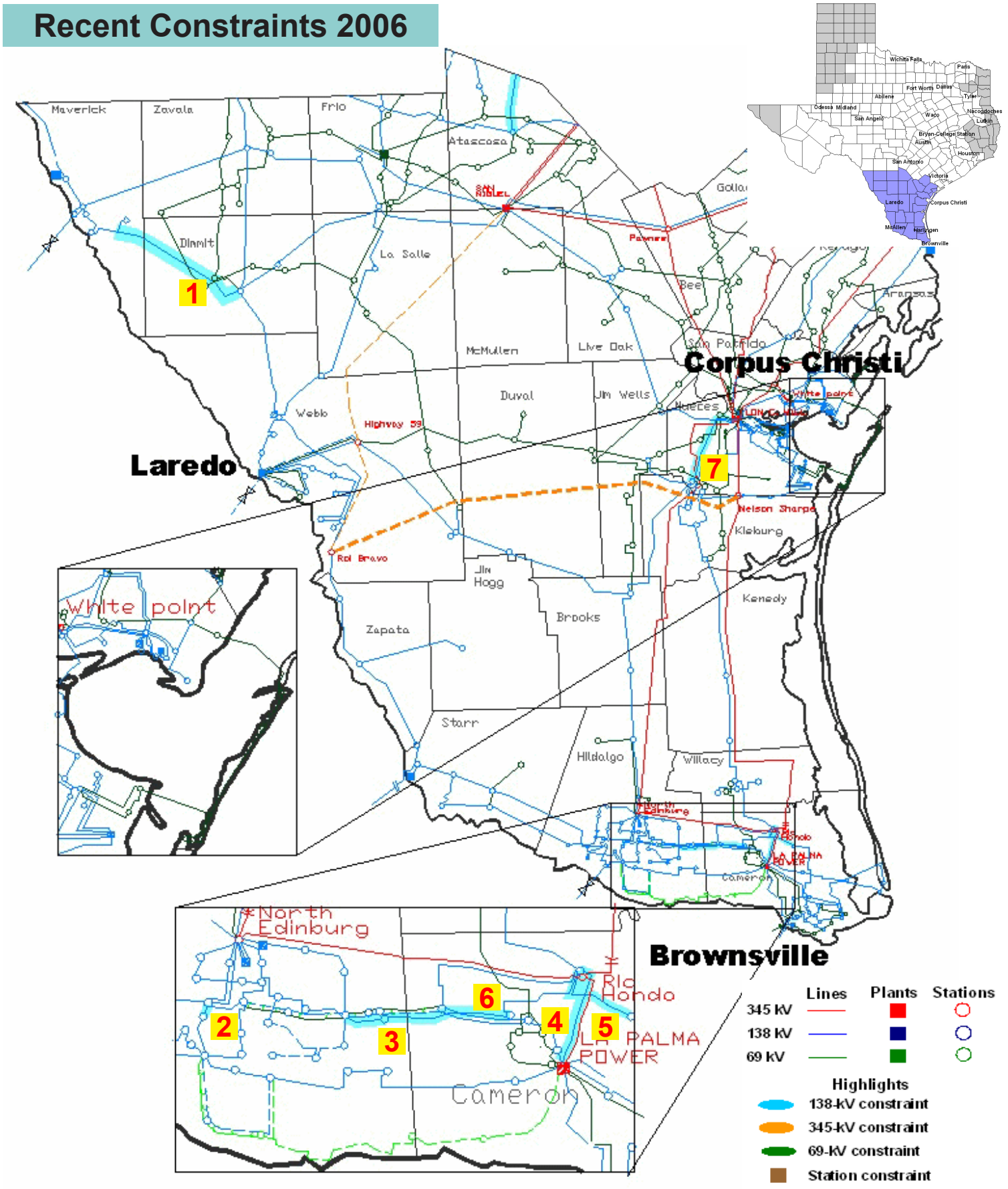
SOUTH CENTRAL WEATHER ZONE

The majority of the expected constraints in the South Central weather zone relate to a South to North transfer of energy and serving a rapidly growing Central Texas load. Both of these problems will be mitigated by the completion of the Clear Springs to Salado 345-kV double-circuit line in 2010 that adds another 345-kV path through the Central Texas area, as well as additional autotransformer capacity. In addition, several smaller projects will relieve congestion in the San Marcos, Canyon, and Schertz areas before the completion of the Clear Springs project. Some congestion is anticipated internal to the Austin and San Antonio 138-kV systems. Several projects are scheduled to relieve this congestion.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	McCarty Lane - Ranch Road	138					
2	Ranch Road - Hilltop	138					
3	Schertz - Parkway	138					
4	Cibolo - Schertz	138					
5	Cagnon - Marbach	138					
6	Fayette - Fayettevile	345					
7	Peters - Peters	138					
8	Gillespie	345					
9	Butler - Elgin	138					
10	McNeil - Decker	138					
11	McCarty Lane - Redwood	138					
12	Brennon - Chapell Hill	138					
13	Paige - Gideon	138					
14	Austin - Tuttle	138					
15	Bartlett - Schwertner	138					
16	Seguin -Seguin West	138					
17	Pedernales - Burleson	138					
18	Wirtz - Ferguson	138					
19	Fayetteville autotransformer	345/138					
20	Henne - Comal	138					

Level of Congestion High | Medium | Low | None

Recent Constraints 2006

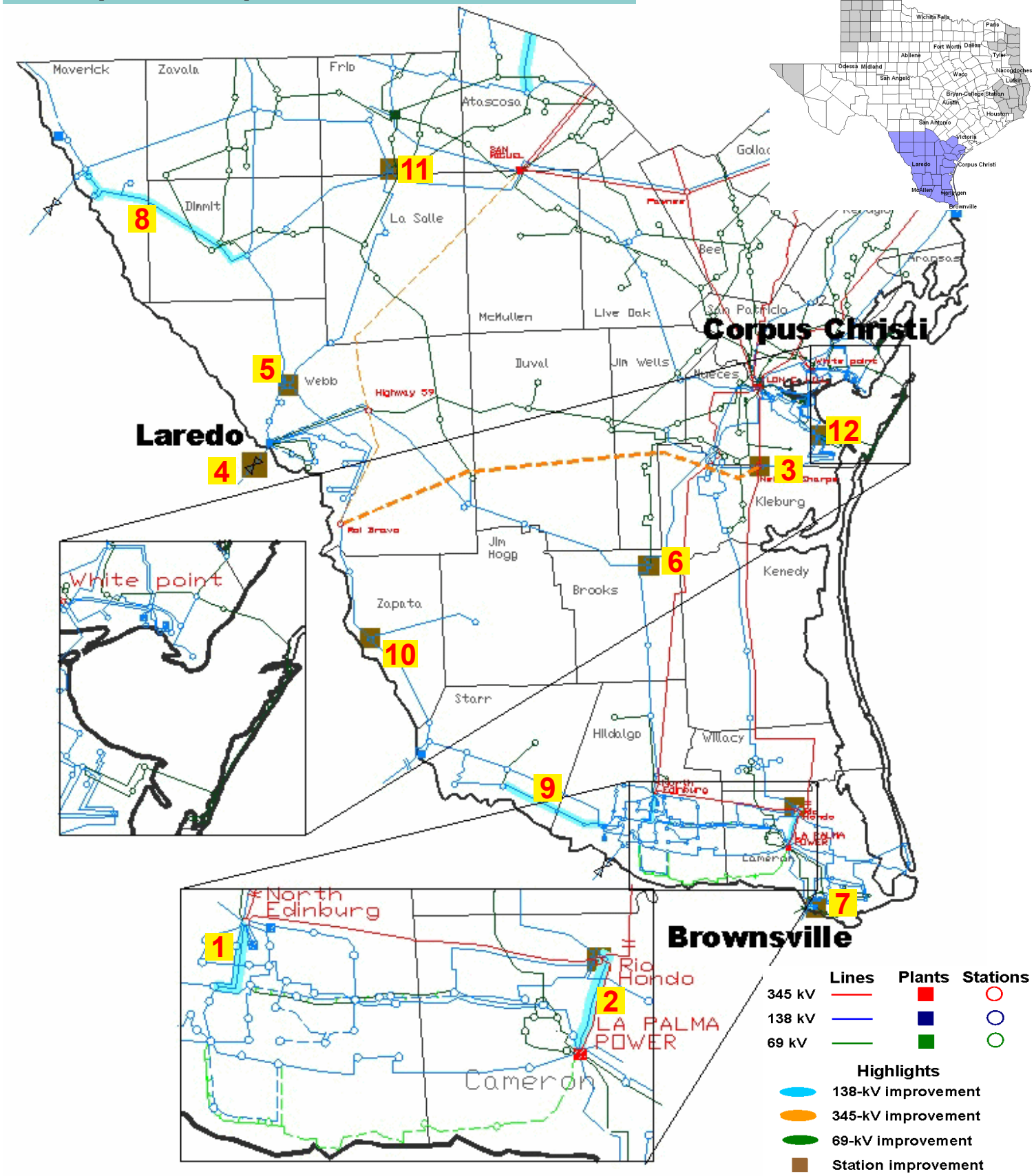


SOUTHERN WEATHER ZONE

The Southern weather zone covers the South Texas plains and contains the cities of Laredo and Corpus Christi and the lower Rio Grande Valley cities of McAllen, Harlingen, and Brownsville. The cities along the Mexico border have continued to see sizable load growth. The long transmission lines connecting the Del Rio and Laredo areas to other areas of ERCOT have required rebuilding in the last several years. Because it takes a long time to rebuild these lengthy lines, significant congestion in the Southern zone has resulted. Similarly, a large number of construction-related outages in the lower Rio Grande Valley have caused constraints.

Map Index	Constraining Element	Voltage Level, kV
1	Asherton - West Conoco	138
2	North McAllen - West McAllen	138
3	Weslaco switching station - Heidelburg	138
4	La Palma - Rio Hondo	138
5	Rio Hondo - Magic Valley (Rio Hondo East)	138
6	Burns - Magic Valley - Heidelburg	138
7	Lon C. Hill - Stratton line	138

Completed Improvements 2005 - 2006

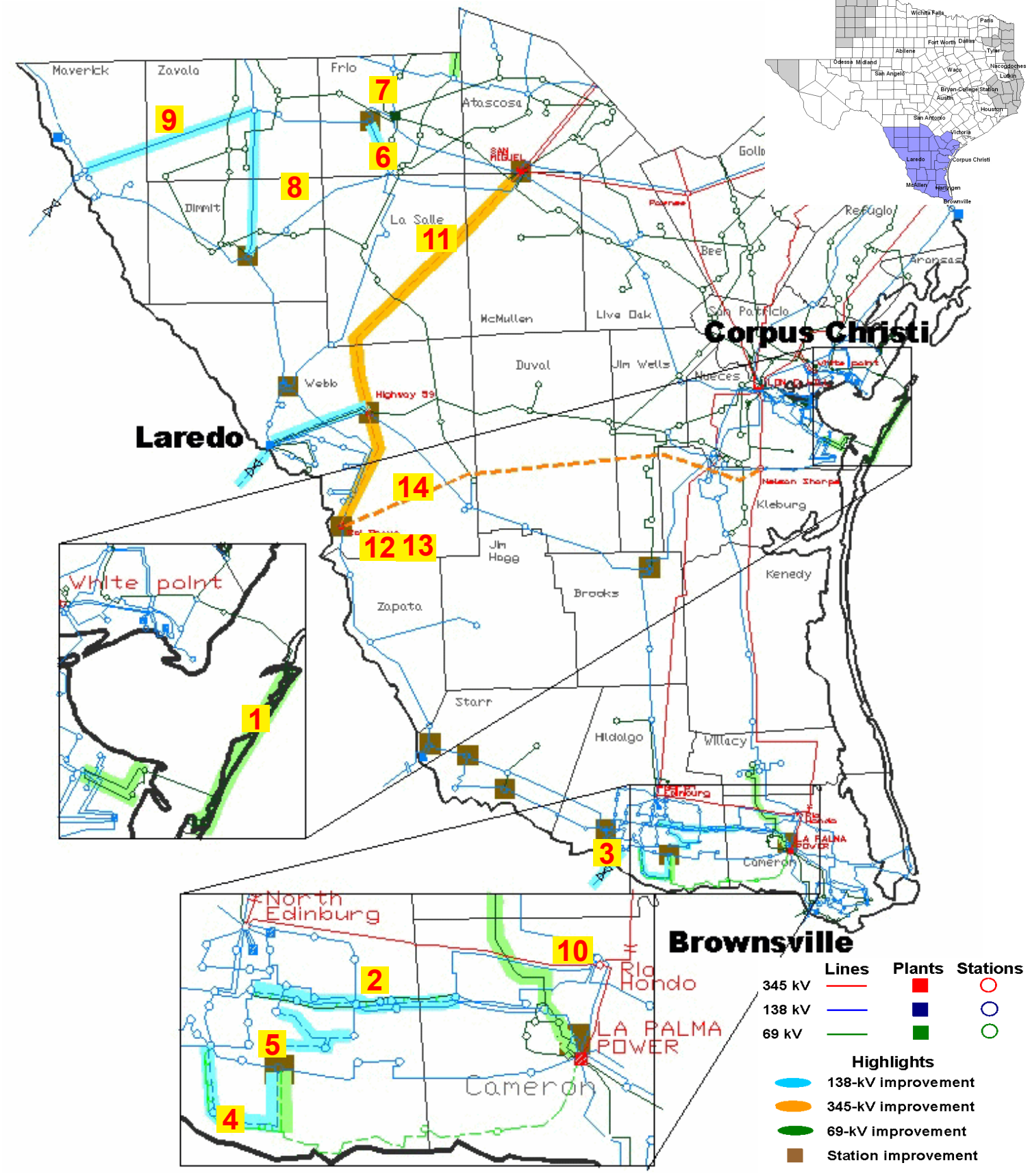


SOUTHERN WEATHER ZONE

The Southern weather zone covers a large area geographically but does not have a large amount of load relative to its size. There is tremendous load growth in the Valley that has caused the addition of the 345/138-kV autotransformer at Rio Hondo, the upgrade of many 138-kV circuits, and the conversion from 69-kV to 138-kV from the western part of the Valley toward the east. Brownsville Public Utility Board is systematically converting their 69-kV transmission to 138-kV to meet load growth. The Laredo area saw the installation of the first Variable Frequency Transformer (VFT) in ERCOT. The VFT connects to Mexico and allows for transactions and emergency backup under contingencies. Phase-shifting transformers (PSTs) have been installed near Laredo and Corpus Christi to control the flow of power on specific 138-kV circuits to prevent overloads. A new 345/138-kV autotransformer was installed at Nelson Sharpe to serve load growth in Corpus Christi. Four dynamic reactive devices (SVC, DRCS) have been installed to maintain voltage stability under contingencies in the Southern weather zone.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Reconductor North Edinburg to North McAllen double circuit	138	2005	22.3
2	Rio Hondo autotransformer and rebuild 138-kV line between Rio Hondo and La Palma	345/138	2006	10.1
3	Nelson Sharpe autotransformer and PST transformer	345/138	2006	
4	Laredo BtB to Laredo power plant, Falfurrias 138-kV cut-in	138	2006	
5	Addition of 150-MVA PST on North Laredo-Asherton	138	2006	
6	Addition of +/-25-MVAR DRCS at Falfurrias	69	2006	
7	Relocation of two 138/69-kV autotransformer from Military Hwy. Upgrade Military Hwy.	138	2006	2.3
8	Asherton to Eagle Pass upgrade	138	2006	33
9	Bates - Rio Grande City upgrade	138	2006	14.1
10	Addition of +/-25-MVAR DRCS at Zapata	138	2006	
11	-40/+50-MVAR SVC installation at Dilley	69	2006	
12	-40/+50-MVAR SVC installation at Airline	138	2006	

Planned Improvements 2006 - 2011



SOUTHERN WEATHER ZONE

The most significant improvement in the Southern weather zone will be the completion of the San Miguel to Laredo Lobo 345-kV line in 2010. This will be followed by the completion of the Laredo Lobo to Rio Bravo 345-kV line in 2011. These lines, along with the Laredo asynchronous interconnection and local upgrades in the Laredo area, will allow the Laredo units to exit the RMR contracts.

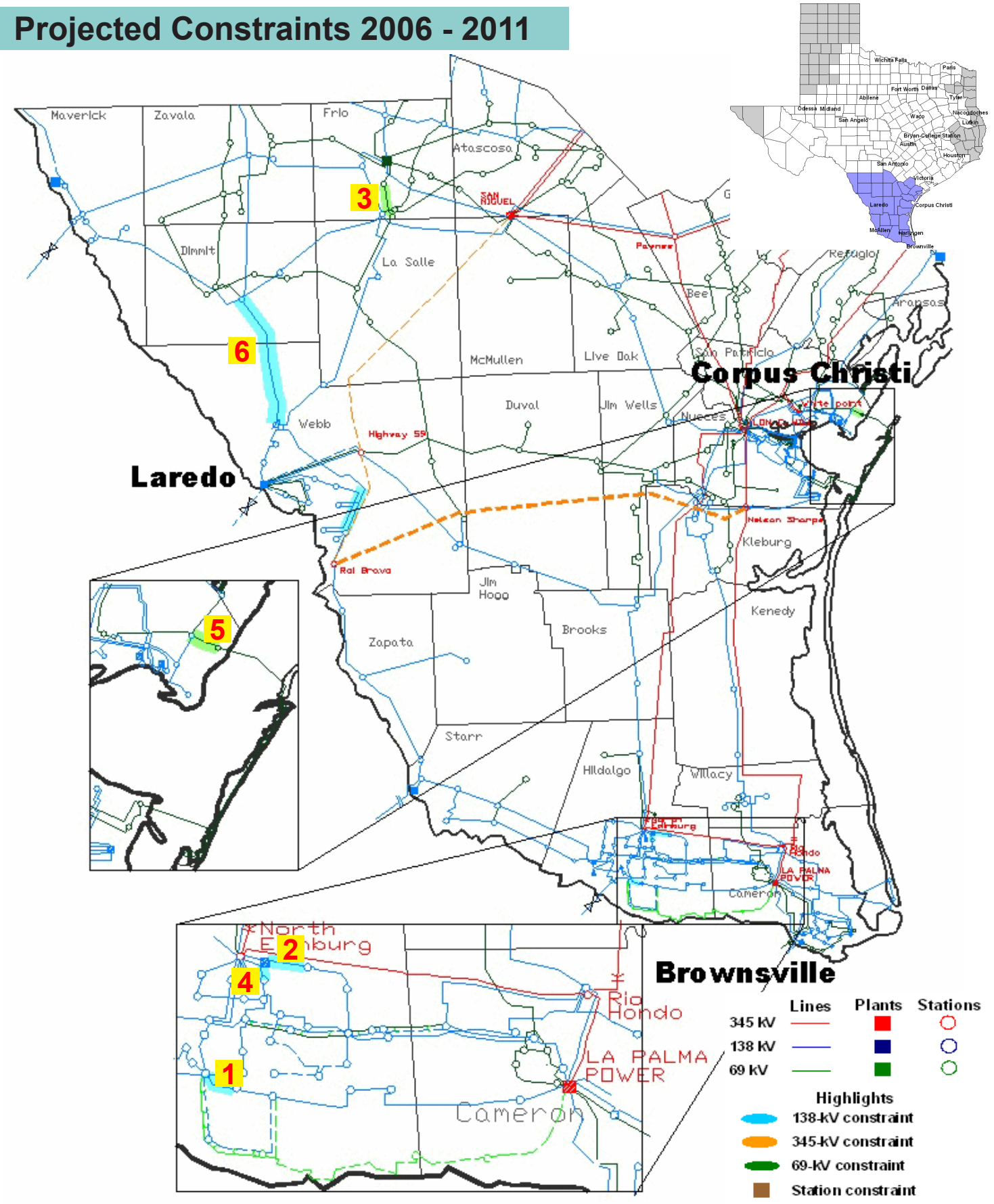
Several other improvements are scheduled for the area between San Antonio and Laredo to alleviate thermal overloads and problems with low voltage. These improvements include a new Escondido to West Batesville 138-kV line, the upgrade of the West Batesville to Asherton 138-kV line, a new Palo Duro 138-kV station and 138-kV line from that station to Dilley.

In the south Rio Grande Valley several 138-kV upgrades and 69-kV conversions will relieve local contingency overloads. On the west side of the Valley the improvements include the addition of the new Stewart Road 138/69-kV station and the conversion of the 69-kV line from Stewart Road to South McAllen to 138 kV, the conversion of the 69-kV line from Pharr to Harlingen, and the 138-kV Sharyland DC tie. On the east side of the Valley, an upgrade of the 69-kV system between Raymondville and La Palma is required.

In the Corpus Christi area the 69-kV loop onto Mustang Island between the 138-kV Aransas Pass and Airline stations will be rebuilt to alleviate thermal overloads. Additional reactive support is also planned for the Corpus Christi area.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Aransas Pass - Airline upgrade	69	2007	
2	Pharr - Harlingen conversion	138	2007	✓
3	Sharyland DC tie	138	2007	✓
4	Stewart Road - South McAllen conversion	138	2007	✓
5	Stewart Road station and conversion	138	2007	✓
6	Palo Duro - Dilley	138	2008	✓
7	Palo Duro switching station	138	2008	✓
8	West Batesville - Asherton upgrade	138	2008	✓
9	Escondido - West Batesville	138	2010	✓
10	Raymondville - La Palma upgrade	69	2010	✓
11	Rio Bravo autotransformer	345/138	2010	✓
12	Rio Bravo switching station	345	2010	✓
13	San Miguel - Laredo Lobo	345	2010	✓
14	Laredo Lobo - Rio Bravo	345	2011	✓

Projected Constraints 2006 - 2011



SOUTHERN WEATHER ZONE

There has been much progress in reducing the amount of projected congestion in the Southern weather zone. The congestion that is expected to remain is concentrated in either the Lower Rio Grande Valley or the Laredo area.

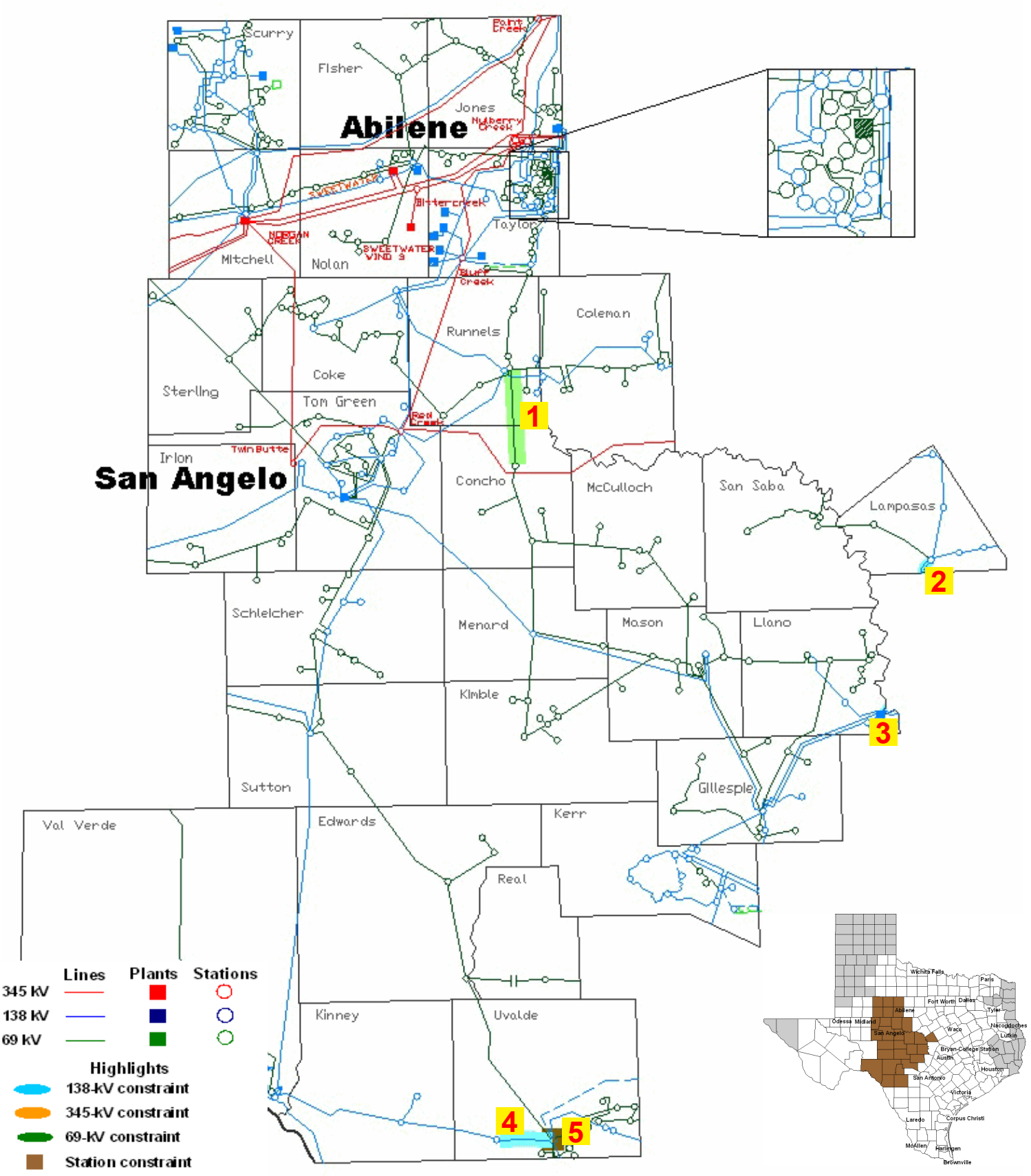
Most of the expected congestion in the Lower Rio Grande Valley is due to west to east cross-valley energy flow. This congestion will be mitigated as projects to add an additional 138-kV cross-Valley tie are completed in 2008.

Congestion into the Laredo area will continue until the completion of the new San Miguel to Laredo Lobo 345-kV line into that area in 2010, although it will be mitigated somewhat by the completion of several 138-kV improvements in the Dilley, Asherton, and Uvalde areas. Congestion due to a north-south flow limit within Laredo will be addressed by the extension of the 345-kV line in 2011.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	South McAllen - Las Milpas	138					
2	Monte Cristo - Hidalgo Enery Center	138					
3	Derby - Dilley Sub	69					
	Laredo import limit	138					
	South-North Laredo limit	138					
4	Chapin St. - Hildalbo Energy Center	138					
5	Aransas Pass - Seawall	69					
6	Asherton - North Laredo	138					

Level of Congestion		High		Medium		Low		None

Recent Constraints 2006

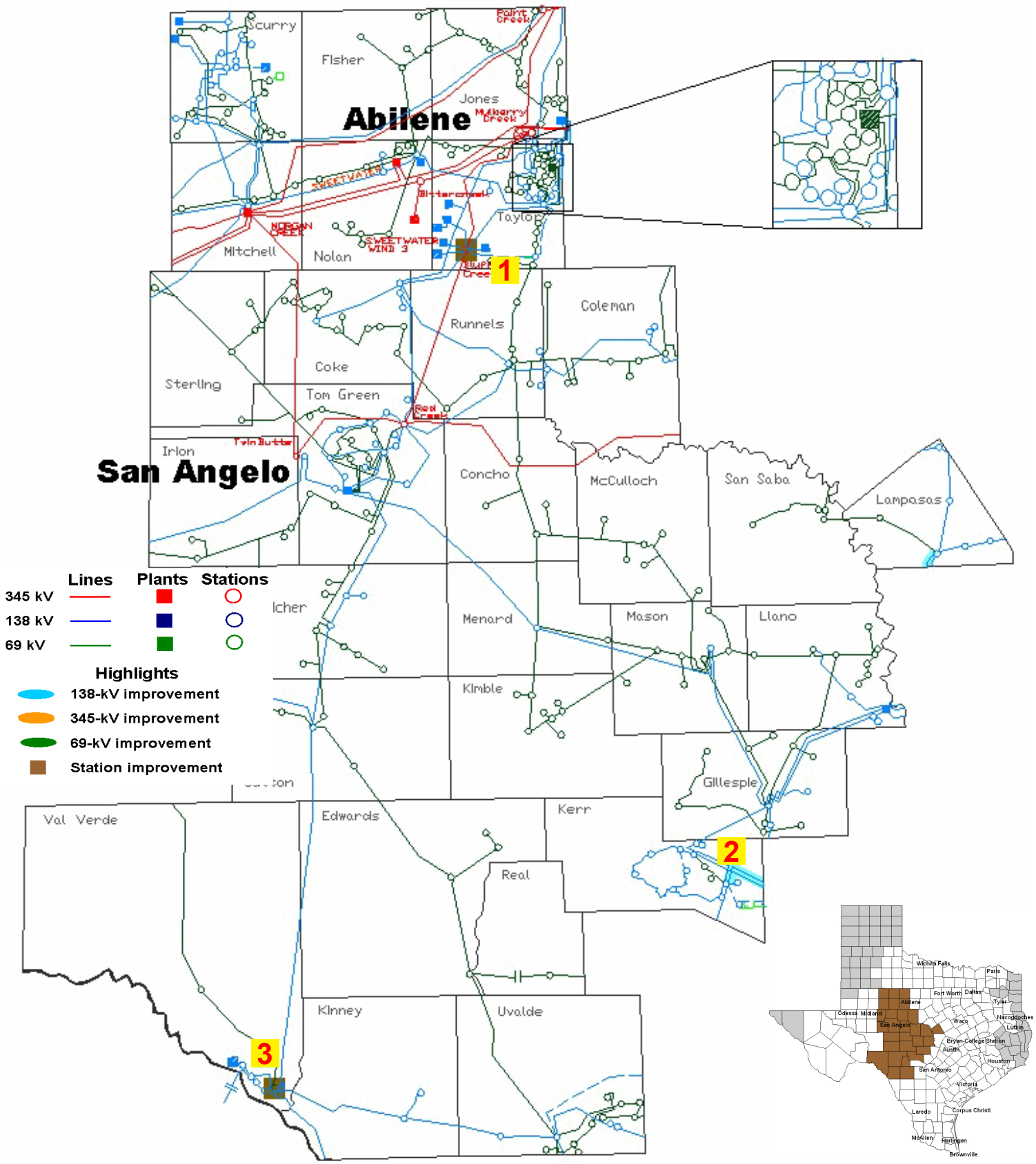


WEST WEATHER ZONE

The West weather zone includes Del Rio, Abilene, and San Angelo, as well as the western portion of the Texas Hill Country. The area has seen a tremendous amount of new wind generation capacity added in the last two years, including nearly 1,000 MW concentrated southwest of Abilene. The combination of load growth in the Central Texas area and new wind generation in West Texas has caused transmission congestion on the lines running between the two areas. Additionally, outages related to transmission construction have caused congestion in the Uvalde area.

Map Index	Constraining Element	Voltage Level, kV
1	Ballinger - Paint Rock	69
2	Graphite - Lampasas	138
3	Sherwood Shores - Ferguson	138
4	Uvalde - Asphalt	138
5	Uvalde transformer	138/69

Completed Improvements 2005 - 2006

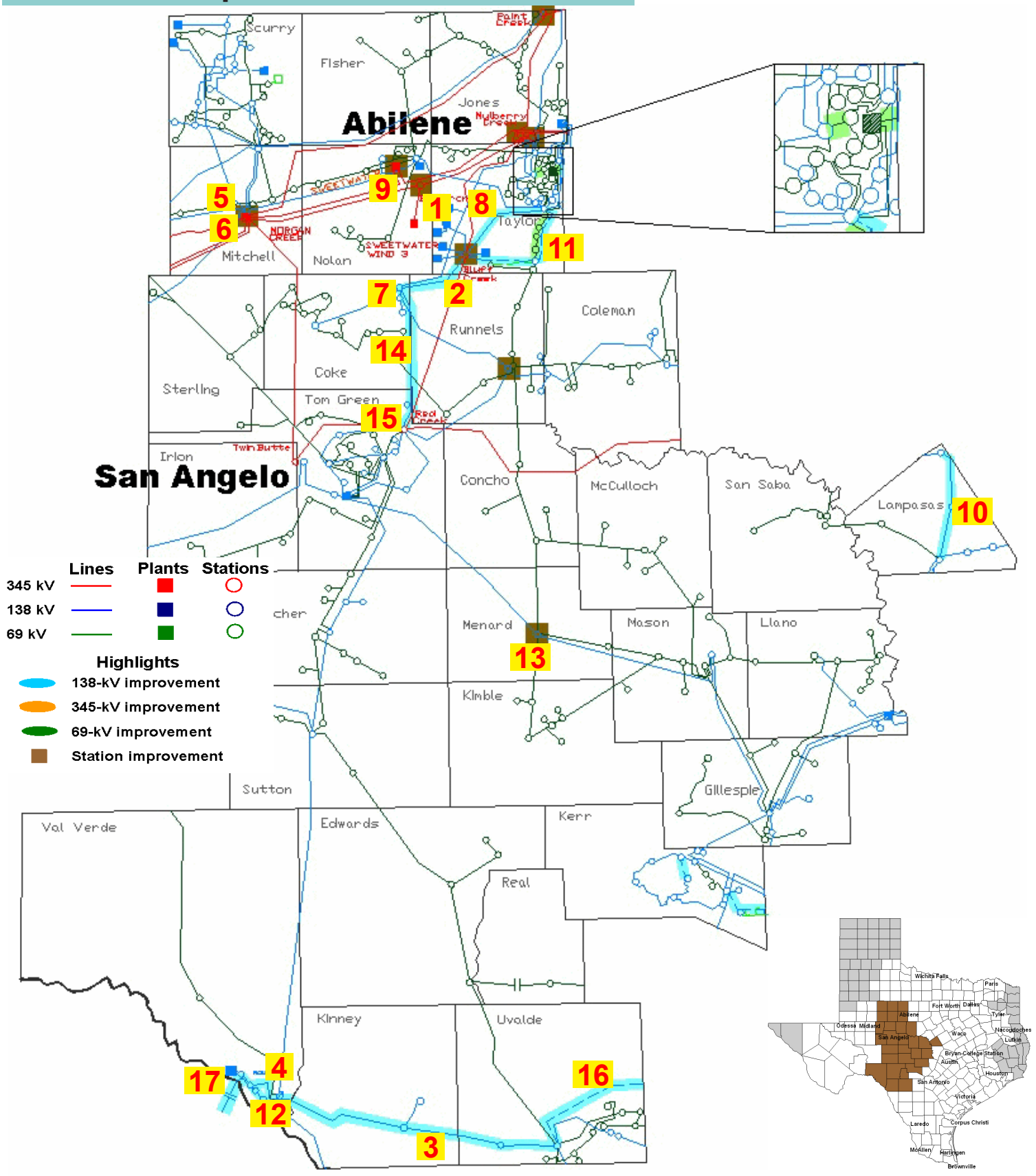


WEST WEATHER ZONE

While the West weather zone only has three major improvements completed in 2005 and 2006, there are many improvements that have been under study in this area. Many changes have occurred very rapidly in the past two years in this region. This has caused many studies to be performed multiple times to ensure that a cost-effective solution is found that not only meets the needs of existing generation interconnection requests, but is also flexible enough to incorporate future generation interconnection requests. The addition of the Bluff Creek 345-kV switching station and 345/138-kV autotransformer is going to be a central hub for many wind generators. The Comfort to Raymond Barker 138-kV upgrade helps to serve the load growth that is occurring the Texas Hill Country.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Expand Bluff Creek to 345/138 station with first 345/138-kV autotransformer	345/138	2006	
2	Comfort - Raymond Barker upgrade	138	2006	11.8
3	Del Rio Hamilton Road +/-25-MVAR DRCS and 150-MVA PST on Sonora line	138	2006	

Planned Improvements 2006 - 2011



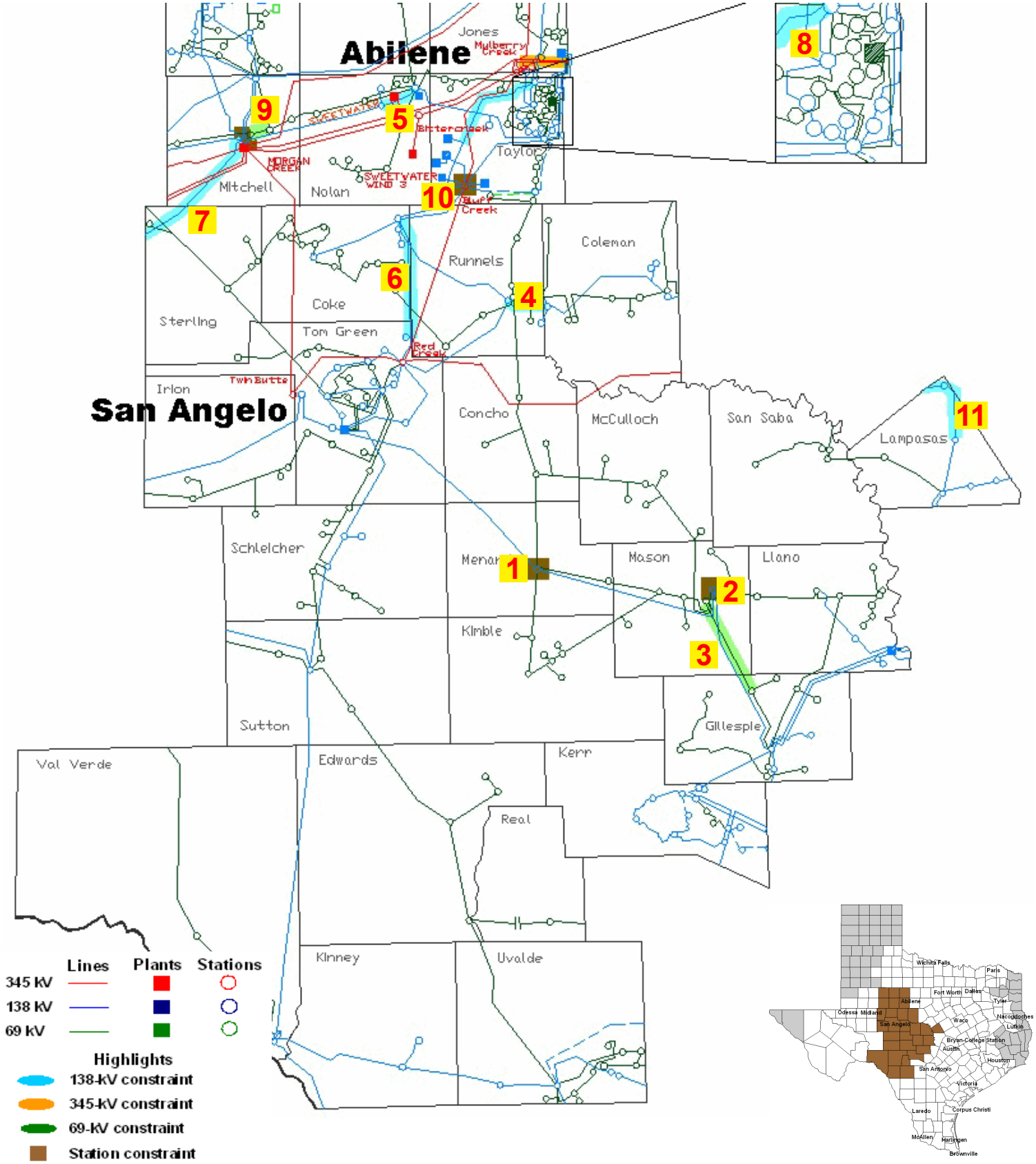
WEST WEATHER ZONE

There are several planned improvements in the West weather zone that are associated with the existing and anticipated wind generation in the Abilene area. These improvements include 345-kV terminal upgrades at Bittercreek, Sweetwater, and Morgan Creek that result in an increase of approximately 25% in the emergency capacity of the 345-kV lines between those stations. Several significant wind-related upgrades to the 69-kV and 138-kV lines between Abilene and San Angelo are also planned. These upgrades include the splitting of the Oak Creek 138-kV bus in 2007, the conversion of the 69-kV system around Bradshaw to create a new 138-kV line from Bluff Creek to South Abilene by the end of 2008, and the upgrade of the 138-kV lines from South Abilene to Red Creek by 2009. South of San Angelo a 138/69-kV phase-shifting transformer is planned for Menard in 2008 to control flow on the SAPS to Menard 138-kV line. The Goldthwaite 138/69-kV autotransformer is scheduled for an upgrade in 2008 along with the Adamsville to Evant to Lampasas 138-kV line. In several other places the networked 69-kV system will be opened to avoid congestion.

System improvements are also required between San Antonio and Del Rio in order to remove thermal overloads and improve the voltage characteristics of the Del Rio Area. Improvements include the upgrade of the Hamilton Road to Uvalde 138-kV circuit, a new 138-kV line between Uvalde and Castroville, 138-kV improvements internal to the Del Rio area, and an emergency tie that will allow block load transfers to and from CFE. A phase-shifting 138/69-kV autotransformer will be installed at Hamilton Road to regulate power flow into Del Rio on the 138-kV line from Sonora.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Bittercreek terminal equipment upgrade	345	2007	N/A
2	Bluff Creek - Oak Creek upgrade	138	2007	✓
3	Hamilton Road - Uvalde upgrade	138	2007	✓
4	Hamilton Road phase-shifting transformer	138/69	2007	✓
5	Morgan Creek autotransformer	345/138	2007	✓
6	Morgan Creek terminal equipment upgrade	345	2007	N/A
7	Oak Creek bus work	138	2007	✓
8	South Abilene - Bluff Creek upgrade	138	2007	✓
9	Sweetwater terminal equipment upgrade	345	2007	N/A
10	Adamsville - Evant - Lampasas upgrade	138	2008	Needed
11	Bluff Creek - Bradshaw - S. Abilene conversion	138	2008	✓
12	Del Rio 138-kV upgrade	138	2008	✓
13	Menard phase-shifting transformer	138/69	2008	N/A
14	Oak Creek - Orient upgrade	1368	2008	Needed
15	Orient - Red Creek upgrade	138	2008	Needed
16	Uvalde - Castroville	138	2008	✓
17	CFE emergency tie	138	2009	✓

Projected Constraints 2006 - 2011



WEST WEATHER ZONE

Almost all the expected constraints in the West weather zone are related to new wind generation. The exact location of these new wind units will affect where future transmission line congestion occurs. The congestion illustrated in the associated table and map was based in part on the projected locations of future wind generation. It is expected that terminal equipment upgrades at 345-kV switching stations will increase the capacity of the 345-kV lines running through the Abilene area by approximately 25% and move some congestion onto the underlying lower voltage systems that parallel the 345-kV system. In addition, the West weather zone also contains some congestion of the 138-kV and 69-kV lines that connect directly to Central Texas. Line upgrades and transmission system reconfigurations are planned to address these constraints.

There are also numerous 138-kV and 69-kV constraints associated with new wind generation in the area south and west of Abilene that would be present even without the 345-kV terminal equipment upgrades. As these improvements are completed, a much stronger 138-kV system will be completed between Abilene and San Angelo. Transmission congestion associated with improvements in this area will shift from one element to another until these projects are completed. The amount and placement of new wind generation in this area will greatly impact the location and severity of the associated congestion.

Map Index	Projected Constraining Element	Voltage Level, kV	2007	2008	2009	2010	2011
1	Menard	138					
2	Mason	138					
3	Mason - Fredonia	69					
4	Ballinger - Ivey	138					
5	Eskota - Sweetwater	138					
6	Oak Creek - Orient	138					
7	Morgan Creek - McDonald	138					
8	Abilene Northwest - Callahan	138					
9	Morgan Creek - Colorado City	138					
10	Bluff Creek	138					
11	Adamsville - Evant	138					

Level of Congestion High Medium Low None

SYSTEM OVERVIEW

Electricity is a common element running through our homes, offices, manufacturing plants, farms, hospitals, schools, and public services. Electricity enables us to live our lives comfortably and conduct our businesses efficiently. As our population grows and our quality of life improves, the need for electricity grows as well. With this, the need for new electric generation and transmission systems that are safe and reliable also grows.

Electricity is delivered from generating plants to consumers in two stages: first through the high-voltage transmission system, and then, after the voltage is stepped down by transformers, through local distribution lines. ERCOT and the TSPs in the ERCOT Region provide the backbone for this system, with the twin goals of delivering power reliably and providing benefits to the economy. These two goals are tightly intertwined.

A transmission grid is reliable because it consists of a network of interconnected wires that provide multiple paths to move power from producers to consumers. The advantage of having these multiple transmission paths is to reduce the chance that outages of individual network elements will negatively affect consumers.

A strong transmission grid benefits the economy and not just because the costs associated with blackouts are so high. A robust system provides the ability for an area to access more distant sources of electricity when local sources are unavailable or are more expensive to operate. Because of the transmission network's configuration and ability to provide access to more distant sources of power, fewer resources may be required to provide the same level of electrical service reliability to consumers — thereby reducing the overall cost of electrical service.

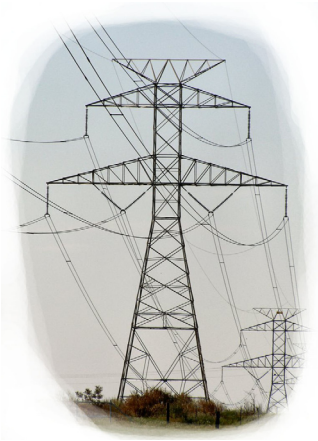
In a deregulated electric market, a strong transmission system creates a level playing field for competition and breaks down barriers to entry for new market participants. By all indicators, retail competition remains strong in the ERCOT Region, which is ranked the No. 1 retail market in North America, and where 75% of customers have the ability to choose their retail electric provider. (The other 25% are customers of municipally owned utilities and electric cooperatives which have not opted in to competitive choice.)

Meanwhile, open access to the grid has attracted tens of thousands of megawatts of new, highly efficient generating capacity to the region, reducing the average amount of fuel required to produce power and thus keeping down overall costs to consumers. Indeed, without these improvements to the region's generation fleet, the price increases to Texas consumers experienced over the past two years — which are tied to the price of natural gas — could have been much more burdensome. When competition came to the ERCOT Region in 1996 (wholesale) and 2002 (retail), ERCOT, as the entity charged with ensuring open access to the electric grid for all providers, began to identify these costs for its market participants. Today for retail customers the costs are still embedded in the cost of service but, because they are now reported regularly for all to see, they serve as a constant indicator of the success of the transmission planning process in meeting the needs of the region's customers.

How a Power System Works

Generating Plant

Power is generated from various sources: natural gas, coal, nuclear, etc.



Transmission Network

High-voltage lines span long distances.

Distribution Station

Power is stepped down in voltage.

Distribution Line

Lower voltage lines transport power to customers.

Customers

Power is stepped down to end-user voltage.

ERCOT'S ROLE

As the independent organization mandated under the Texas Public Utility Regulatory Act (PURA), ERCOT's core function is to operate the power system in order to maintain reliability and plan for the enhancement or expansion of the capability of the transmission system.

To accomplish this, ERCOT engages planning processes that address issues of concern not only to ERCOT but also to neighboring transmission grid systems. As a member of the North American Electric Reliability Council (NERC), ERCOT is obligated to comply with all NERC reliability standards. In addition, ERCOT participates in super-regional planning coordination processes with Southwest Power Pool (SPP), Southeastern Electric Reliability Council (SERC), Western Electricity Coordinating Council (WECC), Comision Federal de Electricidad (CFE-Mexico), and other independent system operators across North America.

ERCOT's planning process facilitates openness and trust. Factors accounting for ERCOT's success include:

- Non-discriminatory processes and independence from market financial interests create a level playing field for all market participants.
- On-going communication ensures successful implementation of expansion plans.
- Compliance with national and regional reliability council criteria ensures reliability is maintained.
- PUCT oversight provides the stability necessary for power plant investment at no risk to consumers.
- Acceptance by state jurisdictions and inclusion of state regulators in the stakeholder process demonstrates confidence in ERCOT's process.

ERCOT's process is collaborative - from start to finish. It sponsors opportunities for all stakeholders to participate in improving the transmission system and ensuring continued reliability through numerous forums:

- Operating Review Group (ORG) and RPG activities provide for the on-going exchange of ideas, discussion of issues, and presentation of process results.
- Technical committees and subcommittees of the ERCOT board, such as the Technical Advisory Committee, Reliability Operations Subcommittee, and Wholesale Market Subcommittee, provide additional opportunity for stakeholders to provide process input.
- Ad hoc stakeholder groups are periodically commissioned to address specific issues.
- Jurisdictional liaisons foster two-way communication and resolution of planning issues with legislative and regulatory bodies.

ERCOT's success is proven. As the market evolves, ERCOT will continue to provide a reliable electric grid and competitive opportunities for all market participants and customers. To accomplish this, ERCOT will adhere to three principles:

- Integrated regional planning to ensure that needs are met effectively and efficiently.
- Fully integrated planning, operations, and market functions to ensure that the proper balance between reliability and market-driven improvements is maintained.
- Single-entity guidance to focus on key strategic initiatives and risks. ERCOT serves as the steward of the combined transmission systems for members from operational, planning, and market perspectives.

Load Management and Energy Efficiency

Conservation, energy efficiency, and distributed resource programs can help mitigate transmission constraints and the need for additional transmission investment. Loads are already eligible to compete with generation resources in three ERCOT programs: Load Acting as a Resource (LAAR), Balancing Up Load (BUL), and Must-Run Alternative (MRA). (Descriptions of these programs are not included in this report but may be accessed on the ERCOT web site or by contacting ERCOT.)

ERCOT will continue to investigate and study technologies for their possible use in benefiting the ERCOT grid and will continue to work with policymakers and stakeholders to enable participation in the market for load management, energy efficiency, and distributed generation. Candidate areas for development of such projects that could mitigate the need for additional transmission include Dallas/Fort Worth, Houston, Austin, San Antonio, Laredo, McAllen, Harlingen, and Brownsville.

Distribution

The identification of distribution constraints is not within the scope of ERCOT's planning process. It is the responsibility of each distribution service provider (DSP) to identify constraints as part of its distribution planning processes. Distribution differs from transmission in not only voltage magnitude (i.e., 69 to 345 kV for transmission, 7.2 through 35 kV for distribution) but also in the basic configuration of the system. As discussed earlier, transmission is networked together with multiple paths such that a single failure should not negatively affect reliability; whereas distribution systems are constructed such that the consumer is served by a single line (or feeder) sourced from a distribution substation.

To improve reliability and to safely and adequately serve their customers, DSPs monitor and perform comprehensive analyses of their distribution systems. In general, each DSP's analysis includes examination of the following areas: substation transformer and breaker loading, reactive loading, conductor and line device loading, load balance, steady-state voltage level, short-circuit protection and coordination, service reliability, and system configuration. This analysis is the basis for distribution system improvements that are performed to ensure the continued safe and reliable provision of electric service to consumers.

Because of the low cost impact of congestion in distribution systems and the relatively low impact on reliability, ERCOT does not normally identify nor study distribution constraints.

Planning and Operations

ERCOT's planning process is based on stakeholder participation in three regional planning groups (North, South, and West), where projects are proposed and issues discussed in an open, accessible forum. Participation in these groups is required of all TSPs and is open to all market participants, consumers, and PUCT staff. All attendees are free to propose projects, which are then reviewed by ERCOT staff using sophisticated computer simulation tools that project congestion costs based on wholesale market fundamentals. As needs are identified, ERCOT recommends projects and also recommends the appropriate TSP(s) for development and construction. The open nature of the groups' deliberations allows many issues to be thoroughly vetted, with compromises reached and roadblocks avoided early on. This process, along with a regulatory structure that allows TSPs timely recovery of costs which are allocated across all loads in the region based on their share of peak demand, is widely considered to be a fundamental reason the ERCOT Region has been so successful.

ERCOT has made significant enhancements in recent years to the way it operates the electric system — enabling greater medium-term and short-term control over transmission line loading. The results include a remarkable 34% reduction in local congestion costs between 2003 and 2005, at a time when prices for natural gas — the principal fuel in the ERCOT region — have increased. Based on January through August 2006 costs, the local congestion costs for 2006 will be less than those for 2005.

Assessment Factors

In evaluating the transmission system and planning for future needs, ERCOT considers a number of factors, such as:

- At what rate will electricity demand increase in the future? What kind of electricity usage will drive the increases in demand?
- What generation is likely to be constructed or returned to service from mothball? Which existing generation units are likely to be decommissioned or mothballed?
- What types of disturbances on the transmission system are particularly serious or problematic?
- How much will it cost to provide reliable transmission service and improve access?
- What are the benefits associated with transmission system expansion plans, and how can they be measured?
- What effect will changes in the operation of the electricity markets have on the use of the transmission system?
- What new energy efficiency technologies may be available to help meet the needs more effectively?

PLANNING CONSIDERATIONS

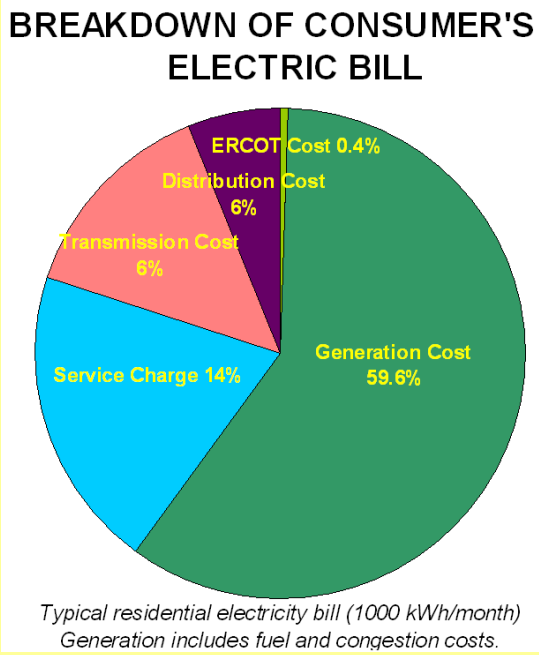
There are numerous other factors that drive the need for transmission system improvement. In most cases, more than one factor will signal the need for system expansion. The most common drivers are:

Transmission Service Requirements and Limitations. Virtually all entities that own power plants or provide electric service to customers will seek to buy and sell electricity with other entities. Congestion results when situations that limit the ability to provide power delivery exist on the transmission system. For example, due to system issues, higher cost generation facilities may have to be operated or the system may have to be reconfigured to avoid curtailing or interrupting service. Depending on the frequency and the cost and/or risk of reconfiguring the system, improving the transmission system to avoid these types of events may be more prudent.

Generation Additions, Decommissioning, and Mothballing. When a new generation facility is proposed, ERCOT staff conducts a series of interconnection studies. These studies are intended to determine if the proposed generation facility can readily be incorporated into the ERCOT transmission system. If the existing transmission system is found inadequate to ensure generator stability or reliable transmission service, the needed system expansion or improvements will be determined. Similar studies are performed when ERCOT is notified that a generating unit is to be decommissioned or mothballed.

Load Growth. According to ERCOT's current load forecast, overall demand for electricity during peak usage periods within ERCOT is projected to grow at a rate of 2.1% per year.

Paying for Electricity. The prices consumers pay to receive electrical service consist of four major components: generation (includes the costs of fuel and congestion management), transmission, distribution, and retail provider costs.



Typical residential electricity bill (1000 kWh/month)
Generation includes fuel and congestion costs.

Retail electricity consumers pay for all components via their monthly electric bill. In general, transmission costs are the smallest of the major components of a retail consumer's electric bill, currently representing approximately 6% of the total monthly bill. Generation and fuel costs make up the major portion, followed by distribution, and then the retailer's customer cost.

Conclusion

A strong network of high-voltage transmission lines is the superhighway system for electrical power and the backbone for electric reliability in a region. A transmission system must be planned, designed, constructed, and maintained to operate reliably within thermal, voltage, and stability limits while achieving its major purpose of delivering electricity safely and reliably to consumers. The transmission system must be flexible enough, every second of every day, to accommodate an ever-growing demand for reliable and affordable electricity.

As previously noted, ERCOT studies show significant transmission system improvements are needed in the coming years. In certain areas the system is currently operating near its design limits and is not able to continue to reliably serve consumers and accommodate growth into the future without significant reinforcement. ERCOT, as the planning process supervisor, will continue to lead efforts to address these constraints, always with the twin goals of ensuring grid reliability and reducing overall costs to the market.

As this report demonstrates, ERCOT and the TSPs, generators, and consumers in its region are meeting the challenge to keep the system reliable and adequate.

CONTACTS AND INTERNET LINKS

Media Contact

Dottie Roark 512-225-7024, cell 512-413-3379

Internet Links

ERCOT Home Page

http://www.ercot.com

Information Requests. For general communications and queries, the public can submit a request for information at:

http://www.ercot.com/about/contact/inforequest.cfm

Generation Interconnection or Change Request Procedure

http://www.ercot.com/gridinfo/generation/index.html

Operations and System Planning Data Area

http://oldercot.ercot.com/tmaps/login.cfm

Users must register for access to this area.

Major data folders of interest in this area

- **Power System Planning Charter and Processes**
- **Capacity, Demand, and Reserves Reports** (information on generation capacity, projected demand and reserve margins)
- **Demand and Energy Reports (D&E) Monthly Actuals** (historical data about load and energy)
- **Generation Project Interconnection Information** (data on generation interconnection projects)
- **Maps of ERCOT Transmission System** (in many formats including AutoCad and PowerPoint)
- **Regional Planning Group NORTH**
- **Regional Planning Group SOUTH**
- **Regional Planning Group WEST**
- **Steady-State Base Case Info and Old Data**
- **Steady-State Power Flow Base Cases**
- **System Protection Short-Circuit Data**
- **Transmission Project and Information Tracking (TPIT)** (detailed data about transmission projects)

DISCLAIMER

This report was prepared by the Electric Reliability Council of Texas (ERCOT) staff. It is intended to be a report of the status of the transmission system in the ERCOT Region and ERCOT's recommendations to address transmission constraints. Transmission system planning is a continuous process. Conclusions reached in this report can change with the addition (or elimination) of plans for new generation, transmission facilities, equipment, or loads.

Information on congestion costs presented herein is based on the most recent settlement calculations at the time of the development of this report. Future settlements as well as ERCOT Board of Directors and Public Utility Commission of Texas directives may change the figures presented herein.

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APPENDIX

Five-Year Transmission Plan

This appendix is a comprehensive list of planned transmission changes that are scheduled to occur between 2007 and 2011. This information was compiled by cross-referencing the Technical Advisory Committee Reliability Operations Subcommittee Steady State Working Group (SSWG) basecases, Transmission Project and Information Tracking (TPIT) information, and ERCOT's annual five-year plan analysis. Transmission improvements that were not reported in TPIT, were not included in the SSWG basecases, and did not show up as needed in ERCOT's analysis are not on this list.

Times, dates, and other project information was drawn from the following sources: TPIT data was taken from the August 2006 version of TPIT. The SSWG data for 2007 transmission improvements was compiled by comparing the SSWG 05 data set A winter case, updated in November 2005, with the 06 data set B 2007 summer case, updated in February 2006. The SSWG data for 2008 and 2009 transmission improvements was compiled by comparing changes in the 06 data set B summer peak cases, using the February 2006 updates. The SSWG data for the 2010 and 2011 cases used the 06 data set B cases which were updated in August 2006. The 07 data set B cases were not used.

The transmission improvements listed in this appendix can be categorized into the following six categories:

1. Annual improvement left in the case – A project that is either 69 kV or 138 kV, costs less than $10 million, and does not require a CCN.

2. Annual improvement removed from the case – A project defined the same as type 1, but if TPIT data indicated that this improvement would not be complete until after the summer peak of a particular year, it was removed from the case for that year. For example, a project with a TPIT in-service date of November 2008 would not be included in the 2008 case. If that project were included in the original SSWG 2008 summer peak case it was removed and classified as an "annual improvement removed from the case."

3. Economic project added by ERCOT – Projects that were added to the cases as a result of ERCOT's economic analysis. ERCOT's economic analysis compares the capital cost of the project to the reduction in either production cost (generator's cost) or energy revenue (what consumers pay) after the project is added.

4. Reliability project added by ERCOT – Projects that were added to the cases to prevent contingency thermal overloads that could not be removed by pre-contingency generation dispatch.

5. RPG level project left in case – A RPG level project is a project that is either 345 kV, costs more than $10 million, or requires a CCN. Projects of this type were left in the case if they have received RPG review and ERCOT endorsement.

6. RPG level project removed from the case – A RPG level project is a project that is either 345 kV, costs more than $10 million, or requires a CCN. Projects of this type were removed from the cases if they had not undergone RPG review and been endorsed by ERCOT.

Year	Case Change	Project Description	TPIT Number	Trans. Owner
2007	Annual improvement left in case	Decker to Techridge 138kV circuit	05TPIT0108	AEN
2007	Annual improvement left in case	Lakeway second circuit	06TPIT0112	AEN
2007	Annual improvement left in case	Circuit 978 (Seaholm to Warren) Reconductor	07TPIT0086	AEN
2007	Annual improvement left in case	Austrop to Decker Reconductor Last Three Spans of the circuit	08TPIT0036	AEN
2007	Annual improvement left in case	Robstown tap to City of Robstown, rebuild 69 kV line	04TPIT0113	AEP
2007	Annual improvement left in case	Frontera to Palmview, tap Palmhurst and upgrade 69 kV to 138 kV line	04TPIT0134	AEP
2007	Annual improvement left in case	Cut-in the Nueces Bay to Morris Street 138 kV line into Highway 9 substation	05TPIT0036	AEP
2007	Annual improvement left in case	Install a 150 MVA PST at North Laredo substation with capacitors at Asherton and North Laredo	05TPIT0080	AEP
2007	Annual improvement left in case	Hamilton Road 138 kV, add 150 MVA-PST on Sonora 138 kV line	05TPIT0081	AEP
2007	Annual improvement left in case	Laredo Plant to Zacate Creek	multiple	AEP
2007	Annual improvement left in case	Laredo to Anna Street, upgrade 69 kV Inner Loop to 138 kV ine	multiple	AEP
2007	Annual improvement left in case	Raymondville, upgrade 138/69 kV auto	05TPIT0097	AEP
2007	Annual improvement left in case	Convert Moore Field and Palmhurst substations 69 -138 connect to N Edinburg to Bates	05TPIT0167	AEP
2007	Annual improvement left in case	Friend Ranch, add +/-25 MVAR DRCS	05TPIT0222	AEP
2007	Annual improvement left in case	Rio Pecos, add +/-25 MVAR DRCS	05TPIT0223	AEP
2007	Annual improvement left in case	Convert Los Fresnos to 138 kV connecting to the LaPalma to Loma Alta 138 kV line	multiple	AEP
2007	Annual improvement left in case	Airline to Naval Base, rebuild 69 kV Line	06TPIT0015	AEP
2007	Annual improvement left in case	W McAllen to S McAllen, reconductor 138 kV line	06TPIT0055	AEP
2007	Annual improvement left in case	Reconductor Victoria to McGruder and install 138/69 kV autotransformer at McGruder	multiple	AEP
2007	Annual improvement left in case	Convert the Amistad to CFE Amistad distribution to 138 kV,reconductor Hamilton Road 138 kV	multiple	AEP
2007	Annual improvement left in case	Airline to Laguna, rebuild 69 kV line	06TPIT0081	AEP
2007	Annual improvement left in case	Beeville, add +/-25 MVAR DRCS	06TPIT0149	AEP
2007	Annual improvement left in case	Laredo BTB Station, Rebuild and convert line to CFE to 230 kV	06TPIT0203	AEP
2007	Annual improvement left in case	New 345/138-kV switch station Bluff Creek between Red Creek and Mulberry Creek	06TPIT0221	AEP
2007	Annual improvement left in case	Add 125 MVAR of dynamic support in the Laredo, Hamilton, Victoria and Del Rio areas	multiple	AEP
2007	Annual improvement left in case	Bluff Creek FACTS device	07TPIT0111	AEP
2007	Annual improvement left in case	Add Buffalo Gap 2 Wind Plant	N/A	AEP
2007	Annual improvement left in case	Add Buffalo Gap Wind plant	N/A	AEP
2007	Annual improvement left in case	Falfurrias, add +/-25 MVAR DRCS	N/A	AEP
2007	Annual improvement left in case	New 138-kV substation KRGP between Falfurrias and Stratton	N/A	AEP
2007	Annual improvement left in case	New 138-kV substation Schkade between Twin Butte and San Angelo	N/A	AEP
2007	Annual improvement left in case	New 69-kV substation Charco between Beeville and Normanna	N/A	AEP
2007	Annual improvement left in case	North Denton Conversion and Rebuild North Denton to Spring	05TPIT0043	BEC
2007	Annual improvement left in case	Hearne to Hearne Southwest Rebuild	05TPIT0166	BEC
2007	Annual improvement left in case	Construction related to the new Jack County Plant	06TPIT0002	BEC
2007	Annual improvement left in case	Seaton - Poage 69 kV line	06TPIT0024	BEC
2007	Annual improvement left in case	Peoria to Forreston Uprating	06TPIT0063	BEC
2007	Annual improvement left in case	Powell to Meridian	06TPIT0065	BEC
2007	Annual improvement left in case	Stepehenville to Carlton Switch	06TPIT0159	BEC
2007	Annual improvement left in case	Prairie Hill to Purdon Rebuild	07TPIT0031	BEC
2007	Annual improvement left in case	Booneville to Hearne Southwest Rebuild	07TPIT0055	BEC
2007	Annual improvement left in case	Jewett to Watson Chapel Rebuild,Hilltop Lakes - Iola Conversion	07TPIT0058	BEC
2007	Annual improvement left in case	Hilltop Lakes to Petteway Rebuild	08TPIT0016	BEC
2007	Annual improvement left in case	Belton to Moffat	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Abby Bend between Hood and Spunky	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation between Frisco and Navo	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Cedar Valley between Trimmier and Ding Dong	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Godley between Concord and Fall Creek	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Heritage between Keller Magnolia and Keller	N/A	BEC

Year	Case Change	Project Description	TPIT Number	Trans. Owner
2007	Annual improvement left in case	New 138-kV substation Jessica between Lillian and St. Paul	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Pedan Road radial from Pedan Tap	N/A	BEC
2007	Annual improvement left in case	New 138-kV substation Scurry Switch between Sun and Salt Creek	N/A	BEC
2007	Annual improvement left in case	New 69-kV substation Hudson Oaks between North Texas and Live Oak	N/A	BEC
2007	Annual improvement left in case	New 69-kV substation Weatherford Lake radial from North Texas	N/A	BEC
2007	Annual improvement left in case	Reconfigure Perch Hill connection	N/A	BEC
2007	Annual improvement left in case	Remove one of the Spunky 138/69-kV autotransformers	N/A	BEC
2007	Annual improvement left in case	New 138-kV Sloan Creek and McKinney South between McKinney Switch & Allen North	N/A	BEC/ TXU ED
2007	Annual improvement left in case	Upgrade Butler to Butler	N/A	BEC/ TXU ED
2007	Annual improvement left in case	Brownsville Upgrade existing 69-kV circuit to 138-kV	multiple	BPUB
2007	Annual improvement left in case	Snook to Steel Store 138, New line construction	05TPIT0168	BTU
2007	Annual improvement left in case	Dansby to Atkins 138 reconductor	05TPIT0170	BTU
2007	Annual improvement left in case	Construct Booster 138KV Substation	05TPIT0248	Centerpoint
2007	Annual improvement left in case	Sauer Dip to Silber Dip ckt.73	06TPIT0117	Centerpoint
2007	Annual improvement left in case	Sauer Dip to Silber Dip ckt.81	06TPIT0118	Centerpoint
2007	Annual improvement left in case	Construct Franklin 138KV Substation	06TPIT0153	Centerpoint
2007	Annual improvement left in case	Baytown Capacitor Bank	06TPIT0182	Centerpoint
2007	Annual improvement left in case	South Channel Capacitor Bank	06TPIT0184	Centerpoint
2007	Annual improvement left in case	P.H. Robinson Capacitor Bank	06TPIT0185	Centerpoint
2007	Annual improvement left in case	Webster Capacitor Bank	06TPIT0186	Centerpoint
2007	Annual improvement left in case	Bellaire 345/138 kV autotransformer	06TPIT0196	Centerpoint
2007	Annual improvement left in case	P.H. Robinson 345/138 kV autotransformer	06TPIT0197	Centerpoint
2007	Annual improvement left in case	New 138-kV substation West Bay radial from Stewart	06TPIT0219	Centerpoint
2007	Annual improvement left in case	Jefferson-South Channel	06TPIT0222	Centerpoint
2007	Annual improvement left in case	Second Oasis-W.A. Parish 345-kV circuit	06TPIT0226	Centerpoint
2007	Annual improvement left in case	Humble Capacitor Bank	07TPIT0051	Centerpoint
2007	Annual improvement left in case	Channelview Capacitor Bank	08TPIT0031	Centerpoint
2007	Annual improvement left in case	College Station Post Oak to Southwood Valley Line Reconducter	06TPIT0170	College Station
2007	Annual improvement left in case	Braunig to Kennedy 138 kV Reconductor (Elmendorf - Floresville Section)	05TPIT0001a	CPS
2007	Annual improvement left in case	Harmony Hills to Castle Hills to Med. Center 138kV Reconductor	05TPIT0002	CPS
2007	Annual improvement left in case	Bandera to Hamilton Wolfe to Med. Center 138kV Reconductor	07TPIT0127	CPS
2007	Annual improvement left in case	Fairdale/Kraft-Marquis 138 kV line	05TPIT0027	Garland
2007	Annual improvement left in case	Ben Davis-Crist Road 138 kV line	multiple	Garland
2007	Annual improvement left in case	Crist Road-McCree 138 kV line	05TPIT0099	Garland
2007	Annual improvement left in case	Centerville 69 kV to 138 kV voltage conversion	06TPIT0049	Garland
2007	Annual improvement left in case	Centerville-Miller line 69 kV to 138 kV voltage conversion	07TPIT0047	Garland
2007	Annual improvement left in case	Highway 32-Wimberley	05TPIT0065	LCRA
2007	Annual improvement left in case	Coronado-Graphite Mine-Lampasas	05TPIT0066	LCRA
2007	Annual improvement left in case	Highway 32-Wimberley	05TPIT0065	LCRA
2007	Annual improvement left in case	Coronado-Graphite Mine-Lampasas	05TPIT0066	LCRA
2007	Annual improvement left in case	Buda-San Marcos	05TPIT0067	LCRA
2007	Annual improvement left in case	Marshall Ford-Buttercup	05TPIT0068	LCRA
2007	Annual improvement left in case	McQueeney-New Berlin	06TPIT0072	LCRA
2007	Annual improvement left in case	Fayetteville-Pisek-Welcome-Salem	06TPIT0074	LCRA
2007	Annual improvement left in case	Comfort-Raymond Barker	06TPIT0076	LCRA
2007	Annual improvement left in case	Sandy Creek Substation	06TPIT0078	LCRA
2007	Annual improvement left in case	Kendall-Comfort	06TPIT0137	LCRA
2007	Annual improvement left in case	New Berlin-Hickory Forest-Capote-Seguin	07TPIT0035	LCRA
2007	Annual improvement left in case	Verde Creek-Kerrville Stadium	07TPIT0061	LCRA
2007	Annual improvement left in case	Verdi 69 kV Substation	05TPIT0187	STEC

Year	Case Change	Project Description	TPIT Number	Trans. Owner
2007	Annual improvement left in case	Pearson 69/138 kV Switching Station	07TPIT0081	STEC
2007	Annual improvement left in case	Close the tie at Dilley Switch	05TPIT0047	STEC/ AEP
2007	Annual improvement left in case	Ben Davis 345-kV work	06TPIT0176	TMPA
2007	Annual improvement left in case	New 138-kV sub for Cap Rock	06TPIT0180	TMPA
2007	Annual improvement left in case	Texas City, Comanche-Cherokee 138kV line	04TPIT0155	TNMP
2007	Annual improvement left in case	Bosque Switch Interconnection	06TPIT0158	TNMP
2007	Annual improvement left in case	Freeway Park-Dickinson		TNMP
2007	Annual improvement left in case	New 138-kV substation Hauton between Alvin and Hastings	N/A	TNMP
2007	Annual improvement left in case	New 138-kV substation Mainland between Alvin and Freeway Park	N/A	TNMP
2007	Annual improvement left in case	Pleasant Valley - Iowa Park Tap 69 kV line	05TPIT0009	TXU ED
2007	Annual improvement left in case	Venus - Cedar Hill Substation 138 kV line	05TPIT0094	TXU ED
2007	Annual improvement left in case	Cedar Hill Substation - DeSoto 138 kV line	06TPIT0013	TXU ED
2007	Annual improvement left in case	Sterrett - Waxahachie Pump 138 kV line	06TPIT0019	TXU ED
2007	Annual improvement left in case	Belton - Nolanville 138 kV line	06TPIT0021	TXU ED
2007	Annual improvement left in case	West Waco - Lorena 69 kV line	06TPIT0030	TXU ED
2007	Annual improvement left in case	Ennis Switch - Ennis 138 kV line	06TPIT0036	TXU ED
2007	Annual improvement left in case	Carrollton East - Renner 138 kV line	06TPIT0037	TXU ED
2007	Annual improvement left in case	Denison North - Denison Tap 138 kV line	06TPIT0040	TXU ED
2007	Annual improvement left in case	Sherry - Liggett 138 kV line	06TPIT0043	TXU ED
2007	Annual improvement left in case	Tyler NE - Tyler East 138 kV line	06TPIT0046	TXU ED
2007	Annual improvement left in case	North Herty - Lufkin East 138 kV line	06TPIT0088	TXU ED
2007	Annual improvement left in case	Forney - East Mesquite 138 kV line	06TPIT0091	TXU ED
2007	Annual improvement left in case	Wichita Falls Switch - Wichita Falls Basin 69 kV line	06TPIT0092	TXU ED
2007	Annual improvement left in case	Tyler SE - Tyler GE 138 kV line	06TPIT0093	TXU ED
2007	Annual improvement left in case	Stryker Creek - Troup 138 kV line	06TPIT0094	TXU ED
2007	Annual improvement left in case	Loop Chico Gifford Hill - Decatur 138 kV line into BEC's Wise County Switch	06TPIT0141	TXU ED
2007	Annual improvement left in case	Temple Pecan Creek - Temple Elm Creek 138 kV line	06TPIT0171	TXU ED
2007	Annual improvement left in case	Carbon 69 kV Switching Station	06TPIT0181	TXU ED
2007	Annual improvement left in case	Alvarado autotransformer	06TPIT0208	TXU ED
2007	Annual improvement left in case	Lamar Blossom autotransformer	06TPIT0211	TXU ED
2007	Annual improvement left in case	Forney-Lake Hubbard	06TPIT0232	TXU ED
2007	Annual improvement left in case	Seagoville-Lawson	07TPIT0123	TXU ED
2007	Annual improvement left in case	Saginaw - Euless/Roanoke Switch 138 kV line	07TPIT0016	TXU ED
2007	Annual improvement left in case	Lewisville Switch - Highland 138 kV line	07TPIT0018	TXU ED
2007	Annual improvement left in case	Sterrett - Sardis 138 kV line	07TPIT0069	TXU ED
2007	Annual improvement left in case	Webb - Cedar Hill 345 kV line terminal equipment		TXU ED
2007	Annual improvement left in case	Midessa - Midland Airport 138 kV line upgrade	07TPIT0109	TXU ED
2007	Annual improvement left in case	Mesquite East-Mesquite West	07TPIT0114	TXU ED
2007	Annual improvement left in case	Elgin Switch - Taylor 138 kV line	07TPIT0115	TXU ED
2007	Annual improvement left in case	Handley - Duval 69 kV line	07TPIT0116	TXU ED
2007	Annual improvement left in case	Jewett - W. Fairfield 138 kV line	07TPIT0117	TXU ED
2007	Annual improvement left in case	Royse - Dalrock 138 kV line	07TPIT0122	TXU ED
2007	Annual improvement left in case	Belton - South Harker Heights 138 kV line	08TPIT0008	TXU ED
2007	Annual improvement left in case	Nolanville - Harker Heights 138 kV line	08TPIT0046	TXU ED
2007	Annual improvement left in case	New 138-kV substation Georgetown S between Round Rock WH and Gabriel	N/A	LCRA
2007	Annual improvement left in case	New 138-kV substation Marble Falls PEC between Marble Falls and Mormon Mill	N/A	LCRA
2007	Annual improvement left in case	New 138-kV substation Muldoon between Flatonia and Plum	N/A	LCRA
2007	Annual improvement left in case	New 69-kV substation Highway 71 between Wirtz and Johnson City	N/A	LCRA
2007	Annual improvement left in case	New 138-kV substation Cook between Rachal and Faysville	N/A	MVEC
2007	Annual improvement left in case	New 138-kV substation Laurel between La Palma and Port Isabel	N/A	MVEC

Year	Case Change	Project Description	TPIT Number	Trans. Owner
2007	Annual improvement left in case	New 138-kV substation MVCris between Aderhold and Hidalgo	N/A	MVEC
2007	Annual improvement left in case	New 69-kV substation Clegg radial from West George West	07TPIT0131?	STEC
2007	Annual improvement left in case	New 69-kV substation Aguadalce radial from Orange Grove	N/A	STEC
2007	Annual improvement left in case	New 69-kV substation Hillje between Louise and Round Mott Switch	N/A	STEC
2007	Annual improvement left in case	New 69-kV substation Red Bluff radial from Vanderbilt	N/A	STEC
2007	Annual improvement left in case	New 69-kV substation Seadrift between Port O'Connor and North Carbide	N/A	STEC
2007	Annual improvement left in case	Remove Warburton autotransformer	N/A	STEC/ AEP
2007	Annual improvement left in case	New 69-kV substation Carbide Docks radial from Amoco	N/A	TNMP
2007	Annual improvement left in case	Add 138-kV substation Walnut Grove between Troup and Whitehouse	N/A	TXU ED
2007	Annual improvement left in case	Add 138-kV tap Melissa between Anna Switch and Anna	N/A	TXU ED
2007	Annual improvement left in case	Add Clipper Wind Plant	N/A	TXU ED
2007	Annual improvement left in case	Add Mesquite Wind Plant	N/A	TXU ED
2007	Annual improvement left in case	Add Sid Richardson plant	N/A	TXU ED
2007	Annual improvement left in case	Baylor-Baylor Tap	N/A	TXU ED
2007	Annual improvement left in case	Benbrook-Horne	N/A	TXU ED
2007	Annual improvement left in case	Big Spring West-Air Park	N/A	TXU ED
2007	Annual improvement left in case	Bluff Creek Tap-Getty Vealmoor Tap	N/A	TXU ED
2007	Annual improvement left in case	Bowen Tate Tap-Bowen	N/A	TXU ED
2007	Annual improvement left in case	Cielo Wind-Sun	N/A	TXU ED
2007	Annual improvement left in case	Collins-East Richardson	N/A	TXU ED
2007	Annual improvement left in case	Commerce-Commerce Switch	N/A	TXU ED
2007	Annual improvement left in case	Cumby-Cumby Tap	N/A	TXU ED
2007	Annual improvement left in case	East Levee-North Network 138-kV lines	N/A	TXU ED
2007	Annual improvement left in case	Garland-Woodhaven terminal upgrade	04TPIT0131	TXU ED
2007	Annual improvement left in case	Handley autotransformer	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Bullard between Elkton and Jacksonville	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Carrollton CC between Carrollton EE and Farmers Branch	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Celina between Wilson Creek and Alla Hubbard	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Coppell S between DFW NW and Hackberry	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Corinth South between Corinth and Argyle	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Crane East between Crane and Upton	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation DFW NE between DFW NW and Coppell South	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation DFW SE between Irving Valley View and Euless	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Gresham between Elkton and Teaselville	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation LaSalle between Waco E and Lake Creek	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Lemmon between Fairmont and Armstrong	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Melissa GC between Anna and Melissa	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Merritt between Olinger and Ben Davis	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV Nacogdoches Switch between Nacogdoches S & Nacogdoches S Tap	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Pedan between Eagle Mountain and Rhome	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Plano Willow Bend between Renner Switch and North Parkway	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Robinson NW between Robinson and Waco M&M	N/A	TXU ED
2007	Annual improvement left in case	New 138-kV substation Witt Road between Simpson Stuart and Watermill	N/A	TXU ED
2007	Annual improvement left in case	New 69-kV substation Hewitt between Waco W and Lorena	N/A	TXU ED
2007	Annual improvement left in case	New 69-kV substation Marak between Temple Switch and Cameron	N/A	TXU ED
2007	Annual improvement left in case	Rhome-Pedan Tap	N/A	TXU ED
2007	Annual improvement left in case	Shamburger-Tyler NE	N/A	TXU ED
2007	Annual improvement left in case	Valley-Payne terminal upgrades	N/A	TXU ED
2007	Annual improvement left in case	Remove Rockwall substation	N/A	TXU ED
2007	Annual improvement removed from case	New 138-kV substation Blackcat between Bay City and Conoco	N/A	AEP

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2007	Annual improvement removed from case	New 138-kV substation Citrus City between Moore Field and Palmhurst	N/A	AEP
2007	Annual improvement removed from case	New 138-kV substation Coyote between Uvalde and Downie	N/A	AEP
2007	Annual improvement removed from case	New 138-kV substation Harbor between Nueces Bay and Morris Street	N/A	AEP
2007	Annual improvement removed from case	New 138-kV substations El Gato and Donna between Gandy and Doedyns	N/A	AEP
2007	Annual improvement removed from case	Poage to Leon Junction Rebuild	06TPIT0067	BEC
2007	Annual improvement removed from case	Second Seaton Autotransformer	07TPIT0026	BEC
2007	Annual improvement removed from case	Hearne to Branchville Rebuild	07TPIT0057	BEC
2007	Annual improvement removed from case	Hood - Spunky 138 Uprate or Rebuild	08TPIT0019	BEC
2007	Annual improvement removed from case	New 138-kV substation Stockton Bend between Waples and Lakewood	N/A	BEC
2007	Annual improvement removed from case	New 69-kV substation Cottonwood between McCree and India	N/A	BEC
2007	Annual improvement removed from case	New 138-kV substation Jones radial from Dansby	05TPIT0176	BTU
2007	Annual improvement removed from case	New 69-kV substation Reliance between Tabor and Nall	07TPIT0141	BTU
2007	Annual improvement removed from case	Stryker Creek - Jacksonville 138 kV line	06TPIT0020	TXU ED
2007	Annual improvement removed from case	Temple Switch - S. Temple 138 kV line	06TPIT0143	TXU ED
2007	Annual improvement removed from case	Decker to Techridge 138kV Partial Reconductor	07TPIT0050	AEN
2007	Annual improvement removed from case	Techridge to Howard Lane 138kV Reconductor	07TPIT0060	AEN
2007	Annual improvement removed from case	New 138-kV San Angelo Bluff between San Angelo Southland-San Angelo College Hills	N/A	AEP
2007	Annual improvement removed from case	Remove 69-kV bus St. Paul between Sinton and Skidmore	N/A	AEP
2007	Annual improvement removed from case	Removed 138-kV substation San Angelo Bluff	N/A	AEP
2007	Annual improvement removed from case	Union Carbide to Green Lake	N/A	AEP
2007	Annual improvement removed from case	New 69-kV substation Wizard Wells radial from Wizard	N/A	BEC
2007	Annual improvement removed from case	Upgrade Simsboro to 138-kV service	N/A	BEC/ TXU ED
2007	Annual improvement removed from case	Remove Rockwall substation	N/A	TXU ED
2007	Annual improvement removed from case	Big Spring Switch - Big Spring West 138 kV line	06TPIT0027	TXU ED
2007	Economic project added by ERCOT	Multiple 69-kV line opening in West		AEP
2007	Economic project added by ERCOT	Multiple 345-KV Terminal equipment Upgrades in West		TXU ED
2007	Economic project added by ERCOT	Multiple 138-kV Terminal equipment Upgrades in West		TXU ED
2007	Economic project added by ERCOT	Venus to Sherry Project		TXU ED
2007	Economic project added by ERCOT	2nd Auto at Nacodoches		
2007	Economic project added by ERCOT	San Marcos - Kyle Bypass		LCRA
2007	Economic project added by ERCOT	Wolf City - Commerce		TXU ED
2007	Economic project added by ERCOT	Open Macedonia - Hockley		
2007	Economic project added by ERCOT	Stephenville - Granbury rebuild (194MVA)		AEP
2007	Economic project added by ERCOT	Bluff Creek - Abilene South rebuild		AEP
2007	Economic project added by ERCOT	Oak Creek bus split		AEP
2007	Economic project added by ERCOT	Stephenville - Lingleville rebuild		TXU ED
2007	Reliability project added by ERCOT	Temple Switch to Temple Pecan Creek 138-kV line rebuild		TXU ED
2007	Reliability project added by ERCOT	Sherry-Liggett rebuild		TXU ED
2007	Reliability project added by ERCOT	Forney to East Mesquite rebuild		TXU ED
2007	Reliability project added by ERCOT	Mayfield North Tap to Cedar Hill rebuild		TXU ED
2007	Reliability project added by ERCOT	Westfield to North Belt terminal equipment		TXU ED
2007	Reliability project added by ERCOT	Plano W to Richardson Tap rebuild		TXU ED
2007	Reliability project added by ERCOT	Olsen to Sycamore terminal equipment		TXU ED
2007	Reliability project added by ERCOT	Rerate Crosby auto		TXU ED
2007	Reliability project added by ERCOT	Elkton to Tyler West rebuild		TXU ED
2007	Reliability project added by ERCOT	Roanoke to Keller terminal equipment		TXU ED
2007	Reliability project added by ERCOT	IH20 to Cochise terminal equipment		TXU ED
2007	RPG level project left in case	Paris Switch - Anna Switch 345 kV line and Valley S. Switching Station	06TPIT0086	AEP
2007	RPG level project left in case	Pharr to Weslaco SS to Harlingen SS	multiple	AEP
2007	RPG level project left in case	Construct Nelson Sharpe 345/138 kV substation	multiple	AEP

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2007	RPG level project left in case	Rio Hondo, add 345/138 kV auto	05TPIT0095	AEP
2007	RPG level project left in case	La Palma to Rio Hondo, rebuild 138 kV line	05TPIT0096	AEP
2007	RPG level project left in case	Frontera to Goodwin, upgrade 69 kV to 138 kV line	06TPIT0004	AEP
2007	RPG level project left in case	Rebuild Asherton to Eagle Pass 138 kV line from 4/0 to 795 MCM ACSR	multiple	AEP
2007	RPG level project left in case	Middle Rio Grande Valley Project	multiple	AEP
2007	RPG level project left in case	Goodwin to LaGrulla	06TPIT0107	BEC
2007	RPG level project left in case	Whitney to Covington Rebuild	06TPIT0071	BEC
2007	RPG level project left in case	Gibbons Creek to College Station Switch	06TPIT0157	CNP
2007	RPG level project left in case	STP - Dow ckt.18 and ckt.27	06TPIT0148	CNP
2007	RPG level project left in case	Hillje Switching Station	multiple	CNP
2007	RPG level project left in case	Greens Bayou 345/138 kV autotransformer	08TPIT0058A	CNP
2007	RPG level project left in case	Tomball two 345/138 kV autotransformers	08TPIT0058B	CNP
2007	RPG level project left in case	Addicks 345/138 kV autotransformer	08TPIT0058C	CNP/ TXU ED
2007	RPG level project left in case	T.H.Wharton - Jewett ckt.1	multiple	TXU
2007	RPG level project left in case	Elm Creek Substation	multiple	CPS
2007	RPG level project left in case	Cagnon to Lytle 138 kV line	06TPIT0050	CPS
2007	RPG level project left in case	Kendall-CPS Cagnon 345-kV line	06TPIT0079	LCRA/CPS
2007	RPG level project left in case	Andice-Glasscock	06TPIT0073	LCRA
2007	RPG level project left in case	Clear Springs	06TPIT0103	LCRA
2007	RPG level project left in case	Hill Country substation addition	06TPIT0152	STEC
2007	RPG level project left in case	Port O'Connor 69 kV line	05TPIT0092	TMPA
2007	RPG level project left in case	Ben Davis - Royse/Allen 138 line: Reconductor/Rebuild	06TPIT0173	TMPA
2007	RPG level project left in case	Gibbons Creek - Keith Switch 138 line: Reconductor	06TPIT0174	TMPA
2007	RPG level project left in case	West Denton Sub: Construct 345 bus, add 2 line terminals and add a 2nd 345 auto	06TPIT0177	TMPA
2007	RPG level project left in case	Ben Davis - Royse 345 line: Reconductor	07TPIT0089	TXU ED
2007	RPG level project left in case	Watermill - W. Levee (2nd) 345 kV circuit	04TPIT0042	TXU ED
2007	RPG level project left in case	Jacksboro Switch - W. Denton 345 kV line	06TPIT0011	TXU ED
2007	RPG level project left in case	Venus - Liggett 345 kV line	06TPIT0012	TXU ED
2007	RPG level project left in case	Royse - Terrell Switch 138/69 kV line	06TPIT0085	TXU ED
2007	RPG level project left in case	DeCordova - Everman 345 kV line upgrade	06TPIT0238	TXU ED
2007	RPG level project left in case	Plano Tennyson 345/138 kV autotransformer	07TPIT0004	TXU ED
2007	RPG level project left in case	Hackberry - Grapevine Ball St 138 kV line	07TPIT0007	TXU ED
2007	RPG level project left in case	Centerville Switch - Parkdale 138 kV line	07TPIT0010	TXU ED
2007	RPG level project left in case	E. Levee - Reagan St. 138 kV line	07TPIT0063	TXU ED
2007	RPG level project left in case	Jewett - Tomball 345 kV line upgrade	08TPIT0057	TXU ED/ TMPA
2007	RPG level project left in case	Royse - Ben Davis (TMPA) 138 kV line	06TPIT0032	AEP
2007	RPG level project left in case	Rebuild Uvalde to Hamilton Road 138 kV	multiple	TXU ED
2007	RPG level project left in case	Liggett autotransformer	07TPIT0073	TXU ED
2007	RPG level project left in case	DeCordova - Benbrook 345 kV line upgrade	00TPITno04	TXU ED
2007	RPG level project left in case	Temple Pecan Creek Switching Station	06TPIT0007	TXU ED
2007	RPG level project left in case	Venus - Sherry 345 kV line	06TPIT0008	TXU ED
2007	RPG level project left in case	DeSoto 345/138 kV autotransformer	06TPIT0035	TXU ED
2007	RPG level project left in case	Euless - Keller 138 kV line	06TPIT0135	TXU ED
2007	RPG level project left in case	Valley 345/138 kV autotransformer	06TPIT0161	TXU ED
2007	RPG level project left in case	Sandow 345/138 kV autotransformer	06TPIT0162	TXU ED
2007	RPG level project left in case	Odessa EHV 345/138 kV 300 MVA autotransformer replacement	06TPIT0163	TXU ED
2007	RPG level project removed from case	Skyline - Replace 345kV Autotransformer #2 & #4	06TPIT0003	TXU ED
2007	RPG level project removed from case	Norwood-Norwood tie		TXU ED
2007	RPG level project removed from case	Temple Elm Creek - Temple NW - Belton 138 kV line	06TPIT0017	TXU ED
2007	RPG level project removed from case	Venus - Cedar Hill 345 kV line	07TPIT0073	TXU ED

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2007	RPG level project removed from case	Lavon Switch	07TPIT0118	TXU ED
2007	RPG level project removed from case	Seagoville 600-MVA autotransformer	07TPIT0120	TXU ED
2007	RPG level project removed from case	Tricorner - Seagoville Switch 345 kV line	07TPIT0126	
2008	Annual improvement left in case	Convert Cardinal Lane substation and Zilker Demolition	08TPIT0073	AEN
2008	Annual improvement left in case	Poage to Leon Junction Rebuild	06TPIT0067	BEC
2008	Annual improvement left in case	Second Seaton Autotransformer	07TPIT0026	BEC
2008	Annual improvement left in case	Hearne to Branchville Rebuild	07TPIT0057	BEC
2008	Annual improvement left in case	Hood - Spunky 138 Uprate or Rebuild	08TPIT0019	BEC
2008	Annual improvement left in case	Covington to Grandview Upgrade or Rebuild	08TPIT0038	BEC
2008	Annual improvement left in case	Hasse to Downing Upgrade/Rebuild	08TPIT0039	BEC
2008	Annual improvement left in case	Leon Junction to Santa Fe Sw. Rebuild	08TPIT0041	BEC
2008	Annual improvement left in case	Seaton to Barclay Rebuild	08TPIT0042	BEC
2008	Annual improvement left in case	Second Whitney 345/138 Autoitransformer	08TPIT0049	BEC
2008	Annual improvement left in case	Gabriel to Schwertner Rebuild	08TPIT0050	BEC
2008	Annual improvement left in case	Bell County to Schwertner Rebuild	08TPIT0062	BEC
2008	Annual improvement left in case	Branchville to Silver City Rebuild	08TPIT0064	BEC
2008	Annual improvement left in case	Coppell to Roanoke Reconductor	10TPIT0010	BEC
2008	Annual improvement left in case	New 138-kV substation Stockton Bend between Waples and Lakewood	N/A	BEC
2008	Annual improvement left in case	New 138-kV substation, Grove between Poage and Leon Junction	N/A	BEC
2008	Annual improvement left in case	New 69-kV substation Calsburg between Gainsville and Sinclair	N/A	BEC
2008	Annual improvement left in case	New 69-kV substation DWU Southside between McCree and India	N/A	BEC
2008	Annual improvement left in case	New 138-kV substation, Northgate between Texas A&M and Atkins	N/A	CSU
2008	Annual improvement left in case	Iron Horse 138kV to 69kV Interchange	07TPIT0091	Denton
2008	Annual improvement left in case	Iron Horse Substation	07TPIT0094	Denton
2008	Annual improvement left in case	Walnut-Fairdale line 69 kV to 138 kV voltage conversion	06TPIT0095	Garland
2008	Annual improvement left in case	Walnut 69 kV to 138 kV voltage conversion	06TPIT0097	Garland
2008	Annual improvement left in case	Newman 138 kV new switching substation and new 138 kV/69 kV autotransformer (80MVA)	06TPIT0098	Garland
2008	Annual improvement left in case	Fairdale load 69 kV to 138 kV voltage conversion	06TPIT0099	Garland
2008	Annual improvement left in case	Newman-Walnut line 69 kV to 138 kV voltage conversion	06TPIT0100	Garland
2008	Annual improvement left in case	Wynn Joyce-Miller line 69 kV to 138 kV voltage conversion	07TPIT0043	Garland
2008	Annual improvement left in case	Centerville-Miller line 69 kV to 138 kV voltage conversion	07TPIT0047	Garland
2008	Annual improvement left in case	Newman-Castle	N/A	Garland
2008	Annual improvement left in case	McQueeney-New Berlin	06TPIT0072	LCRA
2008	Annual improvement left in case	Friendship-Highway 45-Manchaca	07TPIT0076	LCRA
2008	Annual improvement left in case	New 138-kV substation Cant between Citrus City and Moore Field	N/A	MVEC
2008	Annual improvement left in case	New 138-kV substation Cook between Rachal and Faysville	N/A	MVEC
2008	Annual improvement left in case	New 138-kV substation Goler between Donna Switch and Doedyns	N/A	MVEC
2008	Annual improvement left in case	West Pleasanton Substation	07TPIT0136	STEC
2008	Annual improvement left in case	Close normally open Big Wells-Cotulla	N/A	STEC
2008	Annual improvement left in case	New 69-kV susbation W Bader between Quihi and Castroville	N/A	STEC
2008	Annual improvement left in case	Add Shelby switch	N/A	TMPA
2008	Annual improvement left in case	Dickinson-Magnolia	N/A	TNMP
2008	Annual improvement left in case	Magnolia-Friendswood	N/A	TNMP
2008	Annual improvement left in case	South Shore-League City	N/A	TNMP
2008	Annual improvement left in case	PH Robinson-South Shore	N/A	TNMP/ CNP
2008	Annual improvement left in case	Copperas Cove - Ding Dong (BEC) 138 kV line	05TPIT0021	TXU ED
2008	Annual improvement left in case	Lake Wichita Switch - Wichita Falls Switch 69 kV line	06TPIT0042	TXU ED
2008	Annual improvement left in case	Temple - Troy 69 kV line	06TPIT0044	TXU ED
2008	Annual improvement left in case	Elkton - Tyler West 138 kV line	06TPIT0047	TXU ED
2008	Annual improvement left in case	Plano West - Richardson Tap 138 kV line	07TPIT0014	TXU ED

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2008	Annual improvement left in case	Taylor - Hutto Switch 138 kV line	07TPIT0070	TXU ED
2008	Annual improvement left in case	Temple Pecan Creek - Temple Switch 138 kV line	07TPIT0125	TXU ED
2008	Annual improvement left in case	Collin - Frisco (BEC) 138 kV line	08TPIT0068	TXU ED
2008	Annual improvement left in case	Lake Creek - E. Waco 138 kV line	08TPIT0069	TXU ED
2008	Annual improvement left in case	Liggett - Shady Grove 138 kV line	08TPIT0070	TXU ED
2008	Annual improvement left in case	New 138-kV substation Elgin West between Manor and Cedar Hill	N/A	TXU ED
2008	Annual improvement left in case	New 138-kV substation Eliz Creek, radial from Roanoke	N/A	TXU ED
2008	Annual improvement left in case	New 138-kV substation Euless Trinity between Davis Tap and Pipeline	N/A	TXU ED
2008	Annual improvement left in case	New 138-kV substation Georgetown E between Georgetown S and Gabriel	N/A	TXU ED
2008	Annual improvement left in case	New 138-kV substation McKinney South between McKinney Switch and Allen North	N/A	TXU ED
2008	Annual improvement left in case	New 138-kV substion Chap Hill between Navarro and Corsicana Guardian Tap	N/A	TXU ED
2008	Annual improvement left in case	Olney to Shannon Rebuild	08TPIT0017	BEC
2008	Annual improvement left in case	Denton West to Iron Horse 138kV Transmission Line	07TPIT0092	Denton
2008	Annual improvement left in case	Iron Horse to Hickory 69kV Transmission Line	07TPIT0095	Denton
2008	Annual improvement left in case	Convert Burleson to Cardinal Lane and Cardinal Lane to Seaholm from 69kV to 138kV.	06TPIT0104	AEN
2008	Annual improvement left in case	Harris to Fiesta new 69kV circuit	06TPIT0109	AEN
2008	Annual improvement left in case	McNeil autotransformer replacement	06TPIT0113	AEN
2008	Annual improvement removed from case	Add load at Tyler Switch	N/A	TXU ED
2008	Annual improvement removed from case	Move Cedar Crest load from 69-kV to 138-kV bus	N/A	TXU ED
2008	Annual improvement removed from case	Remove load at Eastland	N/A	TXU ED
2008	Annual improvement removed from case	Goodloe-Goodloe	N/A	BEC/ TXU ED
2008	Annual improvement removed from case	Lake Creek to Perry	N/A	BEC/ TXU ED
2008	Annual improvement removed from case	Trimmier to Killeen Switch	N/A	BEC/ TXU ED
2008	Annual improvement removed from case	Mountain Top-Johnson City-Wirtz	08TPIT0022	LCRA
2008	Annual improvement removed from case	Add Culberson County wind farm	N/A	LCRA
2008	Annual improvement removed from case	Miller-Blanco Tap	N/A	LCRA
2008	Annual improvement removed from case	Alamito Creek to Cienega, rebuild 69 kV Line	06TPIT0070	AEP
2008	Annual improvement removed from case	Castroville Area Switching Station	09TPIT0008	CPS
2008	Annual improvement removed from case	Harper Road-Rim Rock	N/A	LCRA
2008	Annual improvement removed from case	Mildand East - Windwood 138 kV line upgrade	07TPIT0110	TXU ED
2008	Annual improvement removed from case	Add Cobisa plant	N/A	TXU ED
2008	Annual improvement removed from case	Fairfield West-Fairfield Sesco	N/A	TXU ED
2008	Annual improvement removed from case	New 138-kV substation, Hemmer, between PPG and Cityview	N/A	TXU ED
2008	Annual improvement removed from case	New 345-kV substation, Seetner, between Venus and Liggett	N/A	TXU ED
2008	Economic project added by ERCOT	Leon - Lingleville rebuild		TXU ED
2008	Economic project added by ERCOT	Paint Creek Switch Installation		TXU ED
2008	Economic project added by ERCOT	Balinger/Putnam/Menard/Goldthwaite Autos		AEP
2008	Economic project added by ERCOT	Bluff Creek - Oak Creek rebuild		AEP
2008	Economic project added by ERCOT	Collin - Anna rebuild		TXU ED
2008	Economic project added by ERCOT	2nd Auto at Sandow		TXU ED
2008	Economic project added by ERCOT	Cibolo Schertz 2nd circuit		LCRA
2008	Economic project added by ERCOT	Willow Creek to Parker (Willowcreek Generation Interconnection)		TXU ED
2008	Economic project added by ERCOT	Upgrade Adamsville to Evant to Lampasas 138 kv		LCRA
2008	Economic project added by ERCOT	Lake Creek - Temple Pecan rebuild		TXU ED
2008	Reliability project added by ERCOT	Vernon / Electra area 138-kV conversion		TXU ED
2008	Reliability project added by ERCOT	Lake Creek – Robinson 138-kV rebuild		TXU ED
2008	Reliability project added by ERCOT	Add second 138-69-kV auto at Alamito		AEP
2008	Reliability project added by ERCOT	Waco W – Waco MM2T terminal equipment		TXU ED
2008	Reliability project added by ERCOT	T. I. – Spraberry 138-kV terminal equipment		TXU ED
2008	Reliability project added by ERCOT	Blackwell – Holiday 69-kV line terminal equipment		TXU ED

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Year	Case Change	Project Description	TPIT Number	Trans. Owner
2008	Reliability project added by ERCOT	Wfalls – NWF Bypass 69-kV line terminal equipment		TXU ED
2008	Reliability project added by ERCOT	N Wfalls – NWF Byps 69-kV line terminal equipment		TXU ED
2008	RPG level project left in case	Hidalgo to S McAllen, upgrade 69 kV line	06TPIT0110	AEP
2008	RPG level project left in case	Abilene Elm Creek to Abilene Shelton Street, Rebuild 69 kV line	07TPIT0135	AEP
2008	RPG level project left in case	Abilene Plant to Clyde, Rebuild 13.38 miles 69/138 kV Dbld Crkt Capable	07TPIT0137	AEP
2008	RPG level project left in case	Fairview to Aledo	05TPIT0040	BEC
2008	RPG level project left in case	W. Levee - Norwood 345 kV line	06TPIT0010	TXU ED
2008	RPG level project left in case	Venus - Liggett 345 kV line	06TPIT0012	TXU ED
2008	RPG level project removed from case	Stryker Creek - Jacksonville 138 kV line	06TPIT0020	TXU ED
2008	RPG level project removed from case	Lavon Switch	07TPIT0118	TXU ED
2008	RPG level project removed from case	Trinidad - Watermill 345 kV line	07TPIT0140	TXU ED
2008	RPG level project removed from case	North Lake 345/138 kV autotransformer	08TPIT0071	TXU ED
2009	Annual improvement left in case	New 138-kV substation Linda Vista between Pilot Knob and Onion Creek	N/A	AEN
2009	Annual improvement left in case	New 138-kV substation Mueller between Wheless and Kingsberry	N/A	AEN
2009	Annual improvement left in case	New 138-kV substation Rainey St between Perdenales and Seaholm	N/A	AEN
2009	Annual improvement left in case	New 138-kV substation Rinard Creek between Lytton Springs and Hi Cross Tap	N/A	AEN
2009	Annual improvement left in case	New 69-kV substation Justin Lane between McNeil and Koening	N/A	AEN
2009	Annual improvement left in case	Retire Holly units 3 and 4	N/A	AEN
2009	Annual improvement left in case	Change Coastal St E-Coastal St W to NC, change Coastal St E-Avery Pt to NO	N/A	AEP
2009	Annual improvement left in case	2nd Lewisville Auto	07TPIT0042	BEC
2009	Annual improvement left in case	Gustine to Hamilton Rebuild	08TPIT0063	BEC
2009	Annual improvement left in case	Pancake to Gatesville Rebuild	09TPIT0017	BEC
2009	Annual improvement left in case	Reagor Springs to India Rebuild/Upgrade	09TPIT0018	BEC
2009	Annual improvement left in case	Second Concord 345/138 Autotransformer	09TPIT0025	BEC
2009	Annual improvement left in case	Second Hasse 138/69 Autotransformer	09TPIT0026	BEC
2009	Annual improvement left in case	Fox to Hilltop 138KV Conversion	09TPIT0027	BEC
2009	Annual improvement left in case	Acton to Nasau Bay Switch Rerate/Rebuild	09TPIT0030	BEC
2009	Annual improvement left in case	Gatesville to Fort Gates Switch Rebuild	09TPIT0033	BEC
2009	Annual improvement left in case	Bunker to Hood Rebuild	09TPIT0034	BEC
2009	Annual improvement left in case	New 138-kV substation Chap Hill	N/A	BEC
2009	Annual improvement left in case	New 138-kV substation Prosper	N/A	BEC
2009	Annual improvement left in case	New 69-kV substation Birdston	N/A	BEC
2009	Annual improvement left in case	Jones to Atkins/Annex 138, New line construction	05TPIT0172	BTU
2009	Annual improvement left in case	Jones to Snook 138, New line construction	05TPIT0173	BTU
2009	Annual improvement left in case	Annex to Steel Store 138	05TPIT0174	BTU
2009	Annual improvement left in case	Atkins to Annex 138	05TPIT0175	BTU
2009	Annual improvement left in case	Jones to Snook 138, Reconductor	05TPIT0176	BTU
2009	Annual improvement left in case	Tabor Substation Upgrade	07TPIT0134	BTU
2009	Annual improvement left in case	Fort Worth Substation	08TPIT0067	Denton
2009	Annual improvement left in case	Naaman-Apollo line 69 kV to 138 kV voltage conversion	08TPIT0011	Garland
2009	Annual improvement left in case	Walnut-Castle line 69 kV to 138 kV voltage conversion	08TPIT0013	Garland
2009	Annual improvement left in case	Castle-Naaman line 69 kV to 138 kV voltage conversion	08TPIT0015	Garland
2009	Annual improvement left in case	Change Big Wells to Cotulla to normally open	N/A	STEC
2009	Annual improvement left in case	Coppell Tap - McKamy Tap 138 kV line	06TPIT0087	TXU ED
2009	Annual improvement left in case	Killeen Switch - S. Harker Heights 138 kV line	09TPIT0022	TXU ED
2009	Annual improvement left in case	Electra - KMA Tap 69 kV line	09TPIT0024	TXU ED
2009	Annual improvement left in case	Collin - Custer (BEC) 138 kV line (TXU Electric Delivery section)	09TPIT0041	TXU ED
2009	Annual improvement left in case	Coppell - North Lake 138 kV line	09TPIT0043	TXU ED
2009	Annual improvement left in case	E. Richardson - Apollo 138 kV line (TXU Electric Delivery section)	09TPIT0044	TXU ED
2009	Annual improvement left in case	Lake Creek - Robinson 138 kV line	09TPIT0045	TXU ED

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2009	Annual improvement left in case	N. Midlothian - Midlothian TXI Tap 138 kV line	09TPIT0046	TXU ED
2009	Annual improvement left in case	N. Waco - NE. Waco 138 kV line	09TPIT0047	TXU ED
2009	Annual improvement left in case	Poage - Temple Taylors Valley 69 kV line	09TPIT0048	TXU ED
2009	Annual improvement left in case	Roanoke Switch - Southlake 138 kV line	09TPIT0049	TXU ED
2009	Annual improvement left in case	Rowlett - Garland Bobtown Tap 138 kV line	09TPIT0050	TXU ED
2009	Annual improvement left in case	Change De Leon to De Leon Magnolia Tap to normally closed	N/A	TXU ED
2009	Annual improvement left in case	New 138-kV sub Copperas Cove E between Copperas Cove - Killeen Fort Hood W	N/A	TXU ED
2009	Annual improvement left in case	New 138-kV substation Ftwd Creek between Royse and Rockwall Tap	N/A	TXU ED
2009	Annual improvement left in case	New 138-kV substation Palo Pinto between Palo Pinto tap and Mineral Wells	N/A	TXU ED
2009	Annual improvement removed from case	Goodloe-Goodloe	N/A	BEC/ TXU ED
2009	Annual improvement removed from case	Dansby-Tabor 138-kV	N/A	BTU
2009	Annual improvement removed from case	Waller-Prairie View-Seaway-Macedonia	05TPIT0069	
2009	Annual improvement removed from case	Mountain Top-Blanco-Devil's Hill	09TPIT0019	LCRA
2009	Annual improvement removed from case	Big Brown Tap-Winkler	N/A	TXU ED
2009	Annual improvement removed from case	Forest Grove-Mabank	N/A	TXU ED
2009	Annual improvement removed from case	Odessa-Odess EHV	N/A	TXU ED
2009	Annual improvement removed from case	Walnut Springs auto	N/A	TXU ED
2009	Reliability project added by ERCOT	Ligget 345/138-kV auto upgrade		TXU ED
2009	Reliability project added by ERCOT	Lyton 345/138-kV Auto and Mendoza tie, rebuild Mendoza – Turner		LCRA
2009	Reliability project added by ERCOT	Ennis Creek 138/69-kV Auto upgrade		TXU ED
2009	Reliability project added by ERCOT	Weatherford 138/69-kV auto upgrade		TXU ED
2009	Reliability project added by ERCOT	Allen-Plano Custer 138-kV rebuild		TXU ED
2009	Reliability project added by ERCOT	Handley – White 138-kV line rebuild		TXU ED
2009	Economic project added by ERCOT	Waller-Prairieview Upgrade		LCRA
2009	Economic project added by ERCOT	Odessa Auto replacement project		TXU ED
2009	Economic project added by ERCOT	lUpgrade Peters 138/69 kV auto		LCRA
2009	Economic project added by ERCOT	Spruce to Skyline 2nd Circuit		CPS
2009	Economic project added by ERCOT	Bradshaw Conversion (Horse Hollow Generation Interconnection)		AEP
2009	Economic project added by ERCOT	Schertz to Parkway Reconductor		LCRA
2009	Economic project added by ERCOT	Red Creek - Orient - Oak Creek Rebuild		AEP
2009	Economic project added by ERCOT	Decactur to Rhome Upgrade		TXU ED
2010	RPG level project left in case	New Rainey Street Station	11TPIT0008	AEN
2010	RPG level project left in case	Clear Spring - Salado Associated Project	various	LCRA/TXU/AEN
2010	RPG level project left in case	San Miguel - Laredo 345-kV line	09TPIT0003	AEP
2010	Economic project added by ERCOT	Change Topology for Howard to Gilleland to loop into McNeil		LCRA
2010	Economic project added by ERCOT	Fayette to Willow Springs terminal equipment		LCRA
2010	Economic project added by ERCOT	4th Hill Country Auto		CPS
2010	Economic project added by ERCOT	3rd Cagnon Auto		CPS
2010	Economic project added by ERCOT	2nd Fayetteville Auto		LCRA
2010	Reliability project added by ERCOT	Roan Oak – Keller terminal equipment		TXU
2010	Reliability project added by ERCOT	Upgrade the Crosby 138/69-kV auto		CNP
2010	Reliability project added by ERCOT	New Haines Road 138 station with 138/69-kV auto		TXU
2010	Reliability project added by ERCOT	Raymondville – LaPalma 69-kV rebuild		AEP
2010	RPG level project removed from case	Whitney - Covington Rebuild	06TPIT0067	TXU
2010	RPG level project removed from case	Frisco - Kruegerville Rebuild	07TPIT0055	BEC
2010	RPG level project removed from case	Anna -Krum 345-kV line	10TPIT0020	TXU
2010	RPG level project removed from case	West Denton - NW Carrolton 345-kV line	10TPIT0015	TXU
2010	RPG level project removed from case	2nd Cagnon - Hillcountry circuit	09TPIT0011	CPS
2010	RPG level project removed from case	3rd Autotransformer at Skyline	09TPIT0013	CPS

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2010	RPG level project removed from case	Trinity Switch Autotransformer	07PTIT0002	TXU
2010	RPG level project removed from case	Trinidad - Watermill 345-kV line	07TPIT0140	TXU
2010	RPG level project removed from case	Trinity - Liggett 345-kV line	07TPIT0001	TXU
2010	RPG level project removed from case	Clyde - Putnam rebuild	08TPIT0083	AEP
2010	Annual improvement left in case	138-kV line upgrade from Biport to Cavern		
2010	Annual improvement left in case	138-kV line upgrade from Blanta to Johnson		
2010	Annual improvement left in case	138-kV line upgrade from Boostr 8 to Vlasco		
2010	Annual improvement left in case	138-kV line upgrade from Boostr_8 to Seaway		
2010	Annual improvement left in case	138-kV line upgrade from Brazos to Cflewln	07TPIT0163	CNP
2010	Annual improvement left in case	138-kV line upgrade from Brazos to FtBend	07TPIT0163	CNP
2010	Annual improvement left in case	138-kV line upgrade from Brodie to Oakhill	10TPIT0022	AEN
2010	Annual improvement left in case	138-kV line upgrade from Buena Vista to RioCity	06TPIT0083	AEP
2010	Annual improvement left in case	138-kV line upgrade from Diabox to SRB	06TPIT0249	CNP
2010	Annual improvement left in case	138-kV line upgrade from Franklin to Gable		
2010	Annual improvement left in case	138-kV line upgrade from Hamilton to DrioCity	06TPIT0084	AEP
2010	Annual improvement left in case	138-kV line upgrade from Kings to Bergstrom	06TPIT0101	AEN
2010	Annual improvement left in case	138-kV line upgrade from Picacho to Bueno Vista	06TPIT0082	AEP
2010	Annual improvement left in case	138-kV line upgrade from Pueblo to CNC.W		
2010	Annual improvement left in case	138-kV line upgrade from Pueblo to Rosita		
2010	Annual improvement left in case	138-kV line upgrade from S_Chan to Shell		
2010	Annual improvement left in case	138-kV line upgrade from Souwd to BrsSwitch		
2010	Annual improvement left in case	138-kV line upgrade from Stewart to Westby	06TPIT0219	CNP
2010	Annual improvement left in case	138-kV line upgrade from SummitN to Williams		
2010	Annual improvement left in case	138-kV line upgrade from Wharton to Caney	07TPIT0145	CNP
2010	Annual improvement left in case	69-kV line upgrade from Baird to Putnam	08TPIT0083	AEP
2010	Annual improvement left in case	69-kV line upgrade from Bigfoot to Devine	07TPIT0077	AEP
2010	Annual improvement left in case	69-kV line upgrade from Brcr Tap to Brcrest		
2010	Annual improvement left in case	69-kV line upgrade from C.LCRA to C.LCRA		
2010	Annual improvement left in case	69-kV line upgrade from Clyde to Baird	08TPIT0083	AEP
2010	Annual improvement left in case	69-kV line upgrade from Cuero to C.LCRA		
2010	Annual improvement left in case	69-kV line upgrade from Devine to Lytle	07TPIT0078	AEP
2010	Annual improvement left in case	69-kV line upgrade from Knippa to Sabinal	08TPIT0040	AEP
2010	Annual improvement left in case	69-kV line upgrade from Lon Hill to Hern Road		
2010	Annual improvement left in case	69-kV line upgrade from Magruder to N Vict	08TPIT0093	AEP
2010	Annual improvement left in case	69-kV line upgrade from Uvalde to Knippa	08TPIT0043	AEP
2010	Annual improvement left in case	69-kV line upgrade from Victoria to N Vict	08TPIT0092	AEP
2010	Annual improvement left in case	69-kV line upgrade from Alamito to Bryant	06TPIT0070	AEP
2010	Annual improvement left in case	69-kV line upgrade from Cienega to Bryant	06TPIT0070	AEP
2010	Annual improvement left in case	New 138-kV bus Golden S (1067)	07TPIT0164	TXU
2010	Annual improvement left in case	New 138-kV bus Camp Spr (1068)	07TPIT0164	TXU
2010	Annual improvement left in case	New 138-kV bus Trinity Switch (2096)	07TPIT0012	TXU
2010	Annual improvement left in case	New 138-kV bus Tyler South (3196)	07TPIT0232	TXU
2010	Annual improvement left in case	New 138-kV bus RR NE 2 (3677)	08TPIT0009	TXU
2010	Annual improvement left in case	New 138kV line from Bosque to China Spring 3595-177	09TPIT0063	TXU
2010	Annual improvement left in case	New 138kV line from Medila to Pipecreek 7437-7432	06TPIT0080/07TPIT00034	LCRA
2010	Annual improvement left in case	New 138-kV bus Wellsbranch (7288)	06TPIT0077	LCRA
2010	Annual improvement left in case	New 138-kV bus Lookout (828)	08TPIT0026	GAR
2010	Annual improvement left in case	New 138-kV bus Beltline (847)	07TPIT0019	GAR
2010	Annual improvement left in case	New 138-kV bus Blossom (5022)	09TPIT0010	CPS
2010	Annual improvement left in case	New 138-kV bus Exeter (5143)	09TPIT0086	CPS

Year	Case Change	Project Description	TPIT Number	Trans. Owner
2010	Annual improvement left in case	New 138-kV bus Putnam L (6310)	12TPIT0001	AEP
2010	Annual improvement left in case	New 138-kV bus Bellaire (47013)	07TPIT0143	CNP
2010	Annual improvement left in case	New 138-kV bus Lamposts (232)	06TPIT0067	BEC
2010	Annual improvement left in case	New 138-kV bus Waterpt (59450)	00TPITno16	BPUB
2010	Annual improvement left in case	New 138-kV bus AMTCCCFE (80145)	00TPITno17	BPUB
2010	Annual improvement left in case	New 138-kV bus Georgeso13 (7530)	07TPIT0170	Austin Energy
2010	Annual improvement left in case	New 138-kV bus Bdwdsn1 (12051)	11TPIT0009	Austin Energy
2010	Annual improvement left in case	New 138-kV bus Sabluff4 (6771)	07TPIT0154	AEP/TNC
2010	Annual improvement left in case	New 138-kV bus Sverde 4 (8976)	07TPIT0024	AEP/TCC
2010	Annual improvement left in case	New 138-kV bus Dunlap (9194)	07TPIT0039	AEP/TCC
2010	Annual improvement left in case	New 138kV line from CedarvalleyL to Salado 3640-117	07TPIT0083	AEP/TCC
2010	Annual improvement left in case	New 138-kV bus Simsboro (207)		
2010	Annual improvement left in case	New 138-kV bus Nolan (410)		
2010	Annual improvement left in case	New 138-kV bus Zionhill (516)		
2010	Annual improvement left in case	New 138-kV bus Krafttap (801)		
2010	Annual improvement left in case	New 138-kV bus Wweather (1589)		
2010	Annual improvement left in case	New 138-kV bus PatmaySE (1699)		
2010	Annual improvement left in case	New 138-kV bus Patmayst (1700)		
2010	Annual improvement left in case	New 138-kV bus Sher W (1756)		
2010	Annual improvement left in case	New 138-kV bus Bdwdsn2t (2052)		
2010	Annual improvement left in case	New 138-kV bus Clthbrn (2384)		
2010	Annual improvement left in case	New 138-kV bus Sloan CR (2556)		
2010	Annual improvement left in case	New 138-kV bus RRRRWhst (3664)		
2010	Annual improvement left in case	New 138-kV bus Texas Research (5430)	12TPIT0001	CPS
2010	Annual improvement left in case	New 138-kV bus Goat Creek (7141)		
2010	Annual improvement left in case	New 138-kV bus Hamilcp4 (8251)		
2010	Annual improvement left in case	New 138-kV bus Chapin Street (8375)		
2010	Annual improvement left in case	New 138-kV bus Karnes4 (8913)		
2010	Annual improvement left in case	New 138-kV bus Coyote4 (8942)		
2010	Annual improvement left in case	New 138-kV bus Lytle 2 (8962)		
2010	Annual improvement left in case	New 138-kV bus Bdwdson2 (12052)		
2010	Annual improvement left in case	New 138-kV bus Baytown (40172)		CNP
2010	Annual improvement left in case	New 138-kV bus Dyann 8 (42985)	07TPIT0170	CNP
2010	Annual improvement left in case	New 138-kV bus MAG_Pkcf (47701)		
2010	Annual improvement left in case	New 138-kV bus Carbide8 (59440)		
2011	RPG level project left in case	Rio Bravo - Laredo Lobo 345-kV line and autotransformer at Rio Bravo	11TPIT0001	AEP
2011	Economic project added by ERCOT	Upgrade HEC to Magic Valley stations in Valley		
2011	Economic project added by ERCOT	New Brenham to Willow Springs terminal equipment		
2011	Economic project added by ERCOT	Oran to Barton terminal equipment		
2011	Economic project added by ERCOT	Oklaunion-Bowman 345-kV line		
2011	Reliability project added by ERCOT	Singleton Switching station		
2011	Reliability project added by ERCOT	Laredo Lobo to Rio Bravo 345-kV line		
2011	Reliability project added by ERCOT	Rio Bravo 345/138-kV autotranformer		
2011	RPG level project removed from case	Frontera - Rio Bravo 345-kV line	11TPIT0002	AEP
2011	RPG level project removed from case	Clyde - Putnam upgrade	08TPIT0083	AEP
2011	RPG level project removed from case	North Edinburg - Frontera 345-kV line	09TPIT0009	AEP
2011	RPG level project removed from case	West Denton- NW Carrolton New 345 line (W.D. to Tap)	09TPIT0001	TXU
2011	RPG level project removed from case	Frontera 345/138-kV autotransformer	08TPIT0005	AEP
2011	RPG level project removed from case	Whitney to Covington Rebuild	06TPIT0067	BEC
2011	RPG level project removed from case	Everman - Cleburne 138-kv upgrade	10TPIT00019	TXU

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2011	RPG level project removed from case	Lavon Switch 345-kV station	07TPIT0118	TXU
2011	RPG level project removed from case	Krum W. 345 kV Switch and Anna Switch - Krum W. Switch 345 kV line	10TPIT0020	TXU
2011	RPG level project removed from case	Venus - Cedar Hill 345-kV line	07TPIT0073	TXU
2011	RPG level project removed from case	West Denton - NW Carrollton 345 kV circuit (TXU Electric Delivery portion)	10TPIT0015	TXU
2011	RPG level project removed from case	Cagnon to Hillcountry 345kV 2nd Circuit	09TPIT0011	CPS
2011	RPG level project removed from case	Skyline - Install a third 345kV Autotransformer	09TPIT0013	CPS
2011	RPG level project removed from case	Liggett - Trinity Switch 345 kV line	07TPIT0002	TXU
2011	RPG level project removed from case	Trinity Switch 345/138 kV autotransformer	07TPIT0003	TXU
2011	RPG level project removed from case	Trinidad - Watermill 345 kV line	07TPIT0140	TXU
2011	Annual improvement left in case	New Cibolo_C station	11TPIT0007	CPS
2011	Annual improvement left in case	New Tally Road 5422 station	11TPIT0005	CPS
2011	Annual improvement left in case	New East station 9195	11TPIT0011	AEN
2011	Annual improvement left in case	New Apollo - Jupiter 138-kV line	08TPIT0015	GAR
2011	Annual improvement left in case	New Fairdale - Lawlert 138-kV line	06TPIT0099	GAR
2011	Annual improvement left in case	New Green MT - Cibilo C 138-kV line	07TPIT0113	CPS
2011	Annual improvement left in case	New Stone GT - Cibilo C 138-kV line	11TPIT0005	CPS
2011	Annual improvement left in case	New McNeil - SummitN 138-kV line	08TPIT0034	AEN
2011	Annual improvement left in case	New Bergstrom - Carson 138-kV line	07TPIT0048	AEN
2011	Annual improvement left in case	New Bergstrom - Sandhsyd 138-kV line	07TPIT0049	AEN
2011	Annual improvement left in case	New Deck MB1 - East 138-kV line	07TPIT0060	AEN
2011	Annual improvement left in case	New Techridge - East 138-kV line	07TPIT0060	AEN
2011	Annual improvement left in case	New Patton - Trading Post 138-kV line	10TPIT0005	AEN

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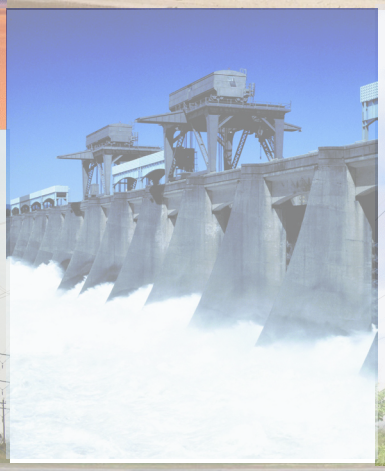





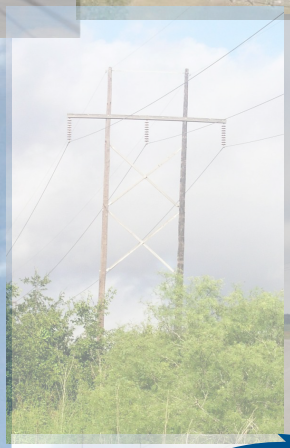

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