

# **Texas Energy Plan 2005**

## **Energy Security for a Bright Tomorrow**

**Texas Energy Planning Council**

**Council Recommendations -- December 2004**



**TEXAS ENERGY**  
PLANNING COUNCIL



RAILROAD COMMISSION OF TEXAS

VICTOR G. CARRILLO

CHAIRMAN

January 17, 2005

The Honorable Rick Perry  
Governor of Texas  
P. O. Box 12428  
Austin, Texas 78711-2428

Dear Governor Perry:

On behalf of the Texas Energy Planning Council, I am pleased to present you with our final report: *Texas Energy Plan 2005 – Energy Security for a Bright Tomorrow*.

The plan sets out 10 key recommendations that form the foundation for a safe, stable and secure energy future for our state – one that will help ensure that we remain the premier energy producing state in the Nation and that the Texas of 2025 and beyond will have the needed energy to fuel our continued growth and prosperity.

I am indebted to the twenty-one other members of the Council who worked diligently over the last year to bring this report to fruition. It was indeed a privilege to be able to work with such dedicated Texans.

I stand ready to work with the Texas Legislature to implement key provisions of this Texas Energy Plan.

Respectfully,

A handwritten signature in black ink that reads "vg Carrillo". The "vg" is written in a stylized, cursive font, and "Carrillo" is written in a more formal, cursive script.

# Members of the Texas Energy Planning Council

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- Victor Carrillo - Chairman, Railroad Commission of Texas
- Jerry Patterson - Commissioner, Texas General Land Office
- Senator Ken Armbrister – Chairman, Senate Natural Resources Committee
- Representative G.E. “Buddy” West – Chairman, House Energy Resources Committee
- Julie Parsley – Commissioner, Public Utility Commission
- Larry Soward – Commissioner, Texas Commission on Environmental Quality
- F. Scott LaGrone – Board of Directors, Lower Colorado River Authority
- Michael Flores – Director of Solutions Business, Johnson Controls
- Kim Godfrey – Sr. Director ERCOT Business Development, BP North America
- Paula Harris – Global Communication Manager, Schlumberger Limited
- R. William “Bill” Jewell – VP of Energy, Dow Chemical Company
- Ken Kelly – Chairman and CEO, Kelley Family of Companies
- Irwin “Irv” Kowenski – President, Occidental Energy Ventures Corp.
- Jerry Langdon – Executive VP and Chief Admin. Officer, Reliant Energy
- Steve Mayer – Secretary and Treasurer, T Half-Circle Ranch, Inc.
- Lawrence O’Donnell III – Executive VP, Waste Management Inc.
- Ronald Oligney – Opal Energy, Inc.
- Charles Patton – President, American Electric Power
- Douglass C. Robison – General Counsel, Henry Petroleum, LP
- Grant Swartzwelder – President, PetroGrowth Advisors
- Joel Trouart – VP Engineering & Environmental Services, Northwest Resources Co.
- William Wallace – President, Wallace Petroleum Investments, Inc.

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Note: For additional information and background, please see the individual TEPC committee reports at <http://www.rrc.state.tx.us/tepc/reports.html>.

# Preface: Energy Security for a Bright Tomorrow

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*“The Texas Energy Plan will strengthen our energy sector, increase our energy security and independence, solidify Texas’ leadership position in the energy arena, and keep energy revenues flowing to Texas schools and families.”* Victor G. Carrillo, Chairman

The Texas Energy Planning Council (Council) was created by Executive Order No. 29 issued by Governor Rick Perry on November 10, 2003. The Council’s express purpose was to “advise the Governor on a balanced plan to provide the energy needed to fuel Texas’ future economic growth and prosperity.” Members of the Council were appointed in an effort to get a balanced perspective of the energy needs of Texas consumers, and the energy availability of Texas energy providers.

The Council’s goal was to develop a series of recommendations that would begin to lay the groundwork for a continuously evolving plan that would recognize new technology and new opportunities as they are developed. The Council did not want to create a document that would be read once and then sit on some bookshelf until the next energy crisis surfaced.

More than just a series of recommendations, the plan is a series of first action steps. These first steps will lead to future action steps and move the state along a path to assure that we have sufficient, reliable, and cost effective

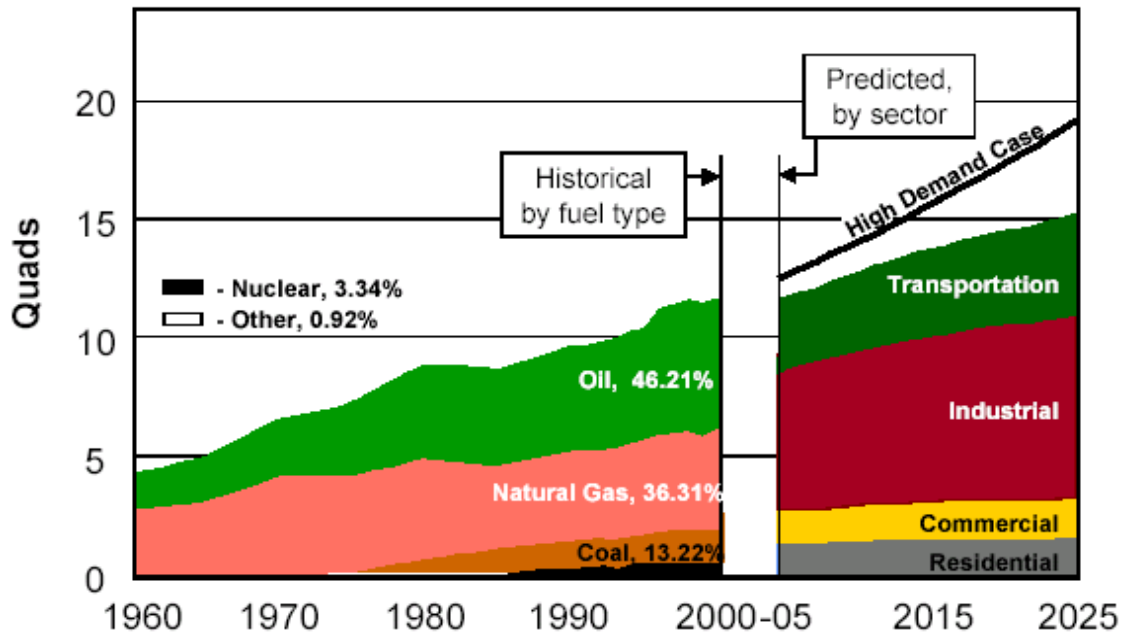
energy to power the continued economic development of the state.

Energy is one of the basic building blocks of our everyday lives. Our state depends on energy to grow and thrive. Energy is needed for heating, cooling, transportation, communications, construction, and food production. A safe, abundant and stable energy supply is essential to Texas and U.S. employment, our standard of living and our economic growth<sup>1</sup>.

Texas is the second most populous state in the nation with over 22 million residents in 2003. The Texas population is projected to reach 35 million by 2040, if not sooner. Energy demand in Texas is forecast to grow 31% by 2025, from 11.6 to 15.2 quadrillion Btus per year, with the largest increases being in motor gasoline and transportation distillates<sup>2</sup>.

Wholesale energy prices that have been experienced from 2000 to 2004 are not sustainable for our industrial and residential consumers and have already cost Texas an estimated 36,000 jobs<sup>3</sup>. Responsible environmental stewardship must continue to be a hallmark of all Texas energy initiatives.

# Texas Energy Consumption



For over a century, Texas has been the pre-eminent oil and gas state. To this day, Texas still produces more oil and natural gas than any other state in the nation and supplies over 25% of all U.S. natural gas demand, nearly 20% of the nation's oil production, and 31% of all U.S. refined products. Texas is the nation's largest producer of chemicals, and the oil, gas, chemical, and energy industries are strongly interrelated. But it is well recognized and documented that the oil and gas industry alone cannot sustain the growing energy requirements of the state. Long term, we must look to the development of alternatives to our traditional energy sources. We must provide for an orderly transition with oil, gas and coal providing the bridge to the next generation of energy sources.

Texas must continue its leadership role by developing critical liquefied natural gas (LNG) import capacity and services, unconventional natural gas, and ultra-deepwater petroleum technology and

production. Emerging gasification technology holds great promise to diversify U.S. energy supplies by allowing clean and efficient conversion of coal, Texas lignite<sup>5</sup>, petroleum coke and biomass to a flexible range of desirable products, from power, to hydrogen, synthetic natural gas and clean liquid fuels<sup>1,6</sup>.

Renewable energy (wind, solar, biomass, landfill gas, geothermal, etc.) has great potential in Texas and will play an important role over the next 25-50 years as Texas expands its current leadership position in this arena<sup>7</sup>. Texas is the pre-eminent energy state and is proposing and developing bold and innovative energy solutions for the future.

Texas is acknowledged as a key success story among competitive electric markets in the U.S. and is well positioned to take additional steps to achieve the vision of a vibrant competitive electric power market<sup>4</sup>.

Energy efficiency and conservation, driven by emerging technology, market forces and responsible energy policy, have and will continue to help offset growing energy demand in Texas. Texas must also better develop its human resource, providing leadership to solve the evolving U.S. and international energy needs while deriving great technical and commercial benefits for Texans.

Texas can anticipate a greater return on investment as it “gets better organized” and provides certain financial, policy and infrastructure support for energy initiatives. Texas will provide leadership and vision to address energy problems with common sense solutions to benefit Texas, the U.S., North America, and the world.

When developing the framework for the Council’s recommendations, it became apparent that we “cannot drill our way” nor can we “conserve our way” out of an energy crisis. It is going to take actions on both the supply side and the demand side to achieve a balanced energy policy. With that in mind, the Council created a Supply Committee, and a Demand and Conservation Committee to address both sides of the energy equation. In addition, the Council recognized that the infrastructure required to move supply to the consumer also needed attention. A third subcommittee, the Infrastructure Committee, was created to address issues associated with energy delivery.

The full Council had 10 formal posted meetings at which it received invited testimony on a number of specific issues, and general public input. The three subcommittees and the executive committee also had several meetings to discuss input in their particular area of concern.

The testimony and analysis of the subcommittees led to the formation of 10 recommendations. Several of these recommendations will require statutory actions to implement. If implemented, the first recommendation will create an ongoing state Energy Planning Council function to continually monitor the success of the recommendations and adjust the recommendations to reflect actual performance in the future. This also provides a mechanism for the development of new policy directions as advanced technologies are developed and commercialized.

The Council wishes to thank all those who participated in the development of the recommendations, and all those who took the time and effort to present factual and informative testimony that helped to form the basis for the recommendations.

The Council also urges the Texas Legislature to carefully consider the recommendations and move quickly to implement those statutory changes required to effectuate the policies embodied in these recommendations.

# Executive Summary

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The diversity of interests represented by the members of the Council have resulted in a set of recommendations that support each other in the goal to provide the energy needed by the state not only for the immediately foreseeable future, but well into this century. While not all members agreed with every recommendation, the recommendations are designed to complement each other and provide a comprehensive package of first steps toward a continuing energy plan for the state. Each of the recommendations is the result of extensive debate and is based on expert testimony provided to the Council.

The 10 recommendations of the Council can be categorized into four major themes. They are:

**(a) Better organize the state's attention to energy matters** by establishing a continuous energy policy development program, consolidating energy regulatory programs, and beginning efforts to develop an energy curriculum,

**(b) Don't forget traditional oil and gas fuels** by recognizing the dependence on the traditional oil and gas industry through research, incentives, and development of LNG markets,

**(c) Look to emerging technologies for the future** by encouraging new gasification technology for Texas, and increasing targets for renewable power sources, and

**(d) Pay attention to demand side management** by providing incentives and new technologies to allow utilities

*These initial recommendations are not intended to “solve” the state’s energy issues, but are intended to begin the process of continually evaluating our energy policies.*

and consumers to realize more energy efficiency and conservation. The specific recommendations follow.

**1. Texas Energy Planning Council Act.** The first recommendation is to establish a Texas Energy Planning Council to advise on, coordinate and streamline energy related initiatives and issues. Membership shall include representatives of the Governor (public), Lt. Governor (Senate) and Speaker (House), and one member each from the Railroad Commission of Texas (RRC), General Land Office (GLO), Public Utilities Commission (PUC), Texas Commission on Environmental Quality (TCEQ), and the Texas Department of Transportation (TxDOT).

**2. Texas Energy Commission Consolidation Act.** This recommendation would consolidate various energy-related functions under the RRC, including the State Energy Conservation Office (SECO), energy education, relations with the U.S. Dept. of Energy and oversight of in-situ uranium extraction, to “sync up” Texas energy functions. It would also transfer the remaining rail safety function from

the RRC to TxDOT and re-name the Railroad Commission as the *Texas Energy Commission*.

**3. Texas Energy Education Act.** Under this proposal an Education Fund would be established through a (refundable) assessment of 1/10th of 1% (0.001) of revenues from oil and gas production, capped at \$3 million per year. The Texas Energy Planning Council will administer spending with direct input from an oil and gas industry advisory panel; additional input would be provided by the education sector and other energy-related entities. The targeted audience would be K-12, post-secondary and public energy education.

**4. Resolution for Texas Leadership in Oil and Gas Research.** This recommendation is intended to encourage aggressive state action, including funding, to ensure that Texas entities win a major share of the potential, new two billion dollar federal program (in pending Federal Energy Bill) for Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources. This would also provide for help in extending the life of marginal oil and gas production.

**5. Texas Increased Rig Count and Petroleum Production Act.** This proposal is intended to encourage development of new oil and gas resources by offsetting future severance tax liability for operators who drill *exploratory* wells in FY 2006-09. It would also make permanent the existing severance tax incentives available for Enhanced Oil Recovery and High-Cost Gas, and create a new Marginal Well

incentive to maximize recovery of existing oil and gas resources.

**6. Resolution for Development of Texas LNG Markets.** As domestic natural gas prices increase, global LNG markets become much more attractive as a supplement to domestic natural gas. This resolution is intended to establish the Texas Gulf Coast as the dominant entry point and hub of activity for U.S. natural gas imports.

**7. Texas Gasification Technology Act.** Gasification technology is emerging as one of the more encouraging new sources of diversified energy products. This proposal would encourage the state to provide up to a 20% cost share to commercial-scale projects that produce power, hydrogen and/or clean transportation fuels from lignite or various refinery streams, including petroleum coke and residual wastes, and provide incentives to encourage carbon sequestration and gasification technology development in Texas.

**8. Texas Enhanced Renewable Portfolio Standard (RPS) Act.** Texas power producers have successfully met and exceeded the current renewable portfolio standards. To encourage continued success in development of renewable energy sources, this recommendation is to approve an enhanced Texas RPS that requires 5,000 MW of installed capacity by 2015 and targets that 10,000 MW (10% of Texas power needs) be met from renewable power by 2025. This recommendation would also direct the PUC to take the necessary steps to overcome transmission capacity obstacles that are

limiting the development of renewable power sources.

**9. Texas Energy Savings Act.** To address demand side management, this proposal would enact measures to improve energy efficiency, reduce air emissions and facilitate consumer education, including increasing the state energy efficiency goal to 15% of the Transmission and Distribution Utilities (TDUs) growth in demand. In addition, it would use System Benefit Funds for consumer education in energy savings, and restore Texas Emissions Reduction Plan (TERP) funding for energy-efficiency and emission-reduction projects.

**10. Recommendation for Advancement of Texas Smart Metering Technologies.** This proposal would request that the Texas Legislature review and facilitate progress toward modernization of the Texas electric grid and meter-data networks, specifically by clarifying responsibilities for various meter-related services within the competitive Texas framework.

These 10 recommendations are intended to address the four themes outlined as the components needed to begin the development of a continually evolving Texas energy policy. These initial recommendations are not expected to “solve” the state’s energy issues, but are intended to begin the process of continually evaluating our energy policies to ensure that the state is taking full advantage of all new emerging technologies.

# Recommendation 1

## Texas Energy Planning Council Act

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A clear conclusion from the voluminous testimony, input, and discussion is that Texas should establish a single entity to better coordinate and facilitate energy-related issues statewide. As Texas becomes more organized with regard to energy, we can better compete for limited federal funding, attract more high tech energy-related projects, and influence state and federal energy issues to the benefit of all Texans.

The following high-priority energy opportunities were identified which will require much additional work before recommendations can be made:

(1) Develop a vision, strategy and tactics to achieve a smart electric grid in Texas and facilitate emergence of smart end-use technologies and services,

(2) Plan for the highly interrelated needs of energy and transportation, identified as a critical issue in Texas and the U.S. over the next 20 years,

(3) Study future Texas energy infrastructure needs,

(4) Study the role nuclear energy should play in supplying Texas' future energy needs, and

(5) Study the role fuel cell technology should play in a Texas energy plan.

Functionally, the Council would help to implement the "Texas Energy Plan 2005" and serve as a "one stop shop" for Texas energy issues. Its primary mission would be to coordinate, facilitate and expedite

***Texas should establish a single entity to better coordinate and facilitate energy-related issues statewide.***

important Texas energy projects, and provide a unified front to parties outside of Texas.

The Council would advise the Governor and Legislature on energy issues, biennially review the Texas Energy Plan, and suggest revisions to the Governor and Legislature as appropriate.

The Council would be responsible for administering any spending under the Energy Education Fund. An industry advisory group would be appointed to assist in determining funding for educational efforts. Working in concert with the Clean Coal Technology Council, the Council would also recommend project funding under the Texas Gasification Technology Act.

Further activities would include determining ways to streamline bureaucratic inefficiencies and minimize jurisdictional overlap and duplicity among state entities regarding energy issues. It would coordinate Texas energy initiatives with those of other states, and facilitate global energy relationships and opportunities (e.g., in LNG, gasification, and information and technology exports).

The state needs better coordination of vital Texas energy interests at the state, national, and international level. A single unified voice will be more effective in assuring that Texas energy benefits are maximized. Some examples are:

(a) working with the Texas Congressional delegation, U.S. Department of Energy and other appropriate federal entities to secure federal support and funding for Texas energy projects,

(b) providing input to help develop federal energy policy and legislation (e.g., encourage a Federal Energy Bill, and encourage lifting offshore exploration moratoria),

(c) supporting FutureGen and clean coal research,

(d) encouraging development of federal air regulations that ensure continued viability of the Texas lignite and coal industry,

(e) participating in ongoing national studies and plan prudently to secure the regulatory approvals needed to extend the operating licenses of the Texas nuclear units at Comanche Peak and South Texas,

(f) participating in studies regarding high-level nuclear waste issues, and

(g) encouraging mutually beneficial international energy cooperation with Mexico and Canada.

The proposed Texas Energy Planning Council would consist of 11 members; One member each from the RRC, GLO, PUC, TCEQ, and TxDOT, one Senator designated by the Lieutenant Governor, one House member designated by the Speaker, and four public members appointed by the Governor. The Council would be chaired by the RRC member.

To effectively operate, the Council will need dedicated staff. Experience in Texas and other states suggests that such an entity should have dedicated staff to be most effective. The recommendation envisions funding for a Director and two staff members who would work directly for the Council Chairman. When created, the Council should be authorized to create subcommittees and advisory committees to solicit input from various non-government sectors (e.g., industry, public and higher education, research, etc.). Creation of the Council as a standing entity would also subject it to sunset review as determined by the Legislature.

## Recommendation 2

### Texas Energy Commission Consolidation Act

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A constant theme of Council hearings was that deliberate steps should be taken to eliminate redundancies, conflicts and inefficiency posed by overlapping or poorly coordinated jurisdictions among Texas regulatory agencies that deal with energy matters. Consolidating certain functions at the RRC will help eliminate confusion and frustration for Texas energy industry stakeholders.

A prominent example is the State Energy Conservation Office, which provides a focal point for state energy efficiency and conservation efforts and federal funding. Moving this office to the RRC will improve coordination of its initiatives with those of the State. As part of the consolidation, the remaining RRC rail safety function should be transferred to TxDOT, and the RRC should be renamed as the Texas Energy Commission. All other current functions and responsibilities would remain with the newly named agency. The new Texas Energy Commission will provide staff

***Consolidating certain functions at the RRC will help eliminate confusion and frustration for Texas energy industry stakeholders.***

support to the Texas Energy Planning Council.

The specific legislative actions that would be required are: (a) transfer the State Energy Conservation Office from the Comptroller of Public Accounts to the RRC, (b) transfer regulatory oversight for in-situ uranium mining from TCEQ to the RRC, (c) transfer the rail safety function of the RRC (15 employees) to TxDOT, (d) change the name of the RRC to the Texas Energy Commission, and (e) designate the Texas Energy Commission as the state liaison to the federal government (U.S. Department of Energy) for implementation and administration of federal programs relating to energy matters.

## Recommendation 3

### Texas Energy Education Act

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A strong education system leading to a well-educated workforce is crucial to a healthy economy and essential to the future of Texas. There is a serious lack of general public knowledge about how various forms of energy are created and delivered to consumers. There is a widely acknowledged need and support for proactive development of a Texas workforce to support continued oil and gas development and the high-technology elements of the future energy industry.

A recently completed Interstate Oil & Gas Compact Commission (IOGCC) report highlights the “graying” of the domestic energy industry<sup>8</sup>. The average employee age in the oil and gas industry is approximately 46 to 49 years old. With the average retirement age for the industry being 55 years, the industry faces a crisis in the next 7 to 10 years as more than half of the employee base will leave the work force.

Compounding the problem, there have been dramatic declines in the number of domestic students preparing to enter the disciplines and skilled vocational trades most needed in the oil and gas industry: geologists, geophysicists, petroleum engineers, landmen, skilled oilfield workers, etc. A coordinated effort involving industry, government, and educational institutions is needed to address the problem.

A “check-off” program similar to the successful Oklahoma Energy Resources Board program is the suggested mechanism to fund this provision. The legislative action

***There is a serious lack of general public knowledge about how various forms of energy are created and delivered to consumers.***

recommended is to authorize a (refundable) assessment of 1/10<sup>th</sup> of 1% (0.001) of revenues from Texas oil and gas production, up to \$3 million per year into a dedicated fund. Revenues in the fund would be used to focus on public energy education, in coordination with key Texas universities and other institutions. Spending will be administered by the Texas Energy Planning Council with direct input from an oil and gas industry advisory panel; additional input to be provided by the education sector and other energy-related entities. The maximum annual assessment that any one company would contribute would be capped at \$150,000.

Legislation should also authorize the Texas Energy Planning Council to accept private donations for educational purposes.

A new effort in energy education should be initiated by the Legislature by requiring public primary and secondary education in energy supply. The required curriculum should address topics of energy sources, production, transportation, and consumption with emphasis on teaching how energy, in its various forms, is brought to consumers from raw energy resources to the light switch, electric outlet, or gasoline nozzle. It should also emphasize the importance of energy supply to the Texas economy.

## Recommendation 4

### Resolution for Texas Leadership in Oil & Gas Research

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While it is understood that the traditional oil and gas industry cannot supply all of the state's energy needs into the future, this industry will still be the dominant supply source for the foreseeable future. We must rely on these fossil fuels to bridge us to the next generation of energy sources, but the continued development of oil and gas supplies will require new technologies to find and produce these supplies. Over the last two years, 65% of all new oil and gas reserves worldwide were found in deepwater or ultra-deepwater environs, and unconventional natural gas is the largest identified domestic petroleum resource.

Pending federal legislation (Federal Energy Bill) contains significant funding for research for ultra-deepwater and unconventional natural gas and other petroleum resources. Funding sources include: (1) a "Royalty Trust Fund" of \$150 million a year from federal oil and gas royalties, for a total investment of \$1.5 billion, not subject to annual appropriations, (2) an additional \$50 million a year for 10 years, subject to annual appropriations, adding \$500 million to the federal investment, and (3) industry matching funds, estimated at 40% of the total federal investment, adding another \$800 million of research and development spending.

Texas can secure and direct a dominant share of these research funds, with anticipated 100:1 economic benefits, if steps are taken to maximize the competitive position of key Texas organizations. The

***We must rely on these fossil fuels to bridge us to the next generation of energy sources.***

first suggested step is to authorize the disbursement of up to \$2.5 million from available state funds such as the Texas Enterprise Fund or newly proposed Texas Emerging Technology Fund to assist the Research Partnership for a Secure Energy America (RPSEA) or other similar organization to improve its competitive position for management of a one billion dollar federal ultra-deepwater research program.

In addition, available state funds from these same sources should be used to assist other Texas entities to compete for \$900 million in National Energy Technology Lab sub-programs for unconventional natural gas and small producers after the federal legislation is signed into law.

## Recommendation 5

### Texas Increased Rig Count and Petroleum Production Act

Texas' oil and gas production is quite mature, with marginal wells accounting for a third of statewide production. Production remains generally flat despite high oil and gas prices in the last year. Extending the useful and productive life of marginal wells encourages the domestic production of oil and gas. Once these wells are abandoned and plugged, Texas will lose access to this valuable natural resource.

The existing Enhanced Oil Recovery and High-Cost Gas Severance Tax Incentives have been successful in encouraging oil and gas exploration and production in Texas and should be continued on a permanent basis. These incentives have been important in ensuring the recovery of existing known resources that may not have otherwise been produced.

To help maximize recoveries for other wells, an additional incentive for marginal production should be established. Marginal wells should be defined as a well that produces 15 barrels or less of oil per day, or 90 thousand cubic feet (Mcf) or less of gas per day. The incentive would provide for a 50% reduction in severance tax if the price falls below \$30/barrel of oil and \$3.25/Mcf of gas, respectively. If prices fall to \$25/barrel of oil or \$2.50/Mcf of gas, respectively, then the producer would receive a 100% reduction on severance taxes.

In addition, the state needs to develop an incentive for finding new resources by accelerating exploratory drilling. A modest

***[T]he state needs to develop an incentive for finding new resources by accelerating exploratory drilling.***

increase in exploratory drilling of 20% for a single year could generate new revenues to the state of \$60 million. Exploratory well tax incentives worth an estimated \$23.5 million a year in FY 2006-09 to Texas producers would be the incentive to achieve the increase in exploratory drilling, resulting in net revenue to the state of \$37.5 million attributable to a single year of increased activity. These estimates are based on an assumed oil price of \$32.50 per barrel. The estimated net tax revenue effect at various percent increases in exploratory drilling is:

Percent Increase in Exploratory Drilling	5%	10%	20%	30%
Net Annual Tax Revenue to State (millions)	\$(5.3)	\$9.0	\$37.5	\$66.1

New exploratory wells would be defined as true exploratory wells and not simply extensions of existing known resources. The new well must be a certain distance from known production or drilled to a certain depth deeper than known production to qualify for the incentive.

If qualified, the well would earn severance tax credits in an amount of \$10,000 plus  $\$(\text{depth}^2/1000)$ . For example, a qualifying 8,000 foot well would generate a tax credit of  $\$10,000 + \$(8,000 \times 8000)/1000 = \$10,000 + \$64,000 = \$74,000$ .

## Recommendation 6

### Resolution for Development of Texas LNG Market

Texas has long been the largest producer of natural gas in the United States, but its gas production is flat at best at approximately 5.8 trillion cubic feet (Tcf) per year. Texas has also been and remains the largest consumer of natural gas and its industrial vitality is dependent on abundant supplies.

Natural gas in Texas now costs up to 10 times that in certain world markets; gas in the United States is now more expensive than in Europe, reversing the traditional price situation. About 250,000 primary, high-quality Texas jobs are in industries at serious flight risk due to high natural gas prices. As of one year ago, Texas had already lost 14,000 chemical and manufacturing jobs to high natural gas

*Texas ... can serve a large portion of national natural gas demand by filling underutilized pipelines with LNG-derived gas.*

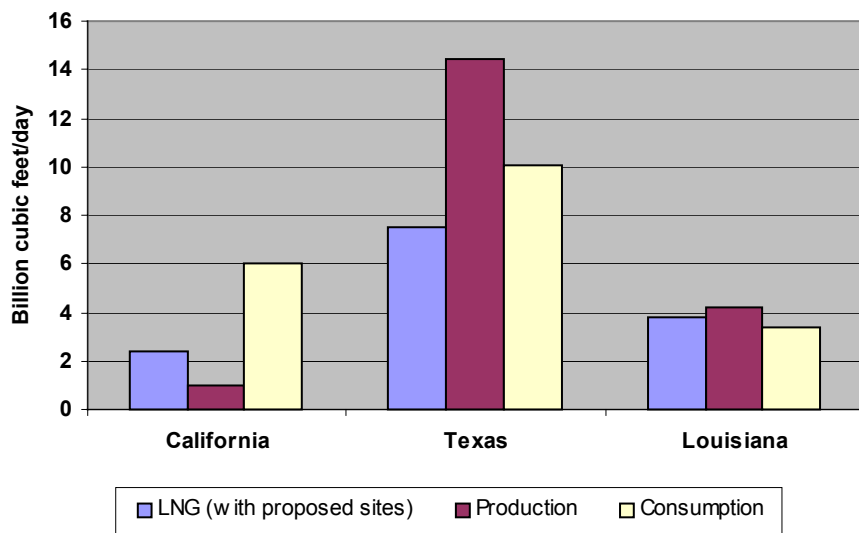
pipeline network and can serve a large portion of national natural gas demand by filling underutilized pipelines with LNG-derived gas. Residential and commercial consumers stand to reap large benefits as well if more gas supply enters the market.

Each LNG import facility built and operated in Texas brings enormous competitive benefit to Texas industry; and each LNG import facility built and operated in Texas

increases the reliability, stability and affordability of energy supplies potentially available to individual Texas citizens. Large, early, and firm commitments to take LNG capacity will greatly promote the construction and operation of LNG import facilities in Texas.

To maximize the development of these important new facilities along the Texas coast, the state should:

- (a) encourage LNG import facility owners to allow direct market access to gasification capacity to ensure that large and



prices.

Texas is well positioned at the producing end of the extensive U.S. natural gas

small Texas consumers are able to share in the benefits of LNG imports,

(b) seek to augment its long-term natural gas supply needs using LNG, to the extent that LNG-derived gas is available from the market at a competitive price,

(c) encourage Texas utilities to include LNG-derived natural gas or electric power in their supply portfolios, and

(d) discourage the imposition of any new taxes or bureaucratic barriers by the State of Texas on LNG facilities and supplies during the period 2005-2015.

## Recommendation 7

### Texas Gasification Technology Act

Gasification plants are being announced around the world. China has announced 12 ammonia plants (subsidized). Recently “announced” U.S. gasification projects number a half-dozen (most with low likelihood to be built), but no Texas projects have been announced. High natural gas prices notwithstanding, authors of a widely cited Harvard study point toward continued need for financial mechanisms to trigger widespread deployment of integrated gasification combined-cycle (IGCC) technology in this decade.

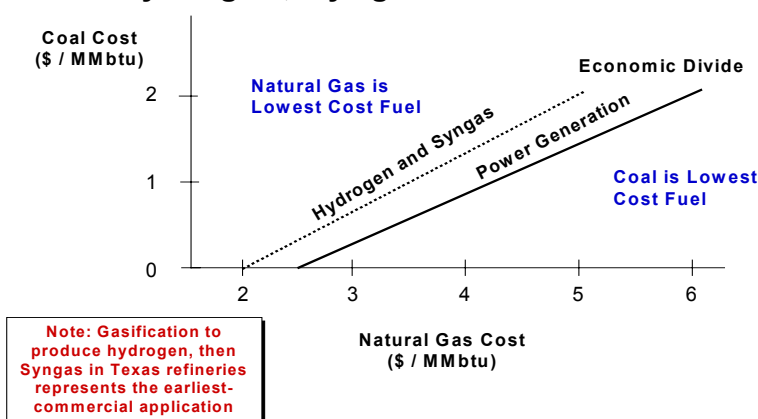
Hydrogen and syngas production for the chemical process industry is potentially the earliest commercial opportunity for IGCC, a built-in tactical advantage that Texas should exploit. A modest incentive-investment could help jumpstart the commercial gasification business in Texas and allow Texas companies to dominate the estimated \$700 billion global process and power generation market.

Once technology risk is reduced, coal gasification will be competitive with natural gas-fired power generation at \$4.00 per MMBtu with almost no air emissions and great fuel and product flexibility. By aggressively developing gasification

*A modest incentive-investment could help jumpstart the commercial gasification business in Texas.*

technology and commercial applications in Texas, the state can extend its predominance to this emerging technology.

**Economics of Gasification for Production of Hydrogen, Syngas and Electric Power**

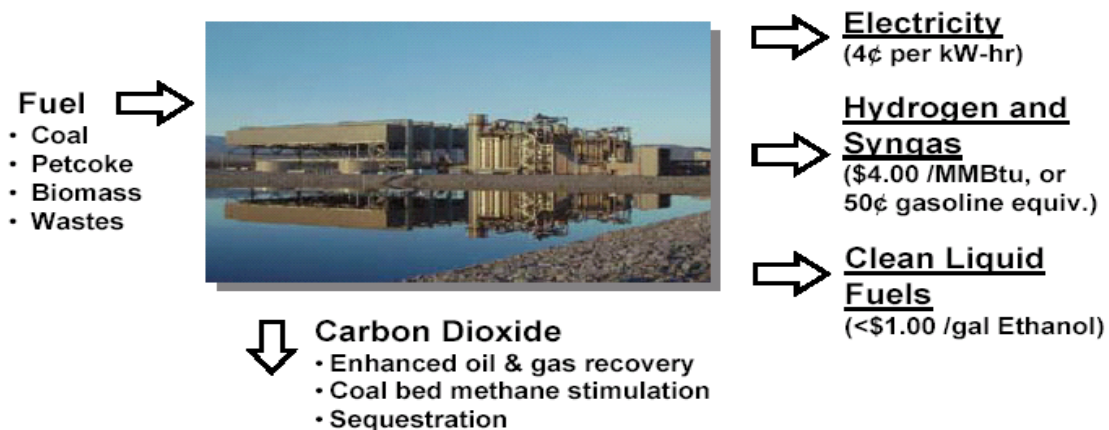


The University of Texas’ Bureau of Economic Geology has identified 31 billion barrels of oil in Texas that could be recovered using the carbon dioxide (CO<sub>2</sub>) by-product associated with zero-emission power plants. In addition, Texas is competing with other states to host the ambitious \$1 billion “FutureGen” zero-emission power plant demonstration project. U.S. power output can be increased by one-third over the next 20 years without

additional coal consumption by simply retrofitting the current installed coal-fired power generation with gasification technology (the 33% efficiency of current installations jumps to 40%+ when re-powered).

Commission as applications are received and funding is available. Funding for this cost-share proposal could be provided by the State from the Texas Enterprise Fund, the newly proposed Texas Emerging Technology Fund, or other sources to be determined by the Legislature.

## Zero Emission Energy Plant



Subject to available funding, the state should provide up to a 20% cost share on capital investments at Texas refineries, chemical process facilities or power plants that lead to:

- (a) production of power and/or hydrogen from coal, Texas lignite, petroleum coke and/or residual waste streams (gasification),
- (b) production of clean transportation fuels from pet coke, coal, non-traditional natural gas sources or biomass, or
- (c) capture of CO<sub>2</sub> from refinery or gasification processes that result in oilfield injection for enhanced recovery.

Funding recommendations for the cost share proposal would be made by the Council with staff support from the Texas Energy

Additional funds should be designated to longer-term, high-leverage technology and other strategic investments such as:

- Providing matching funds of up to \$10 million for commercial technology teams located in Texas that meet requirements set out by the Texas Energy Planning Council.
- Identifying candidate sites for FutureGen or zero emission power plants by offering site study grants of up to \$200,000 each to applicants with high-potential host sites and a commercial gasification technology partner.
- Funding UT-BEG with \$1.5 million to identify the best oil and gas fields in Texas for injecting CO<sub>2</sub>, then work with E&P companies to initiate these enhanced recovery projects.

- Authorizing a 10% state cost-share to be committed if FutureGen is sited and constructed in Texas (maximum \$100 million spread over 10 years).

The Council also envisions leveraging investments from other sources to increase

the pool of funds available to accelerate the development of gasification facilities. The state share of funding support for jump-starting gasification technology would only be temporary (up to five years).

## Recommendation 8

### Texas Enhanced Renewable Portfolio Standard Act

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Texas has far more potential renewable energy resources than reflected by the current Renewable Portfolio Standard (RPS). Wind will provide the overwhelming majority of renewable energy in Texas for the near future, due to its large resource and increasingly competitive pricing. However, deployment of other renewable energy technologies (e.g., solar, biomass, landfill gas, geothermal, etc.) should also be encouraged.

A combination of federal and state incentives is appropriate for development of renewable energy and is recommended on the basis of supply diversity, economic stimulus and the potential to develop an attractive non-subsidized future power supply. A federal Production Tax Credit (PTC) of 1.5¢ per KW-Hr for wind-generated electricity was signed into law on October 4, 2004. Given this incentive and the desire to encourage more renewable resources, an increase in the Texas RPS is recommended. In addition, the current Renewable Energy Credit (REC) market works well and should be maintained to ensure the success of Texas renewable power.

A measured, physically quantified and verifiable approach to renewable power is recommended. The approach has three essential elements. They are:

- (1) adjust RPS targets and mandates,
- (2) provide transmission infrastructure, and
- (3) develop a funding proposal for the infrastructure development.

***Texas has far more potential renewable energy resources than reflected by the current Renewable Portfolio Standard***

#### **RPS Targets**

The RPS should be adjusted to require that the cumulative installed renewable capacity in Texas total 5,000 MW (5% of 2004 installed capacity) by January 1, 2015. Regarding the 5,000 MW requirement, target that 500 MW not already installed as of 2004 derive from non-wind renewable energy sources such as solar and biomass-based waste products, including landfill gas. In addition, establish a target that installed renewable power capacity in Texas reach a total of 10,000 MW (10% of 2004 total installed capacity) by 2025.

#### **Provide Transmission Infrastructure**

The PUC should be directed to identify “competitive wind zones” and/or “competitive renewable zones” and to define a backbone of needed high voltage transmission. The agency should then undertake studies to identify the costs and benefits of each project to determine the most beneficial and cost-effective alternatives. All other things being equal, transmission should be built to service wind power installed on or in close proximity to state and university lands. The PUC should have the ability to adjust the routing based on a material change in the market.

The PUC should be required to monitor and adjust the goal if reliability or grid operations are materially threatened and to ensure resources and transmission are sited in a cost-effective manner.

To streamline infrastructure projects the PUC should be authorized to deem the utilities' infrastructure planning, routing studies, and permitting of needed transmission projects to competitive renewable zones as prudent and reasonable based on the process used to designate the zones. During the Certificate of Convenience and Necessity (CCN) process, utilities would not need to address the adequacy of existing service or the need for additional service.

In addition, the PUC should be directed to adopt a rule allowing approval of an application for a CCN of transmission system improvements to serve "competitive wind zones" and/or "competitive renewable zones" in advance of interconnection agreements executed by renewable generators in those zones.

### **Infrastructure Funding Proposal**

Funding would be established by creating the "Renew Texas" plan to promote renewable generation and infrastructure in Texas. The Renew Texas Fund would derive from a line-item fee on every Electric Reliability Council of Texas (ERCOT) electricity customer's bill that clearly states that the fund would be used for the development of renewables. A dedicated fund would be created from these fees to pay for the infrastructure in competitive wind and renewable zones in ERCOT.

The PUC would implement the "Renew Texas" plan. The Renew Texas fee would be based on kilowatt hour (KWh) usage, not to exceed \$1 per month for residential customers, \$10 per month for small commercial customers, and \$500 per month for industrial and large commercial customers. Residential customers would be allowed to *opt-out* of the assessment by checking a box on their bill. Commercial and industrial customers would not have the ability to opt-out. The fee would be assessed for a period of time to be determined by the Legislature. Wind generators benefiting from the infrastructure development would be required to remit a percentage of generation sold back to the fund to support other sources of renewable energy and congestion management. The appropriate percentage would be determined by the Legislature.

## Recommendation 9

### Texas Energy Savings Act

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Energy efficiency programs can reduce the cost of customers' electric usage, reduce air emissions, and should form an integral component of Texas energy policy. Energy efficiency programs administered and funded through the Transmission and Distribution Utilities (TDU) in areas in retail competition are regulated by the PUC and require long-term energy savings. A comprehensive customer education plan is pivotal to increasing energy efficiency of homes and businesses, thus lowering their energy costs and reducing emissions.

The System Benefit Fund (SBF) was established in 1999 by Senate Bill 7 to provide discounts to low-income electricity customers and fund customer education programs for areas in retail competition. A non-bypassable fee paid by electric customers in the retail competition areas funds the SBF.

Over half of all Texans live in "non-attainment" areas that do not meet federal air quality standards. The TERP, established in 2001 by Senate Bill 5, is funded by fees and surcharges on motor vehicles and construction equipment and is used for programs targeted towards the reduction of air emissions, which includes energy efficiency.

The TDU energy-efficiency programs currently meet the minimum legislative goal set in §39.905 of the Public Utility Regulatory Act (PURA) for acquiring at least 10% of the TDU's respective growth in

***To continue encouraging energy efficiency programs, legislative actions are recommended.***

demand through cost-effective energy efficiency. At this time, these programs are oversubscribed due to their popularity and effectiveness.

The SBF currently funds a customer-education campaign designed to educate Texans as to their competitive options in areas of retail electric competition.

In 2002-2003 the PUC received funds from TERP that permitted the award of 15 competitive grants to TDUs, municipal utilities, and electric cooperatives in "non-attainment" designated counties. These awards were in the amount of \$2.5 million but they will actually achieve \$5 million in the value of saved energy, as well as avoiding the production of 250 tons of nitrogen oxide (NO<sub>x</sub>). The PUC received no TERP funds during the 2004-05 appropriations process.

To continue encouraging energy efficiency programs, three legislative actions are recommended. First, increase the TDU energy-efficiency program by changing the currently established energy-efficiency goal from 10 percent of the TDU's annual growth in demand to 15 percent of the TDU's growth in demand.

Second, authorize the use of System Benefit Funds to include customer education related to energy efficiency, and appropriate funds from that source for customer education programs designed to educate residential and business customers about the cost savings and other benefits of energy efficiency.

Third, restore TERP funding for grants to TDUs, municipal utilities, and electric cooperatives for the implementation of increased energy-efficiency and emission-reduction projects.

## Recommendation 10

### Advancement of Texas Smart Metering Technologies

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The Texas electric market is acknowledged as a key success story among the competitive electric markets in the U.S., yet much remains to be done if we are to achieve the original vision of a vibrant competitive market. It is time for the Texas market to agree on a shared vision for how to achieve a smart grid and facilitate emergence of smart end-use technologies and services.

Texas electric utilities have a combined capacity factor of 50%, representing \$50 billion of idle investment. Capacity factors in Italy exceed 85%, suggesting that more than half of Texas' idle energy investment could possibly be recovered by enabling demand-side management at the consumer level. The key is providing *granularity* and *transparency* in power consumption and pricing data. A modernized grid would include the deployment of intelligent nodes at key points in the transmission and distribution (T&D) system, customer meters that record real-time or interval consumption data, and the capability to transmit and manage the energy data.

A smart grid would allow utilities to read meters and detect outages remotely, automatically turn power on or off as customers move in or vacate premises, identify meter tampering, reduce power theft, better manage T&D assets, reduce congestion costs, and increase reliability.

Time-differentiated energy data would enable dynamic pricing, providing consumers with incentive to help balance

***[H]alf of Texas' idle energy investment could possibly be recovered by enabling demand-side management at the consumer level.***

supply and demand in the market (reduce consumption) when power is in short supply (prices are high). As a result of market restructuring, existing law has not addressed the responsibilities of various market participants in the deployment of advanced meter-data networks for different customer classes with sufficient detail to remove market uncertainty.

An overarching vision will enable utilities and system operators to deploy advanced electronic meters, information management systems and other emerging technologies. Many entrepreneurial companies will likely spring up under this umbrella, creating tremendous economic value and jobs on the existing resource and asset base.

To capture this opportunity, the following is recommended: (a) review progress of other states or regions toward modernization of their electric grids, focusing on deployment among smaller customers of meter-data networks, and (b) legislatively clarify the entity responsible for various meter-related services, for each class of customer, within the new competitive framework, to allow market participants to pursue advanced meter deployment and the proliferation of advanced customer services.

## References

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7. “Texas RPS,” Presentation by the Renewable Energy Sub-Committee of the Energy Supply Committee, Texas Energy Planning Council, September 24, 2004.
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# Executive Order

BY THE  
GOVERNOR OF THE STATE OF TEXAS

Executive Department  
Austin, Texas  
November 10, 2003

## EXECUTIVE ORDER RP 29

*Relating to the creation of the Texas Energy Planning Council.*

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WHEREAS, President George W. Bush has prudently urged adoption of a national energy plan which is important to national energy and economic security; and

WHEREAS, the United States currently imports over 50 percent of the oil we consume and our reliance on foreign sources of oil continues to grow, thus jeopardizing our energy security; and

WHEREAS, state and national trends suggest increasing energy consumption and decreasing domestic production of oil and natural gas; and

WHEREAS, in Texas, we continue to face declining oil and gas production from our peak production period in the early 1970s; and

WHEREAS, Texas still ranks number one among the states in terms of oil and gas production, supplying approximately 20 percent of the nation's domestic oil and 26 percent of the nation's domestic marketed natural gas; and

WHEREAS, our Texas energy industry helps to power a nation, creates jobs and opportunity for Texas families, and provides needed revenues for our Texas economy; and

WHEREAS, it is crucial that we initiate a comprehensive and coordinated effort to ensure our state's future energy security;

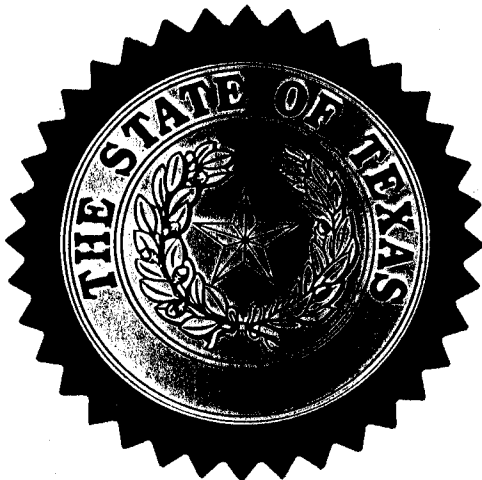
NOW, THEREFORE, I, Rick Perry, Governor of the State of Texas, by virtue of the power and authority vested in me by the Constitution and laws of the State of Texas, do hereby order the following:

1. Creation. A Texas Energy Planning Council (the "Council") is hereby created to advise the Governor on a balanced plan to provide the energy needed to fuel Texas' future economic growth and prosperity. The plan should identify gaps between the state's energy supply and energy demand and recommend plans to close or minimize these gaps. The plan should recognize the important contribution of Texas' petroleum and natural gas exploration and production industry and identify ways to keep this industry strong and vibrant as the state begins to transition to the next generation of energy technologies. The Council should explore ways to diversify future energy supplies via liquefied natural gas, nuclear, and clean coal technology as well as through renewable energy sources such as wind

power, biomass, and fuel cells. The Council should also explore common sense ways to reduce energy consumption through practical energy conservation measures.

2. **Composition and Terms.** The Council shall consist of members appointed by the Governor. The Chairman of the Railroad Commission of Texas shall serve as chair of the Council and have all the authority invested in the chairmanship, including but not limited to calling meetings, setting the agenda, determining witnesses and experts to assist the chairman, and the ability to call on other state officials to assist with the work of the Council. The Governor may fill any vacancy that may occur and may appoint other voting or ex officio, non-voting members as needed. All appointees serve at the pleasure of the Governor.
3. **Report.** The Council shall submit a full report, including findings and recommendations, to the Governor, Lieutenant Governor, and Speaker of the House of Representatives, no later than December 31, 2004. The Council shall be dissolved upon completion of that report.
4. **Meetings.** The Council shall meet at times and locations as determined by the chair.
5. **Administrative Support.** The Railroad Commission of Texas and other appropriate state agencies shall provide administrative support for the Council.
6. **Other Provisions.** The Council shall adhere to guidelines and procedures prescribed by the Office of the Governor. All Council members shall serve without compensation or reimbursement for travel expenses.
7. **Effective Date.** This order shall take effect immediately.

This executive order supersedes all previous orders inconsistent with its terms and shall remain in effect and in full force until modified, amended, rescinded, or superseded by me or by a succeeding Governor.



Given under my hand this the  
10th day of November, 2003.

*Rick Perry*

RICK PERRY  
Governor

Attested by:

*Geoffrey S. Connor*  
GEOFFREY S. CONNOR  
Secretary of State

FILED IN THE OFFICE OF THE  
SECRETARY OF STATE  
4:30pm O'CLOCK

NOV 10 2003