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**Audit Report**

**AE Risk Mitigation**

**January 31, 2006**

**Office of the City Auditor**  
**Austin, Texas**

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Date: January 31, 2006

To: Mayor and Council Members

From: Stephen L. Morgan, City Auditor

Subject: AE Risk Mitigation audit report

I am pleased to present our report on AE Risk Mitigation activities. This project was included in our CY 2005 Service Plan.

We found that Austin Energy is assessing risks and incorporating the results into its strategic planning process, but there is no formal enterprise risk management program. The current process is highly dependent on the experience and expertise of the AE Leadership Team, many of whom are eligible to retire in the next three years.

We also found that AE has risk mitigation programs that are helping the utility achieve its goals of rate stability, reasonable rates, and improving to an "AA" bond rating. However, workforce development issues will continue to be a serious issue for AE. In addition, AE needs to clarify the use of its Repair and Replacement Fund, and needs to set money aside in its Non-Nuclear Decommissioning Fund, rather than recognizing a liability to be paid from the operating fund as costs are incurred.

We have made four recommendations to address the issues related to AE's risk mitigation programs. AE has concurred with these recommendations.

We appreciate the cooperation we received from AE management during our work on this project. We look forward to continuing our work with the utility to improve its operations.

Stephen L. Morgan, CIA, CGAP, CFE, CGFM  
City Auditor



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## BACKGROUND

Austin Energy (AE) is a municipally-owned utility that serves 360,000 customers and a population of over 800,000. AE has an annual budget of more than \$900 million, and assets of over three billion dollars. AE has ownership interests in several generation facilities (including nuclear, coal, and gas) and contracts for alternative energy sources (primarily wind).

AE has recognized the need for risk mitigation programs since at least 1996. In December of that year, City Council approved a strategic policy to ensure the competitive position of AE in a deregulated environment and to preserve the value of the utility.

As part of this strategic policy, AE has created or expanded programs to limit risk for its core businesses, including an Energy and Market Operations group to buy and sell energy in the wholesale market, and an Energy Supply and Risk Management group to both stabilize fuel costs and take advantage of opportunities in the energy market. It has also initiated services which incorporate innovation in generation and delivery of services. These include the distributed generation programs such as on-site generation, chilled water services, and the new Combined Heat and Power (CHP) plants.

AE's Strategic Plan includes an umbrella Risk Management Strategy which it states is intended to position Austin Energy to respond to continued pressures to deregulate the industry and at the same time ensure the utility will not be left behind by the innovations in generation and delivery of energy services. As part of the strategy AE stated it will seek to delay commitment to new programs and technologies until information about future alternatives becomes better known, while also striving to not lose out on opportunities.

In the results section of this report there is a discussion of the risk mitigation methodologies currently employed by AE. That discussion includes a comparison against industry best practices in Enterprise Risk Management (ERM).

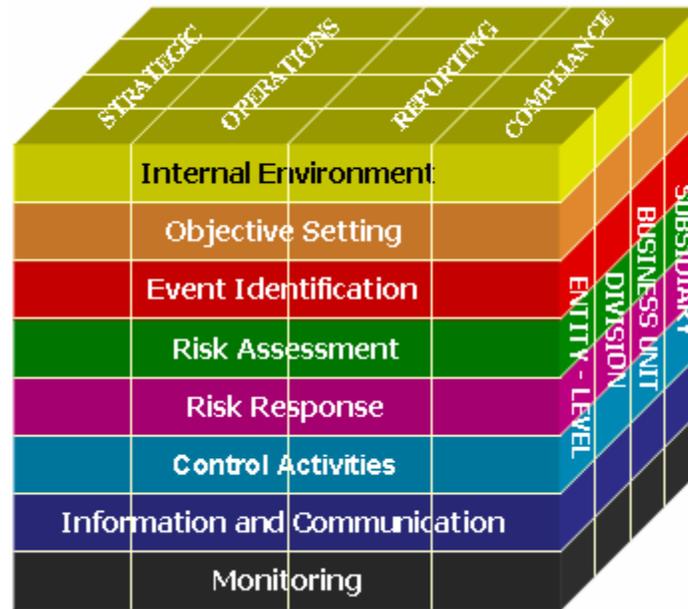
A framework for development of an ERM program has been created by The Committee of Sponsoring Organizations of the Treadway Commission (COSO) (See Exhibit 1 on the next page). COSO, formed in 1985 and sponsored by five major professional organizations, including the American Institute of Certified Public Accountants and the Institute of Internal Auditors, defines ERM as:

*... a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.*

Thus, ERM is a rigorous and coordinated approach to assessing and responding to all risks that affect the achievement of an organization's objectives. Just as importantly, ERM provides a mechanism for executive management and the Board of Directors (BOD) to identify and set risk tolerance levels for the organization and communicate them to front-line personnel, along with the expectations for what information those personnel will report back up the chain of command. In the case of AE, City Council is the BOD.

A number of organizations have adopted ERM as a method for complying with the Sarbanes-Oxley Act (SOX). However, organizations that are not required to comply with SOX are also beginning to adopt ERM as a best practice model for controlling risk. The ERM framework speaks to the internal environment, objective setting, risk response, control activities and information and communication.

### EXHIBIT 1: ERM FRAMEWORK



Source: Committee of Sponsoring Organizations of the Treadway Commission (COSO).

ERM is a methodology that allows an organization to identify, evaluate and respond to threats in a quantitative and qualitative fashion. A good ERM program allows a business to identify risks at lower levels of the organization and communicate them up to senior management. For that reason, a formal ERM program includes an enterprise Risk Oversight Committee (ROC) headed by a Chief Risk Officer (CRO). The Committee serves as the focal point for analyzing the risk information gathered by the entity, forming risk management strategies, and reporting out to executive management and BOD.

The ERM framework provides a generic framework from which companies can develop risk management programs tailored to their specific needs. Once risks have been identified they can be measured, prioritized, and acted upon. . There is a range of strategies for managing risk, including acceptance, control, avoidance, and transfer.

The Institute of Internal Auditors (IIA) Research Foundation found in a recent study that about ten percent of organizations studied had implemented a full ERM program. The IIA also found that another fifty percent of organizations surveyed had implemented at least a partial ERM program. Therefore, while the majority of organizations recognized the need for a

comprehensive ERM program, the models and strategies for implementing programs continue to evolve.

We have included as Appendix B to this report information on the ERM programs in use at four energy companies: The Lower Colorado River Authority, First Energy Corporation, Aquila, Inc. and Mirant Corporation. These models include many of the activities that are considered best practices in the field of risk management. As such, they can be used as a model for an ERM program at AE.

Council has approved some or all of the programs and policies that will be reviewed as part of this project. However, no audit of the risk mitigation program as a whole has been conducted. Such an analysis is prudent to determine the costs and expected benefits of the various programs and policies, as well as to determine the level of risk AE management has chosen to accept. This audit was approved as part of the Office of the City Auditor's (OCA) CY 2005 Service Plan.

## **OBJECTIVES, SCOPE AND METHODOLOGY**

### **Objectives**

Our objectives for this project included:

- Determine whether AE is incorporating risk management into its strategic planning process
- Verify the inventory of AE risk mitigation programs in place or being developed, including:
  - The reason for implementing them and expected benefits
  - Financial commitments required to maintain them
  - Level and type of risk associated with the program and assumed by AE
- Analyze whether the expected benefits for the programs are consistent with the utility's mission, goals and objectives as stated in the Strategic Plan
- Provide information on how AE has chosen to deal with certain identified risks.

### **Scope**

Our scope of work included AE's enterprise-wide risk management process, as well as programs and policies initiated by AE to minimize financial or operational risk related to core business activities. We consulted/worked with AE during the planning phase of the audit to determine which programs we would review and decided on the following.

- Financial policies (including liquidity reserves)
- Fuel hedging
- Disaster recovery and business continuity
- Insurance
- Non-traditional energy services
- Workforce development

AE engages in several additional activities which could be considered risk mitigation programs for core services. Those include maintaining the power production and electric delivery systems and managing a number of health, safety and environmental programs. .

Based on a number of factors, we did not include these programs as part of our review for this project. For example, OCA has recently completed audit work which provided risk information related to the electric delivery service group (our report on Electric Line Construction and Placement) and on operations at the utility's largest generating unit (our confidential report on Fayette Power Project Efficiency and Safety).

In addition, OCA has proposed a review of AE's Environmental Care and Protection unit as part of the Calendar Year 2006 Service Plan. Our office also currently has a project underway to analyze cost allocations for the Fayette Power Project (FPP).

Our work included review of AE risk mitigation programs currently implemented, planned, and underway. We also reviewed City records, such as:

- Financial records for FY 2004 and 2005 related to expenditures for the programs, in addition to any monetary reserves in place to support the programs.
- AE planning documents such as the Strategic Plan and the March 2005 update to the plan.
- City ordinances and policies that may affect risk mitigation programs.
- Audits and internal studies completed since the beginning of 2004 related to risk mitigation programs

We also reviewed reports from outside entities that have analyzed AE risk mitigation programs, as well as industry information on utility risk and risk management programs.

## **Methodology**

In order to achieve our objectives for this audit, we:

- Interviewed AE management and staff responsible for AE's risk mitigation programs
- Collected and analyzed financial information related to the programs
- Compared the expected benefits from the programs to the mission, goals and objectives contained in AE's Strategic Plan
- Quantified and documented the benefits achieved as a result of the programs, including intangible benefits
- Benchmarked AE's risk mitigation programs against those being executed by other public power entities
- Collected industry information on best practices for risk mitigation for comparison to AE programs.
- Reviewed the results of prior AE audits, inspections, and consultant studies (internal and external) regarding risk mitigation programs

This audit was conducted in accordance with Generally Accepted Government Auditing Standards, with the exception that we did only limited testing for fraud.

## AUDIT RESULTS

Austin Energy has been assessing risks to the organization, and the results of the assessment have been incorporated into the Strategic Plan. However, their assessment method is not formalized and is highly dependent on the experience and expertise of the members of the Leadership Team, which consists of the General Manager, Deputy General Managers, Vice Presidents and officers. AE has risk mitigation programs in place that are helping the utility achieve established goals, but the utility faces a challenge in recruiting and retaining a skilled workforce. In addition, they need to clarify financial policies on two funds whose use are restricted for specific purposes.

### **Austin Energy is assessing risks and incorporating the results into its strategic planning process, but there is no formal enterprise risk management program.**

The current risk assessment process is occurring mainly at the highest levels of the organization through communication within the Management Team (MT). There is no formalized enterprise risk management program. As a result, it is not clear that AE is identifying risks at lower levels of the organization and communicating them up to senior management. It is likewise not clear that senior management has set acceptable risk tolerance levels for the organization and communicated them to mid-level management and external stakeholders.

Identifying risks and setting acceptable risk levels are critical to enterprise wide risk management because they provide a basis for determining risk mitigation strategies. AE should adopt a formalized ERM program because it would provide the utility with a mechanism to do the following:

- Properly identify risks throughout the organization
- Prioritize risks for purposes of resource allocation
- Define acceptable risk tolerance levels and communicate that information to management
- Develop a risk management “dashboard” containing measures for significant risks that can be used to monitor risks on an ongoing basis and report that information to management and stakeholders

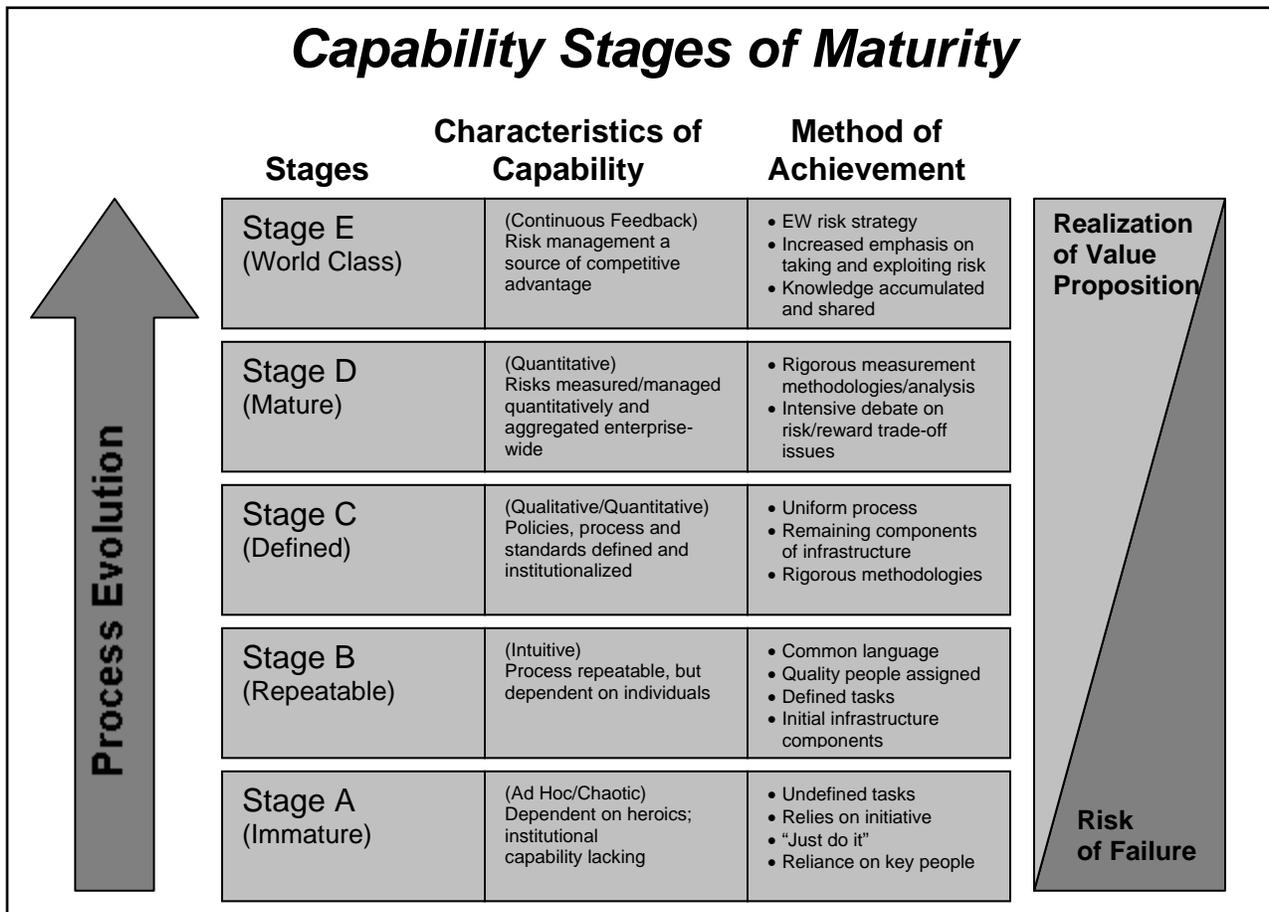
Furthermore, most or all the members of the MT are eligible to retire within 5 years. As they retire, they will take with them valuable institutional knowledge of risks to the utility. Without a comprehensive documented methodology to identify and manage risks, AE may not be able to sustain an effective level of risk mitigation and strategic planning.

**There is no formal enterprise risk management model in use at AE.** The current risk assessment process is occurring mainly at the highest levels of the organization on an informal

basis. The process is repeatable, but highly dependent on the expertise, experience and industry connections of the members of the MT.

Since AE is currently assessing risks on a non-formalized basis, it could benefit from a more unifying framework to identify and manage all risks including financial, operational, and compliance. Because the utility will need to address all these areas in the future, it could adopt a comprehensive program to help mitigate these types of risks. One such type of program is Enterprise Risk Management (ERM), which is a formal methodology for the assessment of risk on an ongoing basis. The background section of this report contains a more detailed discussion of ERM. Exhibit 2 below shows stages of maturity for ERM models. This provides an assessment scale by which to evaluate AE.

**EXHIBIT 2**



Source: Aquila, Inc. Enterprise Risk Management In a Changing Environment

Our analysis would suggest that the AE enterprise-wide risk management program falls within Stage B on this scale. That is, the process is repeatable, with defined tasks and some initial infrastructure components in place, but still highly dependent on individuals. However, as discussed in the next section of this report, AE is planning on expanding its risk assessment program, and thus may be moving up the scale on an enterprise-wide basis.

Individual risk management programs within AE vary in terms of maturity. For example, the risk management program in place for the fuel hedging program is much more mature, and would likely fall in category D on the scale. We discuss the fuel hedging program in more detail later in this report.

**AE's Strategic Planning and Business Development group analyzes external risks and AE is planning to engage in additional risk assessment activities.** The group performs external analyses such as evaluation of the threats and opportunities for the organization and reports the results to the MT. However, they do not perform internal analyses of AE activities. Instead, they look ahead to see where the utility may be going as a way to facilitate the strategic planning process.

AE's March 2005 Strategic Plan update contains a recommendation for AE to formally incorporate strategic risk assessment into the strategic/long-range planning process. AE plans to adopt two strategies. First, it will establish a team to determine the types of risk that it wants to evaluate as part of the strategic risk assessment effort. Second, it will create a new Strategic Risk Assessment Team to investigate different risk assessment tools and methods to integrate into its planning process. AE stated it intends to begin working on this project in January 2006.

**AE's Energy Supply and Risk Management group has implemented a risk management program that could be copied on an organization-wide level as an ERM model for AE.** The program includes several industry best practices. It is discussed in further detail later in this report in the fuel hedging section.

In addition, we identified two utilities, LCRA and First Energy Corporation, which have comprehensive ERM models in place. We have included information on those programs in Appendix B to this report. They may provide ideas for how AE can design a more formalized ERM program. Two of the suggested strategies for implementing ERM are creation of Risk Oversight Committee, and creation of a Chief Risk Officer to chair the committee.

**Creation of an organization wide Risk Oversight Committee (ROC) would allow AE to monitor risk and exposure on a regular basis.** Having an ROC is considered a best practice for an ERM program. The ROC is responsible for:

- Sponsoring and supporting an enterprise wide risk management program.
- Understanding and evaluating the adequacy of the risk assessment processes of each business unit.
- Directing improvements over the risk assessment processes of AE.
- Acting as a catalyst for change to embrace ERM practices.
- Authorizing the implementation of a risk based decision making process.
- Developing a charter and overseeing ERM and Business Unit Risk Management meetings where risks are identified, prioritized, mitigated, and reported on.

**Creation of an organization wide Chief Risk Officer (CRO) would allow AE to implement an organizational structure for ERM.** Having a CRO is considered a best practice for an ERM program. The CRO is responsible for:

- All risk related functions throughout the organization.

- Chairing the ROC.
- Establishing an ERM function to include development, communication and implementation of the organization's risk vision, strategies, principles, appetite, policies, thresholds, and limits as established by the ROC and approved by the Board of Directors.
- Providing a clear delegation of authority framework
- Maintaining a system of key performance measures linked to risk metrics and key business objectives.
- Providing routine reporting and assertions of risk exposure to the ROC and Business Units.

Having the CRO and ROC in place also increase accountability for creating and maintaining an effective ERM program.

**AE has risk mitigation programs that are helping the utility achieve its goals, but AE faces a challenge in maintaining a skilled workforce and it needs to clarify financial policies on two restricted use funds.**

Our analysis included six risk mitigation programs within AE. We determined that AE has programs in place that have helped the utility maintain reasonable, stable rates while improving their financial position. However, we found two areas of concern. First, despite the programs planned and underway, it is probable that workforce issues will continue to be a serious concern for AE for the foreseeable future. Second, clarification is needed on the proper use for the Repair and Replacement Fund and Non-Nuclear Decommissioning Fund to assure that AE maintains its desired liquidity level. In addition, AE should create a formal policy for reviewing its insurance coverage, and, while AE has personal liability and property damage insurance, we could not speak as to whether the level was adequate to protect the utility.

We discuss each of the risk mitigation programs in greater detail below.

## **1. Workforce Development**

**Despite the programs planned and underway, it is probable that workforce issues will continue to be a serious concern for AE for the foreseeable future.** Workforce development is an industry-wide problem, and AE is essentially competing in the market place for a limited number of skilled workers. However, AE has not matched the pay of other utilities for skilled workers. The utility is seeking other enticements, such as quality of life, to recruit people to work for AE.

Workforce development planning can be defined as a systematic process for identifying the human capital required to meet organizational goals and developing the strategies to meet these requirements. In other words, effective workforce development planning is a continuous process that ensures an entity has the right number of people in the right jobs at the right time.

Workforce development is important because AE estimates that forty percent of its workforce will be eligible for retirement within the next five years (fifty percent in Power Production). AE will be competing for a limited number of highly skilled workers in trying to replace those employees who retire or leave the utility. If AE is unable to replace highly skilled employees when they leave the utility it could negatively affect reliability, efficiency and safety in areas such as generation and transmission. It could also result in institutional knowledge at the executive level being lost, reducing the ability for long-term planning and risk analysis.

The fact that many of AE's most experienced workers will be eligible for retirement also further underscores the necessity of developing and implementing a formal ERM program before these individuals leave the organization and take their expertise and experience with them.

**AE is formulating a workforce development plan to assess their needs and provide strategies to maintain a highly skilled workforce.** The plan will include an analysis by business unit of:

- Skills required to achieve program goals
- Skill gap analysis
- Strategies for recruiting and retaining skilled workers
- Succession plans

AE provides training to its current employees designed to help them acquire additional skills and become more valuable to the utility. However, some of the training for the most skilled employees takes a long time. For instance, training for linemen can take up to seven years before they are ready to lead a crew.

**AE is implementing some strategies in its goal of attracting and retaining skilled workers.** AE is currently working with Austin Community College (ACC) to develop classes in skill areas needed by the utility industry. AE hopes to set up an intern program with ACC once the classes are in place. In addition, AE has been recruiting in South and West Texas in an attempt to bring workers from those areas to Austin.

## 2. Financial Policies

**AE is achieving its goals of rate stability and improving the financial position of the utility in part due to its financial policies, but clarification is needed for policies related to the Repair and Replacement Fund and the Non-Nuclear Decommissioning Fund.** Policies limiting the annual transfer to the General Fund and allowing for use of liquidity reserves to cover short-term financial shortfalls have helped AE achieve rate stability. The utility has not raised base rates since 1994. However, AE needs to clarify how it will use its Repair and Replacement Fund and to assure that it maintains an adequate liquidity level. In addition, while the utility has recognized its liability for Holly Power Plant decommissioning costs, it is not setting money aside in the Non-Nuclear Decommissioning Fund as called for in the financial policies.

City Council has developed financial policies for AE to ensure that the Utility's financial resources are managed in a prudent manner. AE reviews the policies annually to determine if they are in compliance. Changes and additions to the policies are proposed to Council for consideration as the need arises.

**AE's financial policies provide assurance in areas that bond rating agencies consider important.** By addressing each of these areas in the financial policies, AE is moving towards achieving its goal of a 'AA' bond rating by 2010. Rating agencies have stated that three areas have gained in importance in analyzing public power entities:

- Certainty for cost recovery
- Limits on financial risk
- Adequate liquidity.

AE achieves certainty in cost recovery in several ways. First, it has the right to request a rate increase from City Council should the need arise. This makes cost recovery more certain and more timely than if the utility needed a ballot referendum or was required to file a full rate case before the Public Utility Commission of Texas. Second, AE has the right to recover fuel costs from its customers through the fuel charge. Finally, a portion of its Strategic Reserve Fund can be used to meet unanticipated costs such as replacement power if a generating plant goes out of service, or insurance deductibles.

AE's financial policies also help to reduce financial risk for the utility. For instance, limiting the amount of the annual General Fund transfer reduces the risk of a financial shortfall for the utility. Policies also provide for limits on the debt to be accrued to finance new construction, and on what types of debt can be assumed.

AE's policies also demonstrate the utility's high level of liquidity. The utility maintains a working cash reserve of forty-five days, as well as a Strategic Reserve Fund (SRF) which contains at least 120 days of working cash. The Emergency Reserve and Contingency Reserve portions of the SRF are restricted to specific uses. In addition, to the extent those reserves are used, they must be replenished within two years. Therefore, they will not be siphoned away to pay for day-to-day expenses.

AE also maintains a Repair and Replacement Fund to be used for providing extensions, additions, and improvements to the electric system, and a Non-Nuclear Decommissioning Fund to be used to fund plant retirements. Those funds are discussed further below.

**Clarification is needed on the purpose of the Repair and Replacement Fund.** AE transferred money from the Repair and Replacement Fund in 2004 to increase the Electric Fund balance, pay Holly Power Plant ("Holly") decommissioning costs incurred and fund conservation rebates. This does not seem to be in compliance with the stated purpose of the fund as listed above. AE may need to define what will constitute an extension, addition or improvement to the system to provide clearer guidance on the purpose of the fund. Otherwise, it is possible that money will not be available in the fund when it is needed because it has been used for other purposes. However, it should be noted that Council approved this transfer from the Repair and Replacement Fund.

**AE is recognizing a liability for Holly Power Plant decommissioning costs, but is not setting aside money in its Non-Nuclear Decommissioning Fund (NDF) as called for in the financial policies.** AE is currently recording estimated decommissioning costs for the Holly Power Plant (Holly) as a payable instead of putting money into the NDF. The costs will be paid from the AE Operating Fund as they are actually incurred. The accrued payable was approximately \$12 million at the end of October 2005, and the total amount is expected to be approximately \$20 million.

However, AE is required per its financial policies to set aside money in the NDF to fund plant retirements beginning a minimum of four years prior to the expected closure date of the plant. Recording Holly decommissioning costs as a payable provides less certainty of payment than placing money in a fund that has been appropriated by City Council for a specific purpose. It is important for AE to clarify how it will fund decommissioning costs not only because it must pay for Holly, but also because decommissioning costs for the Fayette Power Project and Decker Power Plant could be significant and will be incurred within the next twenty-five years.

### **3. Fuel Hedging**

**AE has successfully used the fuel hedging program to help achieve the goals of rate stability and reasonable rates.** AE's fuel charge is lower than the major investor-owned utilities in the state, and did not change in 2004 or 2005. In that same time frame, the state's major investor-owned utilities have been granted multiple increases to their fuel charges. AE increased its fuel charge by 30% in January 2006, but according to the Public Utility Commission of Texas the five major investor-owned utilities have applied to increase theirs an average of 49.28 %.

The goals of the program are:

- Price stability
- Competitive rate offerings
- Asset optimization
- Capitalize on market opportunities

AE will only seek to capitalize on market opportunities after achieving the first three goals. AE piloted its fuel hedging program in 2003 and began operating at a full level in 2004.

Under the fuel hedging program, the utility can engage in physical transactions such as purchasing fuel, as well as financial transactions such as futures, options and swaps. AE can hedge as far as five years into the future up to a limit of \$800 million in financial obligations. While the program has been operating successfully, there will always be some inherent risk to AE from this program due to the large amounts of money involved. Therefore, it is critical for AE to maintain effective controls to mitigate the risk of the fuel hedging program. As we discuss below, AE has such controls in place.

**AE has implemented a system of internal controls and a comprehensive risk management system for its fuel hedging program.** A detailed policies and procedures manual is in place and

being followed by AE staff. In addition, AE has identified and prioritized the goals for the Energy Supply and Risk Management programs. There is a Risk Oversight Committee that monitors the results of financial and physical trades each month, and a monitoring system in place that includes a risk dashboard with summary information about AE's fuel position relative to the market.

AE staff also models different scenarios to evaluate the economic impact of unforeseen events for physical transactions as well as financially settled instruments such as futures, forwards, options, and swaps. These scenarios help to develop risk tolerance thresholds that are useful in monitoring the trading positions.

There is also a segregation of duties between the staff that initiates transactions and those that monitor and account for transactions. This arrangement helps prevent speculative trading and provides protection against potential fraud.

**The fuel hedging program is reviewed by an outside consultant and City Council approval is required to make substantive changes to the program.** An external consultant with expertise in the electric industry reviews the fuel hedging program annually. This review took place during the pilot phase in 2004, and again in September 2005. The consultant concluded that the AE program is in line with industry best practices in infrastructure and execution. AE has established trading policies, procedures, and portfolio limits to manage risk exposure.

In addition, Council approval is required before AE can make substantial changes to the fuel hedging program. As an example, AE recently requested an increase to its spending limits, which Council granted. Finally, we did limited comparison of AE's controls to those at two other utilities, and found AE's controls to be as good as or better than those utilities.

**AE has operated the fuel hedging program within the Council-mandated spending limits and guidelines.** Council originally approved a spending limit of up to \$300 million for transactions up to 60 months into the future for the program. AE has operated within those limits. In October 2005 Council approved an increase to the spending limit to \$800 million. The increase was necessary because the price of natural gas has increased substantially, and because AE wants to hedge a larger percentage of its total fuel requirements.

#### **4. Non-traditional energy services**

**AE has successfully balanced the competing goals of limiting risk and taking advantage of opportunities in making decisions on non-traditional energy services.** In the aggregate for FY 2005, distributed generation revenues were greater than expenses. Therefore, AE has been successful in integrating these services into its service offerings. AE created a new Deputy General Manager of Distributed Energy Services position in fall 2004. The Deputy GM is in charge of on-site generation services such as district cooling and combined heating and power (CHP) plants, as well as fuel cells and demand-side management programs.

Non-traditional energy services are becoming a more important part of AE's service offerings. Other revenues, which include revenues from the programs noted above, are budgeted to be nearly seven percent of total revenues for AE in FY 2006. In addition, CIP spending for 2006-2010 for distributed energy, district cooling, AE facilities and security is budgeted at over \$90 million.

**AE limits the risk of these programs by analyzing the risks and benefits of new technologies and services prior to investing in them.** For example, AE works with both the Clean Air Institute and the IC<sup>2</sup> Institute at the University of Texas to evaluate new technologies and determine whether to implement them. In addition, AE uses financial models to evaluate the potential financial impact of new services as part of the decision-making process to decide whether to offer them. They also continue to monitor the financial impact once the service is in place. Finally, the utility also seeks government grants when feasible to help offset implementation costs and thereby lessen risk.

OCA audited the chilled water service billings in 2004 and suggested improvements to the program to reduce risk and help AE achieve the goals of the program.

**Offering non-traditional energy services helps AE to achieve several goals.** The utility is trying to reduce business risk by diversifying its revenue stream beyond generation and delivery of electricity. In addition, the utility hopes to "lock in" its customer base by offering multiple services from a single provider, making it difficult for other utilities to offer competing services. Offering these services can also help AE achieve its Excellent Customer Service goal because it allows them to tailor energy packages to customers.

AE has also been able to offset a portion of the cost of programs mandated by Council. For example, GreenChoice customers pay a premium to help offset the cost of renewable energy, and AE has offset part of the cost of its Green Building program by marketing it to other organizations. Finally, AE can achieve other desirable benefits such as maximizing the value of its assets (the chilled water service uses off-peak energy to provide air conditioning service at peak hours) and reducing emissions (solar rebates and demand-side management programs help reduce the need for fossil-fired generation).

**AE's actions related to non-traditional energy services have been consistent with the risk guidelines in the Strategic Plan.** AE's stated Risk Management Strategy is to delay commitment on new technologies until information becomes better known, while at the same time striving to not lose out on opportunities. AE has followed this strategy by working with the technology incubators listed above to gather information on new technologies and adopting those they consider to be viable.

## **5. Disaster Recovery and Business Continuity Planning**

**AE has an adequate disaster recovery plan in place to aid the utility in restoring electric service on a timely basis after a disaster.** AE provides a fundamental service to the citizens and businesses of Austin that is essential for safety, economic stability and quality of life. Therefore,

the utility has a responsibility to be prepared for any emergency so that it can return basic services to customers in a timely manner. AE recognizes this responsibility, and has developed a disaster recovery plan that provides assurance it can do so.

The disaster recovery plan includes defined lines of command and communication on a utility-wide basis during an event. In addition, each business unit has prioritized critical systems and activities, established procedures to restore operations, put backup systems in place and identified critical contact personnel on the recovery teams. AE has backup facilities and redundant systems for major functions including generation, information technology, billing, and customer service. AE has also insured its electronic media and records. AE conducted a partial test of the recovery plans for each business unit in September 2005 in preparation for hurricane Rita and did not find any substantial problems. They are scheduled to do a complete test of the plans in spring 2006.

Disaster recovery involves returning basic service to customers after an abnormal event. Business continuity begins where disaster recovery leaves off, and involves returning AE business units to functioning capacity. We discuss the Business Continuity Plan below.

**AE also has an adequate business continuity plan to aid business units in recovering their functionality following a disaster.** Each business unit has completed a business continuity plan, and together they form the utility-wide Business Continuity Plan (BCP). The BCP defines the processes, systems and resources required to recover operations following an abnormal event. The business unit plans include prioritizing business processes, as well as defining critical records, equipment and supplies needed to return a business unit to a functional level. In addition, each unit has completed a business impact analysis survey to determine the key points of interdependence with other units. AE conducted a partial test of the Business Continuity Plans in September 2005 in preparation for hurricane Rita and found no substantial problems. They are scheduled to do a complete test of the plans in spring 2006.

## 6. Insurance

**AE's process for analyzing its insurance coverage is adequate, but should be formalized into a written policy.** AE has a dedicated employee to monitor and analyze insurance coverage for its assets. The Finance and Corporate Services group also provides input. AE does not consult an actuary to analyze its insurance coverage, types or premiums. However, they do receive information from insurance brokers and underwriters. They also complete an annual valuation of insured assets. In addition, the utility bids out its insurance every four years, which allows them to collect information on asset values and insurance costs. AE has eleven property insurers, which lessens the financial risk of the insurers becoming insolvent.

Given that AE has only one dedicated employee to analyze insurance coverage, it would be prudent to create a written policy to insure that the methodology is not lost if the employee leaves the utility.

**Our limited testing did not uncover any major problem with AE's property insurance coverage level, but the utility should continue to monitor asset values.** AE includes its major plant and equipment in its insurance policies, and the per occurrence insurance coverage limit is large enough to cover almost all of the assets. However, the estimated value of AE's insured assets has increased in each of the last three years, and the estimated value of the utility's largest insurable asset now exceeds the per occurrence coverage limit by over \$20 million.

However, AE believes a gap of \$20 million is not significant. Management stated that it is very unlikely that a large asset could be completely destroyed so that it has no residual value. Management also explained that insurance is purchased in \$100 million increments because smaller increments are difficult to obtain and more expensive.

**AE has personal liability and property damage insurance, but we cannot speak to whether it is adequate.** Unlike the City in general, AE has unlimited liability for personal liability and property damage. AE has \$35 million of insurance, with a \$1 million self-insurance retainage (AE pays the first \$1 million, and then has \$35 million coverage). We cannot speak to whether that level of coverage is adequate because we were unable to obtain information from other utilities for a benchmarking comparison. The utility has only one general liability insurer, which is not ideal from a risk perspective.

**AE insurance deductibles do not expose the utility to a high level of financial risk.** Insurance deductibles range from \$100,000 for smaller equipment to \$1 million for large assets such as boilers and turbines. Paying these deductibles would not be a financial burden to the utility. In addition, money from the Strategic Reserve Fund could be used to pay deductibles if several large occurrences took place in a short time period.

**AE does not insure some of its assets.** However, this practice is similar to other public power utilities that we surveyed. The reason is that insurance for some types of assets is either expensive or difficult to obtain, including:

- Vehicles (except for coverage under personal liability and property damage)
- Transmission and distribution lines
- Wooden electric poles
- Underground facilities (vaults in areas where lines are underground)

The same is true for business interruption insurance, which would protect AE from such things as an increase in energy costs if a generating plant was unavailable. Other public power utilities surveyed also did not carry this type of insurance.

**AE's operating partners purchase insurance for AE's two largest assets, the South Texas Project (STP) and Fayette Power Project (FPP).** AE meets informally with the STP operating group and with LCRA (co-owner of FPP) to discuss and clarify issues regarding insurance. AE can make suggestions for changes in coverage. In addition, the operating partners have a fiduciary duty to AE to provide adequate protection for these assets.



**APPENDIX A**  
**MANAGEMENT RESPONSE**



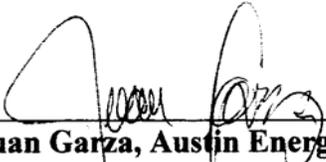
**ACTION PLAN**  
**Survey of Strategic Planning Risks - Risk Mitigation**

<b>Rec. #</b>	<b>Recommendation Text</b>	<b>Concurrence</b>	<b>Proposed Strategies for Implementation</b>	<b>Status of Strategies</b>	<b>Responsible Person</b>	<b>Proposed Implementation Date</b>
1	<p>AE's General Manager should direct AE management to adopt a more formal Enterprise Risk Management (ERM) program to effectively identify, monitor and manage risks on an enterprise-wide basis.</p> <p>AE should consider including some or all of the following ERM best practices in the program:</p> <ul style="list-style-type: none"> <li>a. A method for identifying risks throughout the organization</li> <li>b. A method for prioritizing risks for purposes of resource allocation</li> <li>c. A framework for defining acceptable risk tolerance levels and communicating that information between front-line employees and management</li> <li>d. A risk management "dashboard" containing measures for significant risks that can be used to monitor risks on an ongoing basis and report to management and City Council.</li> </ul>	Concur	Review AE's current risk management program and evaluate ERM best practices that may be adopted to improve its formal structure. This review would include further evaluation of the Enterprise Risk Management (ERM) Conceptual Framework developed by the COSO Committee of Sponsoring Organizations of the Treadway Commission (COSO).	Planned	Bob Kahn, AE Deputy General Manager for Administrative Services	Summer 2007
2	AE's General Manager should direct the Chief Information Officer and Emergency Management Coordinator to go ahead with the plan to fully test the utility's Disaster Recovery and Business Continuity plans in spring 2006. AE should report the results of	Concur	Plan and conduct full test of Recovery and Business Continuity Plan. Report results to the City Council.	Planned	Andres Carvallo, AE Chief Information Officer	Summer 2006

<b>Rec. #</b>	<b>Recommendation Text</b>	<b>Concurrence</b>	<b>Proposed Strategies for Implementation</b>	<b>Status of Strategies</b>	<b>Responsible Person</b>	<b>Proposed Implementation Date</b>
	the test to City Council, as well as any changes made to the plans based on the results of the test.					
3	AE's Senior Vice President of Finance and Corporate Services should define the purpose of the Repair and Replacement Fund to clarify what will be considered an extension, addition or improvement to the AE system in order to provide guidance on proper use of the fund.	Concur	Review current policy. Develop policy guidance on purpose of the fund and define extension, addition or improvement to the AE system.	Planned	Elaine Hart, CPA, AE Senior Vice President Finance and Corporate Services	Summer 2007
4	AE should set aside money in the Non-Nuclear Decommissioning Fund as called for in the financial policies. To facilitate this, AE's Senior Vice President of Finance and Corporate Services should consult the Controller's Office to determine whether the current financial policy for the Non-Nuclear Decommissioning Fund is in compliance with GASB Statement 34. If the policy is not in compliance, a new one should be written to comply with GASB 34.	Concur	Work with City Controller to determine if policy revisions are necessary for GASB Statement 34 compliance and set aside funding for the Non-Nuclear Decommissioning Fund.	Planned	Elaine Hart, CPA, AE Senior Vice President Finance and Corporate Services	Summer 2007

Concurrence: concur, partially concur, or disagree

Status of strategies: planned, underway, or implemented.


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**Juan Garza, Austin Energy, General Manager**  
**Department Director**

**January** 27, 2006  
**Date**

**APPENDIX B**  
**ERM BEST PRACTICES**



## **Appendix B**

### **ERM Best Practices**

#### **Lower Colorado River Authority**

The LCRA has defined the roles and responsibilities for the groups charged with Enterprise Risk Management.

##### Board of Directors (BOD)

- Charged with understanding enterprise risk management (ERM) principles and how ERM is implemented at the LCRA.
- Created the Risk Oversight Committee and Chief Risk Officer.
- Approves risk management strategies, risk tolerance levels, and risk management processes.

##### Risk Oversight Committee

- Manages strategic, enterprise-wide risks
- Develops risk management strategies, risk tolerance levels, and risk management processes
- Supports implementation and communication of same to LCRA management.
- Oversees the process by which business units identify, assess, monitor and act upon risk
- Sets performance measurement goals with key risk indicators for enterprise-wide risks
- Meets quarterly and as needed to consider and evaluate risks and appropriate risk mitigation activities

##### Chief Risk Officer (CRO)

- Chairs the Risk Oversight Committee
- Administers approved risk management strategies and processes through a Delegation of Authority Framework

##### Middle Office

- Reports to CRO
- Evaluates business unit performance compared to approved strategies, tolerance levels and processes
- Performs the day to day risk management functions as assigned

##### Business Unit Risk Control Manager

- Reports to CRO
- Assists business unit staff in preparing risk analyses for the CRO
- Helps establish and communicate risk tolerance levels

## **First Energy Corporation**

First Energy Corporation has implemented a detailed ERM program focused on the activities required to incorporate the ERM process more than organizational structures. Benefits of a comprehensive ERM program include a more accurate forecasting process, improved target setting and earnings targets, better information for decision making, reduction of governance risk, improvement of capital allocations, better quantification of risk tolerance and integrated risk analytical models. Required activities are listed below.

### Formalize the Process

- Develop a risk infrastructure, a risk awareness culture, a risk measurement methodology, and a risk advocate

### Identification

- Track the development of risk management over time
- Assign descriptions of the risk identification activities based applicable variables

### Evaluation

- Recognize that all risks are not created equal
- Categorize risk into multiple types
- Integrate the activities of internal audit and ERM – each will analyze and manage certain types of risk

### Methodology

- Administer a risk questionnaire to the target audience
- Coordinate questionnaire responses and work with business unit management to compose a risk exposure map
- Create a business unit risk matrix
- Compose a risk action plan

### Skill Sets for ERM Employees

- Solid quantification skills
- Facilitation skills
- Diverse experiences and backgrounds
- Project management skills
- Teamwork skills

### Analytical models

- Position reports
- Scenario analyses
- Stress tests
- Sensitivity analyses
- Value at risk models
- Earnings at risk models
- Portfolio optimization

## Aquila, Incorporated

Aquila, Inc. provided ideas and tools for the implementation of ERM processes including the establishment and defining of a strategy, identification and quantification of risks, and the development of a risk response and control plan.

### Establishing and Defining a Strategy

- The process begins with obtaining leadership sponsorship, setting risk appetite and a risk tolerance. It also includes defining a charter and considering a phased implementation approach. The ERM process can be integrated throughout the organization, and the results of ERM can be incorporated into the capital budgeting process.

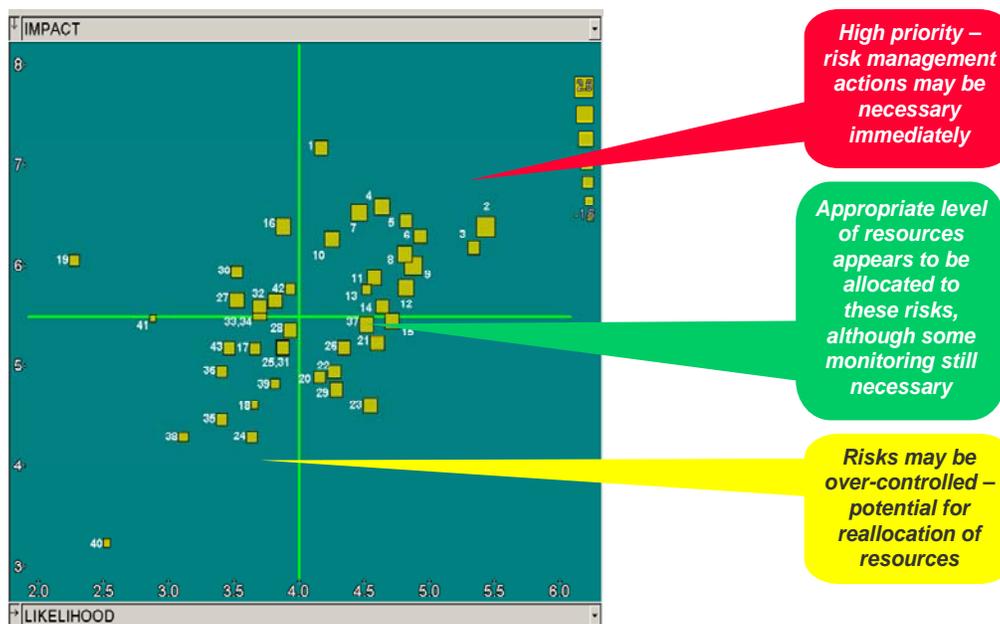
### Identifying and Measuring Risk

- To identify and measure risks, Aquila recommends defining a risk universe, establishing measurement scales, compiling data on high impact/high likelihood risks, and analyzing the root cause of likelihood to mitigate the risk. The risk universe includes financial, compliance, operational, and strategic risks. An organization can establish a measurement scale and compile data on risks in order to develop a chart similar to the one below

### Developing a risk response and control plan

Exhibit A.1, below:

**EXHIBIT A.1: RISK ANALYSIS DIAGRAM**



Source: Aquila Inc. Enterprise Risk Management in a Changing Environment

## **Mirant Corporation**

The Mirant Corporation describes their ERM model as a comprehensive program to help mitigate risks and distinguishes it from the traditional Sarbanes-Oxley (SOX) method of risk assessment.

### **SOX Approach**

- Establish a control environment that supports sound financial reporting
- Evaluate and test entity level control effectiveness as of year-end
- Only necessary to comply with Sarbanes-Oxley Act and corresponding SEC regulations
- Risk tolerance decisions relate to establishment of materiality and significance levels; somewhat formula driven
- No specific need to identify risk events (possible exception is fraud events)
- Focus is on risk to achieving financial statement assertions
- Time horizon is limited to one year
- Aggregation is enterprise-wide and at a single point in time (i.e., year-end)
- Only controls related to financial reporting are in-scope
- Controls need to address all financial reporting assertions
- Tends to be a pass/fail mentality
- Primary focus is on quarterly monitoring and communication
- Critical to involve independent auditor throughout the process

### **ERM Approach**

- Establish a control environment that supports achievement of business objectives
- Evaluate and test entity level control effectiveness as needed
- Establish risk-taking philosophy and risk appetite
- Establish objectives that support the business model and are consistent with the Company's risk appetite
- Establish risk tolerance levels covering all possible outcomes, not just financial reporting; highly judgmental; linked to risk-taking philosophy and risk appetite
- Event identification is a key step to ensuring risk universe is complete
- Focus is on risk to achieving key business objectives
- Full range of risk responses can and should be considered
- Goes beyond risk reduction; can pursue risk opportunities
- Timing of risk responses not bound by calendar year
- Aggregation can be done enterprise-wide or in discreet areas; impact can be at any point in the business cycle
- Business controls may be just as important as financial reporting controls  
Controls need to address all business objectives
- Focus on controls maturity; dependent on risk tolerance
- Need to get them right all year long to support value creation.
- Communications flow as the business dictates
- Independent auditor can be part of the assurance process.