



**PIMA COUNTY ENVIRONMENTAL QUALITY ADVISORY COUNCIL**  
**150 W. Congress Street, Suite 109**  
**Tucson, AZ 85701**

Summary Minutes – July 16, 2008  
Main Library Conference Room, 4<sup>th</sup> floor  
101 N. Stone, Tucson, AZ  
1:30 p.m.

Members Present:

Dr. Roger Caldwell  
Mr. Jeff Yockey  
Mr. Ben Dorris  
Dr. Eric Betterton  
Mr. Allan MacDonald  
Mr. Warren Thompson

Members Absent:

Dr. Mark Witten  
Mr. Daniel G. Rowe  
Mr. Peter Livingston

Others Present:

Richard Grimaldi, Deputy Director, PDEQ  
Vicki Bennie, Council Secretary, PDEQ  
Sally Gestautas, Raytheon  
Dennis Dickerson, PAG

**I. CALL TO ORDER AND INTRODUCTIONS**

Mr. Thompson called the meeting to order and introductions were made.

**II. APPROVAL OF THE MAY 16, 2008, MINUTES**

Dr. Caldwell made a motion, seconded by Dr. Betterton, to approve the May 16, 2008, minutes, as written. The motion passed with a unanimous vote.

**III. DAVIS MONTHAN AIR FORCE BASE ENERGY REPORT**

Ms. Gestautas works for Raytheon and is President of Tucson Clean and Beautiful. She was asked to participate on a committee to review alternative energy options for Davis Monthan Air Force Base.

DMAFB proposed to build a new waste energy plant (incinerator). The public had mixed reactions to the proposal. The City of Tucson Mayor and Council formed a Task Force to explore positive energy alternatives for DMAFB with the goal of finding options to the Base's energy needs. The committee met for 18 months. The following report was presented to the City Council on April 22, 2008:

Summary of Task Force Activities:

- Alternative Energy & DMAFB Energy Briefings
- Development of an Evaluation Mechanism
- Development of Report including Conclusions and Recommendations

Evaluation Criteria Elements:

- **Economics (Community):** Job Creation/Local Economic Development, Real Estate, Community Waste Disposal Cost, City of Tucson Enterprise Fund Landfill Revenue, City of Tucson Enterprise Fund Recycling Revenue
- **Economics (DM):** Capital Cost per MW, O&M Cost, Financing Available, Electric Partial Requirement Service Cost, DM Electricity Cost, DM Garbage Disposal Cost
- **Health, Safety and Security:** Health, Safety, Chemical Use, Emergency Services Impact, Access to Feedstock, Defense-ability and Security
- **Land Use:** Area Required per MW, Land Use Elimination (Trails & Biking Facilities), Open Space, Wildlife/Habitat, Atterbury Wash & Tributaries
- **Natural and Cultural Resources:** Water Use, Archaeological/Historical
- **Quality of Life:** Odor, Noise, Traffic, Visibility, Aesthetics
- **Regulatory:** Air Emissions, Industrial Wastewater Discharge, Stormwater Discharge, Greenhouse Gas Emissions, Waste
- **Waste:** Waste Management Options, Waste Importation from another County, Waste Output, Overall Impact on Landfill Life, Recycling

Conclusions:

- A. Positive renewable energy alternatives exist for DMAFB energy needs.
- B. Solar technologies are perceived to have more positive aspects than the WTE technologies as evidenced by Task Force discussions and the Alternative Energy Evaluation Form.
- C. The Alternative Energy Evaluation Form indicates the following cumulative votes:
 

	<i>Positives</i>	<i>Negatives</i>	<i>Neutrals</i>
Solar PV	192	54	221
Solar Thermal	140	93	234
WTE Gasification	61	268	133
WTE Incineration	69	252	144
WTE Plasma Arc	60	278	129
- D. An approach focusing on comprehensive solutions which consider all renewable energy options is desirable rather than a specific technology.
- E. WTE requires solid waste as feedstock. Whether sufficient feedstock is available is unclear at this time. Feedstock would not necessarily be limited to City/County generated waste.
- F. The City Attorney has indicated to the Task Force that, per the terms of the DMAFB lease with the City of Tucson, DMAFB has no restrictions on use of the leased land.
- G. WTE will require delivery of waste feedstock through some transportation mechanism and the facility design and location may impact the surrounding community and natural resource areas. Compatible development needs to be considered so that the design and location of any renewable energy facility does not negatively impact the surrounding community and natural resource areas.
- H. Solar options, whether photovoltaic or solar thermal electricity generation, all require the use of more land than WTE (unless Base roof-top and other structural area [parking canopies, for example] are utilized). Roof-top installations, though a dominant development format in other markets, have unique challenges concerning roof penetrations, loading and long term maintenance.
- I. Financing is currently available for various renewable energy technologies. For solar energy alternatives, multiple Solar PV projects have been fully commissioned in the US to date under power purchase agreements (roughly \$1 billion) with solar thermal financing in development. Currently financing for WTE has been available in the US for facility expansions. Although a new WTE plant has not been built in the US since 1996, new WTE

DMAFB Energy Conclusions: (Continued)

plants are being built outside of the US each year indicating that financing for new WTE plants in the US may be available.

- J. WTE has historically been a waste solution, not an energy solution, and has been most actively pursued where there are land constraints (Japan, United Kingdom, Continental Europe). Because of rising fossil fuel prices and growing concerns about carbon emissions, WTE could become an energy solution as well as a waste solution in the future.
- K. Specific project proposals and contractual commitments are necessary to quantitatively evaluate each technology's potential to meet the stated objectives. Contractual commitments include guaranteed energy prices, agreements for municipal waste streams and tipping fees, and operating parameters.
- L. Utility rate structures, including partial requirements can be an important factor in decision making regarding the size of any electric generator project, renewable or non-renewable.
- M. Not enough information is available to fully evaluate the landfill gas potential, but further feasibility studies are underway. This technology may have the potential to support a small part of an energy solution.
- N. The Task Force recognizes that industry association references included in this report may have biased information.
- O. The Task Force did not reach any conclusions regarding the relationship between WTE and waste management.
- P. The Task Force recognizes that health considerations are an important issue in considering WTE that must be investigated further

Recommendations

- DMAFB should address the criteria/elements on the alternative energy evaluation form when developing contractual documents for renewable energy projects.
- Community coordination and communication is recommended as the technology review and assessment process for specific projects is considered.
- When and if DMAFB seeks more specific project information, the Task Force recommends that all selected technologies, (WTE, PV and Solar Thermal), be included.
- When and if DMAFB seeks more specific project information, the Task Force recommends that solar technologies be emphasized.
- The City of Tucson should complete the landfill gas feasibility study and implement as feasible and appropriate.

Ms. Gestautas stated that DMAFB will have to go through the public process because federal funds will be used. Thanks to Ms. Gestautas for her presentation.

**IV. PDEQ STAFF REPORT**

**Solid Waste Division Report**

Mr. Grimaldi reported that the Board of Supervisors adopted a Solid Waste ordinance that increases the tipping fees for commercial haulers to:

Tangerine Landfill, \$30.00 per ton

Sahuarita Landfill, \$32.50 per ton

Ina Road Construction Landfill, \$30.00 per ton

The new rates go into effect on August 1, 2008.

Solid Waste continues to evaluate costs and ways to increase efficiency. There have been some problems with aging equipment. The Tangerine Landfill is expected to close sometime in 2009.

**PDEQ STAFF REPORT (Conclusions)**  
**Environmental Quality Division Report**

Mr. Grimaldi reported that ADEQ has started a stakeholder process to revise their new source review program for air quality. This would affect the permitting of new facilities or changes to existing facilities. ADEQ is revising their rules to conform to federal rules. ADEQ is looking at significantly modifying the minor source program by reducing permitting levels. For example, currently there is a threshold limit for VOCs of 40 tons per year. When a business emits 40 tons per year, a permit would be required. ADEQ is looking at reducing the threshold to 5 to 10 tons per year. This will bring more businesses into the permitting program.

PDEQ anticipates that if the area goes non-attainment for ozone, we may be looking at similar thresholds for VOCs. PDEQ is evaluating its current permitting program, focusing on the minor source permit rules and examining ways to streamline procedures as we bring in more sources.

PDEQ is reviewing our hazardous waste and drinking water fees. These are programs that have not been traditionally self-supporting. PDEQ examined the possibility of returning these functions to the State, but the Board of Supervisors asked us to retain those and explore fee packages. We are continuing to perform those services, but have reduced the workload in those areas. PDEQ is still meeting the state delegation requirements but has traditionally performed more inspections of the drinking water systems and hazardous waste generators than was required in the delegation agreement. Through the next fiscal year, we plan to work on fee packages for Board approval that would increase our resources.

**PDEQ Budget Report**

The State's budget has been adopted by the Legislature. Some costs were passed down to the county level and the County Administrator's Office is examining the full implications. For the most part, it does not appear that PDEQ will be impacted substantially. State funding for the Department's Clean Air and the Vehicle Repair Program remain in place for this fiscal year.

**V. CALL TO THE PUBLIC**

Mr. Thompson made a call to the public. Mr. Dickerson said he was available to answer any questions. There was a question if the schedule for RTA projects was being accelerated. Projects seem to be progressing on schedule. Some new, smaller projects were added in response to public concern.

**VI. NEXT MEETING**

The next EQAC meeting will be on September 17, 2008, at 1:30 p.m. in the 6<sup>th</sup> floor conference room, 130 W. Congress.

September Agenda items are:

Sorghum Topic – Peter Livingston  
Joint City/County Wastewater Study – Melaney Seacat  
Western Climate Initiative Report – Jeff Yockey

Future Agenda items are:

Ozone – Andrew Comrie  
Riparian Habitat Presentation  
AzRise, Solar Consortium at U of A - Ardeth Barnhart  
Sustainability Report – Tedra Fox

**VII. ADJOURNMENT**

Having completed all meeting agenda items, the Council adjourned.