



Minutes of DMAFB Alternative Energy Solutions Task Force Meeting

Date of Meeting: July 12, 2007

The Davis Monthan Air Force Base Alternative Energy Solutions (DMAFB AES) Task Force met in regular session in the Tucson Parks and Recreation Therapeutics Room at 1000 S. Randolph Way, Tucson, Arizona, on Thursday, July 12, 2007.

1. ROLL CALL

Valerie Rauluk, the chair, called the meeting to order at 8:07 a.m. and upon roll call, those present were:

Members present: Art Fregoso, Sally Gestautas, Paul Huddy, Sue Keith, Valerie Rauluk, Mike Toriello, Mike Block, and Joan Lionetti.

Members absent: Steve Anderson (Excused)
Ursula Kramer (Excused)
Randy Smith (Excused)
Glenn Schrader (Excused)
Roger Watson (Excused)

Guests/Staff Present: Margaret Bowman, Bob Carranza (Davis Monthan)
Denise Kendle, Doug Crockett, Norma Stevens, David Bell, Stanley Yellowhair (City of Tucson)
Scott Canada (APS)
Dennis Criswell and Tamarack Little

Staff Absent: Byron Howard

2. REVIEW OF MINUTES (ACTION)

MOTION was made by Sally Gestautas and seconded by Joan Lionetti to adopt the minutes of June 14, 2007. The Motion was unanimously adopted.

3. ADMINISTRATIVE

- a. Announcements
There were none.

4. NEW BUSINESS

- b. Arrangements for Waste to Energy Presentation (taken out of order)
City staff will check into reserving Mayor and Council Chambers from 8-11 a.m. on Thursday, August 9 for a waste to energy presentation arranged by Davis Monthan. This event will be announced to the Metropolitan Energy Commission and other technical groups.
- a. Discussion on Concentrated Solar Power (taken out of order)

Scott Canada, representing Arizona Public Service (APS) gave a presentation on a 1-MWe parabolic trough concentrating solar power plant accompanied by a Power Point presentation and handout. Art Fregoso asked what the total costs of the projects are so far. Canada answered about \$3,000-3,500 a kWh to install and .02-.03 cents kWh hour to operate and maintain. The actual production area where the oil is heated up constitutes about 35% of the cost of the plant and the solar field is about 65%. When breaking it down it comes to 1/3 structure, 1/3 assembly and installation, and 1/3 mirrors and tubes, covering about 1,000 acres or 5-6 acres per megawatt. The mandate to operate similarly to a traditional power plant, maximizing every penny out of it, has been successfully achieved.

The Saguaro project came on-line in the Fall of 2006 (Red Rock, Pinal County). It had been contracted in 2002 and took approximately four years to complete. However, actual construction took about two years. Nevada Solar 1, whose capacity is 60 megawatts, took about 14 months to build and came on-line June 1, 2007.

At one megawatt it is more costly than PV – about \$7.00 per watt (\$.03-.04 per kilowatt hour goes for maintenance costs). It becomes more economical around 100 megawatts and at about 250 megawatts becomes very close to natural gas generation.

Currently, developers for similar projects are not interested in a project smaller than 50 MW.

Break taken at 9:07 a.m.. Reconvened at 9:15 a.m. Quorum declared.

c. Single/Multiple Technology Strategies

Sally Gestautas led the discussion on whether or not an opportunity exists for multiple projects or a single solution to provide for the needs of Davis Monthan? What strategy is being investigated to provide the 8 megawatts Davis Monthan needs?

Toriello answered that DM is not locked into a single solution but is exploring ways to use alternative energy sources. The key is that it has to be economically feasible for the federal government. It could be a combination of many things—geothermal, solar, and waste to energy--depending on the economics. Can venture capital funding be used for other technologies besides waste to energy? Yes, venture capital funding can be used for a joint venture project according to Toriello. From an economic point of view a third party can finance an alternative energy technology for DM and deliver what DM requires (at a good rate) as long as it is economically feasible for DM.

Points to consider include:

1. Need capital.
2. Energy delivered at a rate not above what DM is currently paying; no set threshold at this point per Bob Carranza. Eight megawatts addresses a specific part of DM's energy profile.
3. Cost is based on whatever current rate structure is.
4. What kind of energy? 24/7? Peak availability?
5. Combination of technologies.

6. DM has one of the highest utility rates of air combat units and wants to reduce the total size of the energy bill as well as per unit costs.

1. OLD BUSINESS

- b. Follow-up on Speaker Assignments/Action Items (taken out of order)
All the technologies will have been covered following the WTE presentation scheduled for next month.
- c. Six month report to Mayor and Council (taken out of order)
A draft was distributed and under task force accomplishments, item #1, the consensus was to make July 12th the ending date for this quarter's report and remove Barbara Lockwood as one of the concentrated solar power presenters.

Since only a few of the task force members took a tour of DM (see item #6), a summary of the results will be added to the next quarterly report. Motion to approve the quarterly report with noted changes was made by Mike Block and seconded by Sally Gestautas; motion carried.

- d. Working Groups Activities and Reports (taken out of order)
All groups are expected to meet by the Aug. 9th meeting, even if only by conference call, and return with a plan and schedule.

Each member is to complete a personal evaluation of the following:

- What do we know?
- What do we need to know?
- What insights do we have right now regarding these proceedings?
- What are the key drivers for recommendations?
- What is the framework for recommendations?

Answers can include one's name or be done anonymously.

Joan Lionetti suggested that the DM representatives evaluate whether or not their objectives are being met, and if not, how can the process be changed to better focus on the task force's mission.

It was also encouraged that DM serve on all working groups. Mike Toriello will serve on Final Report and Public Communications Working Groups. Steve Anderson will be added to Draft Recommendations.

- a. Criteria for evaluation (taken out of order)

Nine criteria evaluation pages plus a cover summary sheet were distributed. Sally Gestautas explained that these were the latest version and one change included lifting the rating criteria to have the positive numbers at the top and negative on the bottom. Each page contains a subject area and its own set of criteria. Two key factors are energy production cost and land use. Margaret Bowman suggested having one summary page included in the evaluation

criteria. Members are asked to thoroughly review the criteria for what can be eliminated or added.

Art Fregoso commented on the application of the weighting system. Further discussion on weighting the factors, putting economics as primary and technology and the other subject areas as secondary, will be done at the August meeting. In the meantime, members are to work through the screening of the criteria individually and bring comments and suggestions back to the task force.

6. CALL TO THE AUDIENCE

No one spoke.

7. AGENDA ITEMS FOR NEXT MEETING

Weighing of factors
Level 1 screening mechanism

ADJOURNMENT

Meeting adjourned at 10:07 a.m.

Attachments: Criteria sheets (9)
Design and Construction of the APS 1-MWE Parabolic Trough Power Plant