

Energy Committee 3/24/08 (sub-committee meeting)

Committee Members Present: Laura Kischitz, Michael Gorr, Paula Berg, Chinloo Lama.  
Committee Guest: Mark Guinta of the DPS (Department of Public Safety) planning committee.

Topics Covered:

- He first presented the latest building plans
  - The first floor is cement and steel frame and cement floor for second floor
  - The first floor will be fully used by the EMT, Fire Department, Dispatch, and the police force.
  - The second floor will have storage as well as offices and area for future expansion. The design is such that future expansions can be easily added without overhead to rebuild structures and hull in large construction vehicles.
  - Second floor is conventional stick frame. Areas of the future expansion zones will be rubber covered stone for now. Our committee recommended that the surface be painted white or a light color rather than black. This will prevent unnecessary heating of the first floor roof.
  
- He mentioned that the DPS is looking at PV (photo-voltaic) arrays and solar water heaters as alternative energy resources. They would still be tied to the grid but on solar peak times, they would have plenty of roofline facing south to generate electricity and possibly feed the meter back.
- Geothermal heating is looking like it is not an option anymore because they are not getting answers about what happens with the bleed water. Whether it will affect the ground water in anyway.
- Dispatch is central to the building and will use the most electricity from PV.
- Electricity and oil would be the possible candidate for cooling and heating. Propane for cooking. There is also interest in having radiant floor heating in the Fire station bays. Since the doors can stay open when the trucks are being used, having HVAC would be very inefficient. It would depend on how much of the current bay floor would be damaged during reconstruction. If more than 35% of the floor will need to be destroyed in the process. It might be more efficient to just redo the bay floor and install radiant heating. The radiant floor would hold its heat better and recover more efficiently after the bay area is closed up again.
- The geothermal heating option has been seriously reviewed by DPS. Many vendors were too expensive. They are not closing out the idea, but still have lots of issues with it.
- Solar hot air was suggested by Laura as a possible option for heating the building. However, there did not seem to be a lot of interest on Mark's part.
- PV possibilities. Good amount of south facing roof. There is also the possibility of having a raised array from the back of the building.
- Chinloo raised the idea of an on-demand commercial water heating system. More research is necessary to see if there are units that can address larger volume. Though it is sounding like there should not be too much demand on warm water.

However, there will be showers in the building and a kitchen. Mark's experience with on-demand water heaters were that their efficiency diminishes after a year.

- \*\*\*\*Primarily Mark would like help researching for grants for the green elements of the building such as the PV array, solar heaters.
- Laura wanted to know if the DPS building would be LEED certified. However, Mark does not see that likely.
- Mark also mentioned that the wells will be shifted closer in location to the main building (in case it needs to be increase in the future)
- Our committee commented that Joel had shared with us in an email about the library committee possibly signing up for PV from Commonwealth Solar has a deal where they will pay for ½ of the cost.
- There was a question about battery backup from the committee: Mark explained that there is no room for battery backup, but since there is net metering and the building will have a diesel generator, there will be no need for batteries.
- There is also a plan for a 30,000 gal. cistern to collect water for on location use.
- Mark suggested that we split up the grant requests between the library and the DPS, because it will be a lot of headaches trying to split the money after the grant is received.
- Laura asked if there are ways we can raise money for the PSD construction. Mark replied that there is currently nothing in place. There is a possibility that the police ball could be. He might look into it in the future.
- Our committee asked if there is a need for us to attend the PSD meetings regularly. Mark replied that there is no need since the design process is pretty far along. He assures us that they would contact us if they have questions for us or any additional requests for us. For now, they would appreciate our help with possible grants.