

October 29, 2010

FROM: Fire Department, Jimmy H. Hill, Fire Marshal



SUBJECT: SOLAR PHOTOVOLTAIC (PV) SYSTEMS

During the Fire Department's plan check process, it was evident that the project was located on a hillside area. Upon site inspection, it became apparent that the Photovoltaic (PV) System being installed was extensive and situated on steep terrain within the Very High Fire Hazard Severity Zone (VHFHSZ). This raised concerns regarding: firefighter safety; access to the panels; erosion; the service disconnect; warning signs; security; and potential of the panels being a contributing factor in the spread of fire to adjacent structures, brush, and areas downwind.

Hazards associated with PV systems result from constant Direct Current (DC) voltage flowing from the panels through conduit to the inverter, which is normally located at ground level. If Firefighters or their equipment inadvertently make contact while working around a module or conduit leading to the inverter, there is the potential to experience a high voltage shock. This high voltage shock hazard is constant during daylight hours. If water is applied to extinguish an adjacent or nearby fire, the hazards to Firefighters are exacerbated since PV systems components may be compromised by extreme temperatures encountered in fire conditions.

After reviewing the issues, the decision was made to temporarily halt the PV system installation to address the fire and life safety concerns. Contributing to these concerns was the combustibility of the panels, and the large number of panels in the project area.

Considerations:

- Project situation – Project Property located in the VHFHSZ
- Exposure present with hazardous vegetation located on the adjacent property
- Potential risks to first responding Fire Department personnel while engaged in firefighting operations on this site