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**MITIGATION FOR THE HYDROLOGICAL IMPACTS OF THE PROPOSED HIDDEN HILLS SOLAR PROJECT AS  
PROPOSED BY THE COUNTY OF INYO**

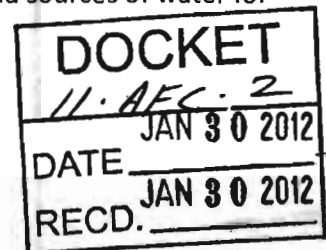
**DISCUSSION OF POTENTIAL ADVERSE EFFECTS FROM THE PROPOSED HIDDEN HILLS SOLAR PROJECT**

The water needs of the Project are 288 acre-feet/year (afy) during construction and 140 afy during operation. These needs are proposed to be met by on-site groundwater wells. These volumes of water are small compared to estimated recharge for Pahrump Valley groundwater basin and other pumping occurring in the Nevada portion of the basin. Estimates for recharge to the Pahrump basin range from 22,000 to 26,000 afy. Groundwater extraction peaked in the late-1960s to late-1970s, with annual extraction in the range of 40,000 to 45,000 afy. Since then, annual extraction has reduced to about 19,000 afy, with the extraction occurring almost exclusively in the Nevada portion of the basin. The Nevada State Engineer (NSE) has estimated that the perennial yield of the basin is 12,000 afy. Existing groundwater rights on file with the NSE exceed 75,000 afy, hence, the NSE has ordered denial of all new applications to appropriate groundwater except under certain limited circumstances (NSE order 1107, November 8, 1994). Domestic wells are generally not subject to the NSE's permitting authority.

Perennial yield, as defined by the Nevada State Engineer, is the amount of usable water from a ground water reservoir that can be withdrawn and consumed economically each year for an indefinite period of time.

Acquisition and retirement of existing groundwater rights in the Nevada portion of the basin has been proposed as mitigation for groundwater-related impacts from the Project. Since the amount of permitted groundwater rights is far greater than actual pumpage, it is clear that there are rights to pump groundwater that are currently unexercised. If rights are acquired and retired that are currently not being used, there exists a possibility that retirement of groundwater rights would not result in an actual reduction in groundwater extraction. Retirement of water rights is ineffective as mitigation if the retirement does not result in an actual reduction in pumping.

Concerns over groundwater pumping have resulted in a number of studies of the Pahrump Valley groundwater basin. These studies have concentrated on the Nevada portion of the basin, and generally conclude that the principal source of recharge to the basin is from the Spring Mountains to the northeast, groundwater flows to the southwest, and some groundwater exits the basin to the southwest. Faults run parallel to the state line, and may partially buffer the Project site from effects of pumping in the Pahrump area and recharge from the Spring Mountains. These faults are areas of natural groundwater discharge. There is little information about local hydrogeologic conditions at the Project site. The hydrogeology of the basin, prior reports, and well logs available to the Inyo County Water Department suggest low-yield, low-transmissivity aquifer materials are prevalent at the Project site. Connectivity of the site with the regional aquifer system is unknown. Prior reports suggest that groundwater from the Pahrump Valley basin flows through the Nopah Range and discharges in the Tecopa/Shoshone/Amargosa River area, but the flow-paths, rates of flow, and sources of water for regional discharge zones are not well known.



Although the amount of the proposed groundwater extraction is small compared to overall pumping in the Pahrump Valley basin, it is significant and large compared to the amount of water currently being used on properties near the Project site. In their groundwater modeling technical memoranda, consultants for the Project applicant identify seventeen "active wells," and estimate that groundwater extraction in the California portion of the basin is in the range of 50 afy. Twelve well driller's logs in the Charleston View area are on file with the Water Department. Wells in the vicinity of the Project site are generally for domestic use, and are variable in the amount of water encountered and their water producing capacity.

The circumstances discussed above suggest a number potential adverse effects from the Project:

1. Pumping for the Project may adversely affect well owners near the Project. Active wells have been identified south of the Project site.
2. Pumping for the Project may adversely affect phreatophytic vegetation northeast of Project. Zones of phreatophytic vegetation have been mapped northeast of the site.
3. Pumping for the Project may affect groundwater users down-gradient from Pahrump Valley, in the Tecopa/China Ranch/Amargosa River area. These potentially affected users man no have all been identified, but include China Ranch and Tecopa.
4. Pumping for the Project may adversely affect groundwater-dependent and groundwater influenced habitat down-gradient of the Project. Of particular concern are the Amargosa River and China Ranch.
5. Pumping for the Project may contribute to overdraft of the Pahrump Valley groundwater basin.

#### MITIGATION PROCESS PROPOSED BY THE COUNTY OF INYO

In view of the foregoing, the County of Inyo has proposed the following to Hidden Hills Solar:

The County and Hidden Hills Solar agree to cooperate in the development of a detailed description of a mitigation measure for the hydrological impacts of the Project. If the parties agree upon such a measure, the parties will recommend to the CEC that the measure be included as a condition of certification. Should the parties be unable to agree upon such a measure, the parties shall submit to the CEC a recommendation that the conditions of certification include a mitigation measure for the hydrological impacts of the Project that includes, but is not limited to, the following:

- A. Prior to the commencement of construction, Hidden Hills Solar shall cooperate with the County to complete and provide to the CEC and other interested agencies an inventory of private wells potentially affected by the Project that identifies the owner of each well and includes the location, depth, screened interval, pump depth, static water level, pumping water level, and capacity of each well. For each such well, Hidden Hills Solar shall assess any projected impact of the Project on the well and shall develop and submit a plan for monitoring and mitigating any adverse effects on the well, including thresholds where mitigation activities would be undertaken. The plan should include, as feasible, agreements from the owner of each well approving monitoring activities. Monitoring should include both groundwater elevation and water quality. Mitigations should include deepening or replacing wells

that become inoperable due to Project pumping, monetary compensation for additional pump lift incurred by Project pumping, and mitigation for impacts to water quality.

B. Prior to commencement of construction, Hidden Hills Solar shall complete and provide to the County, the CEC and other interested agencies an inventory of groundwater-dependent or groundwater-influenced habitat and resources that may be potentially affected by the Project. The inventory should identify and describe habitat and resources dependent on or influenced by groundwater, including springflow, baseflow to streams and rivers, phreatophytic meadows, phreatophytic scrub, and riparian areas (including phreatophytes northeast of site, Willow Spring, China Ranch Springs, China Ranch, Amargosa Springs, baseflow to Amargosa River, etc.). For each habitat or resource identified, quantitative measures of what constitutes a significant impact to such habitats and resources should be identified, a monitoring program should be developed that is sufficient to assess potential impacts to the habitats and resources, and mitigation measures should be identified that will be implemented if significant impacts to such habitats and resources should occur. The preferred form of mitigation is avoidance of adverse effects on habitat and resources by modifying, reducing, or ceasing groundwater pumping by the Project if adverse impacts are projected as a result of prior evaluations and monitoring results.

C. Prior to the commencement of construction, Hidden Hills Solar shall develop and provide to the County and the CEC and other interested agencies a model for predicting changes in the groundwater flow system resulting from the Project which has the capability to assess changes in hydraulic head, flow rate, flow direction, and water budget. Hidden Hills Solar shall also provide to the County, the CEC and other interested agencies model runs which predict effects of the planned groundwater pumping by the Project on the habitats and resources described above and predictions of the level of groundwater pumping that will cause significant impacts on such habitats and resources. Hidden Hills Solar shall also use the model to provide an evaluation of the sustainability of the water supply for the life of the project, including the cumulative sustainability when considered with other pumping occurring or projected to occur in the groundwater basin (including the California and Nevada portions of the basin).

D. Prior to the commencement of construction, Hidden Hills Solar shall develop and provide to the County, the CEC and other interested agencies the following:

- a plan for a network of monitoring wells (either existing or to be constructed) to be regularly monitored together with a schedule for reporting water levels in the wells to the County and other interested entities by Hidden Hills Solar Construction of production and monitoring wells (water level monitoring should be initiated as soon as wells are available and results will be publicly available);
- a plan for logging and aquifer testing of all new production wells;
- a plan for monitoring and reporting on the impacts of the Project on private wells and on habitats and resources described above.
- a plan for verifying the predictive tools described above and for revising or recalibrating the tools as necessary.
- a plan for revising thresholds as dictated by new data concerning system response to Project operation.
- a commitment, based on monitoring data and significance thresholds, to implement mitigation measures as necessary.