

Emission Reduction Credits in the SCAQMD  
Comments of Competitive Power Ventures  
Docket No. 09-IEP-10

*Competitive Power Ventures appreciates the opportunity to provide written comments on this important aspect of the 2009 Integrated Energy Policy Report (IEPR). We see the lack of available Emission Reduction Credits (ERCs) in the South Coast Air Basin as a significant impediment to meeting the State's mandates to provide safe, reliable and efficient electricity services while at the same time furthering California's ambitious environmental objectives in moving toward 21<sup>st</sup> century energy infrastructure.*

*Specifically, as the energy agencies aim to reduce reliance on conventional generating facilities that utilize once-through cooling (OTC), they are limited in their ability to approve new facilities to replace the appropriate load pocket resources. As Californians hope to increase their reliance on renewable generating facilities, the state is limited in its ability to approve new conventional generation facilities needed to provide efficient, quick-start, ramping and firming services. As California aims to improve the over-all efficiency of its aging generation fleet, it is limited is its ability to replace old resources with new and efficient power generation in the South Coast basin.*

*As the developers of the CPV Sentinel project, CPV has been an active participant in the regulatory and legislative arena in resolving this issue. While we are presently focused on this issue in the South Coast region, it is increasingly recognized that this impasse is the first of many in this area of California policy. We hope our thoughts on these important issues help the energy agencies as they endeavor to find a workable solution to this paralyzing problem.*

1. What is the current and near-term supply-demand balance in both Southern California and the transmission-constrained areas within SCAQMD jurisdiction? Are reserves sufficient to ensure reliability? What are the implications of air emission credit issues for power plants currently under development?

*In its May 2008 Amicus Brief to the California Supreme Court regarding the Priority Reserve litigation, the CAISO stated;*

*"The CAISO identifies 12,143 MW of generating capacity that is at risks of retirement in the SP26 sub-region, which includes the Los Angeles Basin local area. Moreover, Table 4 of the report indicates that nearly 50% of the "at risk" capacity in the SP26 sub-region, or Los Angeles Basin local area, is located within the South Coast Area. The CAISO concludes that loss of these units could jeopardize its ability to meet local, zonal and system reliability requirements. In fact, with these retirements, the CAISOs estimated probability of calling a Stage-3 emergency, which triggers rotating outages, increases from 7% for the SP26 region in 2008, to 13% for that region in 2012. Without new local generating capacity within the Sp26 region, these older, less efficient and less environmentally desirable units will be needed for local reliability and cannot be retired. This analysis confirms the need for new generation in the South Coast area."*<sup>i</sup>

*Furthermore, preliminary studies have found that moving from a 20% toward a 33% Renewable Portfolio Standard (RPS) will require up to an additional 9,000 MW of quick-starting, flexible ramping generation facilities to firm the intermittent renewable resources state-wide.<sup>ii</sup> It is important to note that the analysis does not yet take into account the fact that the aging OTC units that are slated for retirement are the very units that now inefficiently provide significant portions of required firming service. These existing OTC units are not designed to provide these services. Due to long start-up durations, these aging units must be dispatched through the night in anticipation of providing such services the following day.*

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*They do this with heat-rates well in excess of 12,000 btu/kwh compared with new peaking units that provide such services with heat-rates at approximately 9,000 btu/kwh.*

2. What are current conditions in the PM-10 credit market and the status and impact of litigation that has restricted the availability of PM-10 offsets from SCAQMD accounts? What are the likely timelines for action by the air district given the passage or rejection of proposed legislation?

*This question was well addressed in Mohsen Nazemi's workshop presentation<sup>iii</sup>. Mr Nazemi indicated that the total population of registered SCAQMD ERC's is 1,012 lbs/day and compares that amount to the 1,988 lbs/day required by the three projects with SCE PPAs. We would like to provide the following clarification: The AQMD acknowledges (and brokers confirm) that, of the approximately 1000 registered ERC's, only about 10% would be available for purchase. Brokers indicate that if a project were forced to attempt to purchase such quantities of offsets, the price would be expected to increase significantly beyond even the currently unacceptable levels. For example, in 2009, PM10 ERC's have cleared at \$350,000/lb, representing a 6,592% increase from 2000 prices. There are clear signals that this is not a properly functioning market.*

3. What are the potential PM-10 ERC needs in the California ISO portion of the Los Angeles Basin during the next five to ten years? How much in-basin gas-fired capacity is likely to be needed to meet local reliability needs? How often is it likely to be dispatched and what are the implications of its operating profile for ERC needs?

*While the CAISO stated at the Workshop that studies are being done to determine the in-basin need for capacity and services, there are 7,500 MWs of OTC fossil-fueled capacity in the Los Angeles Area targeted for replacement. As discussed earlier in our comments, this does not take into account the expected need for in-basin ramping capability that would support increasing levels of intermittent renewable penetration. Furthermore, as we learned during the CAISO's Workshop presentation, much of the current analysis overlooks the very real possibility that certain transmission projects presumed to support LA Basin needs may not ultimately get built. Currently, the CAISO LA Basin studies continue to assume the benefits of two transmission projects (SCE DVP2<sup>iv</sup> & LADWP GreenPathNorth<sup>v</sup>) that are presently on hold or in the process of rerouting which will substantially increase the projects' on-line date. Additionally, the CAISO continues integrate the benefits of the entire Tehachapi<sup>vi</sup> transmission project while the CPUC has only approved the first three of twelve significant phases of the project.*

4. How are PM-10 ERC requirements for individual power plants determined by SCAQMD? How do District rules and policies impact the determination of a plant's PM-10 liability and comport with the lbs/mmscf limit that typically becomes part of the Permit to Operate? How does the relationship between ERC requirements and maximum operation in summer months in SCAQMD compare to that in other air districts?

*This is an important question and it was adequately addressed in EME's Workshop presentation.<sup>vii</sup>*

5. PM-10 ERC needs for given amounts of generation capacity can be reduced by limiting the maximum monthly fuel throughput along with output of resources needed primarily for reserves. In the course of applying for air permits, what considerations enter into developer/utility proposals for limits on hourly and monthly and annual emissions? For monthly

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and annual emissions, can these limits be reduced without disadvantaging projects in competing for utility contracts or reducing contributions to resource adequacy requirements? If so, what, if any mechanism would be needed to handle force majeure events that threatened reliability?

*Operational flexibility is essential if a generating unit is to provide the services for which it is designed and when it is needed most. Projects developers are required to make strategic decisions between the total project costs for emission offsets against operational flexibility. Permitting with less operational flexibility allows the developer to bid into competitive RFOs at a more competitive price, but at the same time, the project sacrifices competitiveness because it has less operating flexibility to offer the utility. The best solution for all concerned would be to make projects purchase offsets for only what they emit rather than their “potential to emit”. Furthermore, limiting the operational flexibility of a unit serves no system-wide environmental benefit. This point is further addressed below.*

6. Is such a mechanism still necessary if offsets are available through 1304 exemptions? Does limiting access to non-market offsets to existing facilities limit competition in the market for replacement capacity (RFOs)?

*Limiting access to non-market offsets to existing facilities greatly limits the ability to choose among the best potential solutions for meeting California’s evolving electricity needs and would result in a situation where a few select companies (oligopoly) would be ensured the future market as price-setters. By exercising such market power they would be able to prevent the addition of new clean and efficient plants from being constructed. Modeling by the CAISO<sup>viiiix</sup> and CEC<sup>x</sup> have shown that due to the rapid influx of renewable resources onto the grid and the reduction in facilities that utilize OTC, new and strategically placed generation facilities will be critical to reliability inside and outside of the LA reliability area. By limiting access to non-market offsets to existing facilities the SCAQMD would prevent needed and efficient generation from being developed to ensure a reliable grid in the South Coast region.*

*Additionally, sufficient competition is necessary to assure the least cost to ratepayers and also allows for the best choices to be made in an evolving electricity sector where innovation is essential. In fact, during the Workshop, several participants suggested that the repower of the existing OTC units may not be the best solution. It was presented by several engineers in the audience that converting the existing OTC units to synchronous generating units could provide the inertia required within the LA Basin. Furthermore, some municipalities where OTC units are located are now asking regulators to seriously consider approval of repower projects at coastal locations, where, without the need for sea water, city officials are questioning whether it makes since to have a power plant located on the coastline.*

7. One way to increase the amount of capacity that can be built under SCAQMD jurisdiction with a given number of ERCs is to reduce the permitted number of hours/amount of output that a facility can operate/produce during peak months.
  - a. What considerations enter into the number of permitted hours proposed and agreed to by the project developer and the district?

*Ultimately, SCE’s resource needs must be met by the units on the ground and operating. It important to keep in mind that the quick-starting and flexible peaking facilities being permitted today are far more advanced than existing peaking units that simply get turned on during super-peak hours. In fact, the modern Combustion Turbine (CT) units being permitted today are designed and expected to operate as*

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*ancillary service provision machines. Their importance to the system will grow as more and more intermittent renewable generation is added. Furthermore, these new units will ultimately displace the old, inefficient plants that currently provide these services. As such, these efficient units are expected to operate 15% – 20% of the time on average and significantly more during peak months – especially in peak years. Significantly limiting the operating capability of these modern and efficient units means that older and less efficient plants must continue to be called on. Based on CAISO’s merit order dispatch, the older plants are less efficient and more costly at providing ramping and firming services. The concept of significantly limiting the operating hours of new units suggests that more plants would need to be built to provide the same services, which is not an environmentally or economically sound proposition for California*

- b. How are constraints on hours allowed under the permit evaluated by SCE in the RFO process? Do current RA requirements discourage or prevent adding “hour-limited” resources into SCE’s or others’ portfolios?

*SCE evaluates the lifecycle cost (fixed and variable costs over the term of its contracts) of meeting resource adequacy and services. If the analysis is done correctly, SCE would determine that either less efficient generation, or more generation units, would be needed to provide the same services at a higher cost which is an environmentally and economically undesirable outcome.*

- c. If permitted hours were reduced, how could associated reliability and financial risks be mitigated? Would a mechanism be desirable/necessary for force majeure? What events might be covered and how might it be administered? Could such events include spikes in wholesale market prices? Could exceedances be allowed under certain specified conditions if they were accompanied by mitigation? What entity does/should have the authority to authorize exceedances, and what steps are needed in order for this entity to be granted this authority, if not already available?

*See comments above (7.a.) that explains why this line of questioning is unsound. Because the CAISO dispatches the most efficient facilities first, based on the services required by the system, such artificial limitations simply result in less efficient (environmentally and economically) resources being deployed to meet the same need.*

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<sup>i</sup> CAISO, Amicus Curiae Brief, Case No. BS110792, Superior Court of California, County of Los Angeles, May 12, 2008

<sup>ii</sup> CEC, SCAQMD Workshop, SCE, Minick, September 24, 2009

<sup>iii</sup> CEC, SCAQMD Workshop, SCAQMD, Nazemi, September 24, 2009

<sup>iv</sup> <http://www.sce.com/PowerandEnvironment/Transmission/CurrentProjects/DPV/projectstatus.htm>

<sup>v</sup> [http://www.latimes.com/news/local/la-me-green-path22-2009sep22\\_0,3575753.story](http://www.latimes.com/news/local/la-me-green-path22-2009sep22_0,3575753.story)

<sup>vi</sup> <http://www.sce.com/PowerandEnvironment/Transmission/CurrentProjects/TRTP4-11>

<sup>vii</sup> CEC, SCAQMD Workshop, EME, Kostrzewa, September 24, 2009

<sup>viii</sup> CAISO, Integration of Renewable Resources Report, November 29, 2007

<sup>ix</sup> CAISO, Old Thermal Generation – Phase 1 Report, March 4, 2008

<sup>x</sup> CEC, Staff Draft Paper, publication # CEC-200-2009-002-SD.