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Madam Chair and members of the Committee, thank you for the opportunity to submit these comments on issues related to the California Renewables Portfolio Standard (RPS).

The Union of Concerned Scientists (UCS) is a leading science-based non-profit working for a healthy planet and a safer world. Our Clean Energy program works to advance renewable energy solutions that are both environmentally and economically sustainable.

UCS has been involved with the design and implementation of the RPS since the inception of the program in 2002. As an active party in the RPS proceedings at the California Public Utilities Commission (CPUC), we are both intimately familiar with the challenges facing higher levels of renewables development in California and deeply committed to the ultimate success of the RPS.

The results of the RPS program to date are mixed. On the one hand, the state's three investor-owned utilities have executed over 5,000 megawatts (MW) of contracts for new renewable capacity since 2002. This represents enough clean energy to power approximately 2.5 million California residences, and would provide greenhouse gas reductions equivalent to removing 1.3 million cars from the roads. Long-term contracts have historically been the primary pre-requisite and driver of new renewable energy development. Many of the contracts signed so far are with projects using advanced solar technologies that have never been deployed in the U.S., which demonstrates that the RPS is promoting technology advancement and supporting California's burgeoning clean technology industry.

On the other hand, we are also somewhat disappointed by the results of the RPS program to date. While the three large investor-owned utilities in the state have enrolled a tremendous amount of new renewable power, very little of this contracted capacity has yet come online. The most recent data from the California Energy Commission (CEC) indicates that only 9 percent of contracted RPS capacity has come online since 2002, and that approximately 30 percent of RPS contracts have been canceled or experienced

delays. Indeed, getting renewables built has proven to be a much lengthier process than anyone anticipated at the onset of the RPS program.

There are many issues hindering timely renewable development in California, and there is no silver bullet solution to the problems facing the RPS. The lack of available transmission and an interconnection backlog continue to be major barriers to large-scale renewable capacity expansion in the state. Siting and permitting challenges have also delayed the construction and operation of renewable projects of all types in many parts of the state. Finally, the California RPS procurement and regulatory process is more cumbersome and invites more gaming and administrative delays than the process in other states.

These comments will only address the latter issue of RPS procurement and compliance enforcement, as I understand that transmission and siting issues will be the subject of one or more future Committee hearings.

First and foremost, it is important to recognize that the most important problem with procuring renewables in California is not one of quantity, but of quality. Numerous analyses have found more than enough renewable resources available to California to supply the electricity needs of the entire state. The CAISO interconnection queue currently contains over 40,000 MW of new renewable projects – nearly as much as the peak electricity demand for the entire CAISO system.

Renewable deliveries have stalled in part because we have not sufficiently pursued the highest quality projects that are necessary to achieve our renewable energy goals given the accelerated RPS timeframe. Nationally, an average of 30 percent of renewable energy projects under contract is never built. Recent CPUC analysis indicates that greater than 70 percent of new renewable projects under contract with online dates of 2010 or before are at medium or high risk of not commencing operation by 2010. While transmission and siting and permitting issues are partly to blame, so are utility procurement incentives and decisions that have led to many high-risk, speculative projects that only move utilities towards compliance on paper while failing to put new steel in the ground.

A degree of high-risk contracts are not necessarily disruptive to meeting the state's RPS goals. Some of the riskiest contracts are with advanced pre-commercial solar thermal technologies, and technology advancement is entirely consistent with the goals of the

RPS program. However, utilities have failed to plan for any degree of contract failure, and are simply counting on speculative contracts for compliance.

The contract failure problem is compounded by uncertainty over whether the CPUC will penalize utilities when contracted resources fall through. Although CPUC regulations provide for a non-compliance penalty of 5 cents per kilowatt-hour, they also allow many excuses for deferring compliance for up to 3 years. Utilities are taking full advantage of this compliance flexibility to borrow future deliveries from executed contracts to make up for current year procurement deficits.

Sufficient compliance flexibility to deal with lead times for transmission upgrades and other factors that may delay compliance is important. However, we are concerned that utilities are deferring compliance with speculative contracts that will ultimately fail to make up for procurement deficits. This could lead to an unfortunate scenario in which utilities attempt to use contract failure as an excuse for non-compliance with RPS requirements and bet that the CPUC will not penalize them.

At the same time, utilities are also beginning to run up against the cost constraints prescribed in the RPS statute, which threatens to derail the state's ability to obtain additional renewable resources. The highly complex Market Price Referent (MPR) cost containment mechanism undervalues individual renewable energy projects, and undervalues the aggregate benefits that increasing renewable energy supplies provide to California.

The MPR mechanism was the product of complex legislative negotiations. It was a well-meaning attempt to limit RPS costs by administratively determining the price a comparable fossil fuel plant could command in the market. Notably, California is the only state among the 25 states with RPS policies to employ such a mechanism.

The MPR fails to capture the full value of stable, long-term renewable energy contracts with zero fuel costs, let alone their full environmental and economic benefits. The CEC 2007 Integrated Energy Policy Report indicates that the MPR would be 13 to 17 percent higher if it accounted for the risk hedging value provided by fixed-price long-term contracts. We are working with the CPUC to ensure that the MPR better reflects the value of renewable energy, but improving the MPR methodology within the narrow confines of the statute is very difficult.

Until the passage of SB 1036 last year, the MPR severely constrained the development of projects with costs above the MPR, including viable solar and geothermal projects. SB 1036 has provided a more certain funding mechanism for projects with costs above the MPR, but utilities are still not required to purchase renewables if their aggregate above-MPR expenditures reach the \$734 million limit prescribed in the RPS statute. This may seem like a large amount of money, but actually represents only 0.2 percent of the hundreds of billions of dollars that Californians are expected to spend on electricity bills over the next decade. This cap on total RPS costs represents a significant constraint to further renewables development. Three or four twenty-year contracts with large solar projects could easily draw down these funds to zero, which would have a chilling effect on the market.

Effectively solving these problems requires both legislative and regulatory action. Regulators must be willing to provide the unambiguously clear message that utilities will pay penalties for RPS non-compliance. Executed contracts for future deliveries are a flexible compliance tool, but cannot be used indefinitely to defer compliance. Vigorously enforced non-compliance penalties are necessary to ensure utilities procure sufficient quantities of viable renewable projects to compensate for contract failure.

Legislative action to explicitly ensure that procurement deficits cannot be rolled over indefinitely, and to require utilities to “pay back” borrowed generation with interest could also create better incentives for utilities to pursue viable projects that are likely to come online in a timely manner. For example, the RPS statute could be amended to require that renewable generation borrowed from future deliveries would be paid back with 10 percent annual “interest” through higher future year obligations. Federal lawmakers have included a similar provision in the Lieberman-Warner Climate Security Act, which would require regulated entities to repay borrowed greenhouse gas emissions allowances with 10 percent annual interest.

Clearing the path for more renewables development requires changes to the MPR and cost limitation provisions in the RPS statute. Consideration should be given to eliminating the MPR altogether, and simply granting the CPUC the authority to approve any renewable contracts that it deems reasonable for utility cost recovery. An alternative compliance payment of 5 cents per kilowatt-hour could also serve as a check on overall program costs. Both of these mechanisms are widely used to contain overall RPS costs in other states, and may prove to be simpler than California’s existing structure.

If the MPR is retained, the cost limitation should be increased by any cost savings that accrue to ratepayers from renewable contracts priced below the MPR. The vast majority of the executed RPS contracts to date have been below the MPR, resulting in substantial ratepayer savings that should be credited to renewables in the evaluating the cost of future projects. Secondly, the limitation on above-MPR costs should be relaxed. Renewables provide numerous benefits to Californians that are not accounted for in conventional methods of valuing energy such as the MPR. Restricting the pot of above-MPR funds to a miniscule fraction of the state's current expenditures on volatile natural gas-fired electricity dramatically discounts the fuel diversity, rate stability, and economic development benefits that renewables provide and limits the amount of clean energy that can be brought online to meet the RPS targets.

I strongly believe that these improvements to the RPS program will enhance the state's ability to achieve our renewable energy goals. We look forward to continued collaboration with the Legislature to ensure the success of the RPS program. Thank you again for the opportunity to submit these comments.