



June 7, 2010

Ms. Lucille van Ommering  
Manager  
Program Operation Section / California Environmental Protection Agency  
Air Resources Board / Office of Climate Change  
1001 I Street  
Sacramento, CA 95812

**Re: GWF's situation and suggestion regarding allowances under a potential California cap-and-trade program**

Dear Ms. van Ommering:

Thank you for meeting with Julee Malinowski-Ball and me in April to discuss GWF's 125 MWs of petroleum coke fired power plants in California. Our petroleum coke fleet includes 6 power plants (five in Contra Costa County and one in Kings County), which may be significantly impacted by the expected costs a cap-and-trade program under AB 32 might impose. This letter outlines the unique challenges cap-and-trade poses for GWF and makes specific recommendations for ARB's consideration as it designs a cap-and-trade program under AB 32.

**Summary**

GWF supports the State's efforts to combat climate change and has contributed to that effort through the conversion of our Tracy peaker plant to combined cycle (as further described below), as well as the permitting for conversion to combined cycle of our other two peaker power plants. GWF understands the benefits of a cap-and-trade program and appreciates the Air Resources Board (ARB) staff's consideration of our request regarding allowance allocation. As is described in more detail below, to avoid the high potential for leakage, to allow GWF to meet its pre-AB 32 contractual obligations, and due to the operational realities of petroleum coke power generation, our company will need special consideration between 2012 and 2021. We recommend the ARB ensure that GWF receive allowances equivalent to 90 percent of its historical emissions until 2021.

**Introduction to GWF Power**

GWF is a privately held company headquartered in Pittsburg, California. We directly employ 115 people, including managers, engineers, and operating technicians. The company owns and operates 9 power plants (500 MWs total), some of which are fueled by petroleum coke and others by natural gas. Our petroleum coke fleet consists of five 20MW power plants located in Contra Costa County and one 25MW power plant located in Kings County. Our gas-fired fleet consists of two 100MW peaker power plants in Kings County, and one 170MW peaker power plant in San Joaquin County. The San Joaquin peaker (better known as the Tracy Peaker) received its CEC permit earlier this year for conversion to a combined cycle power plant and has an executed power purchase agreement (PPA) with PG&E for that conversion (PPA approval currently pending before the CPUC). This conversion reduces Tracy's hourly GHG

emissions rate by 35%. The peakers in Kings County (better known as the Hanford Peaker and Henrietta Peaker) also have received CEC permits earlier this year for conversion to combined cycle, and if converted would also significantly reduce their hourly GHG emissions profile. GWF is also developing two solar sites in the Central Valley.

### **Petroleum coke Fired Electrical Generation**

GWF's petroleum coke power plants utilize locally produced petroleum coke from California refineries, which generate petroleum coke as a byproduct of the crude-oil refining process. While petroleum coke and coal may appear similar in some respects (both high carbon and black in color), petroleum coke's genesis as a by-product creates a significant difference between these two products. Both state and federal governments have recognized this difference in the passage and subsequent implementation of the Public Utility Regulatory Policies Act (PURPA); part of the 1978 National Energy Act was to promote greater use of renewable and alternative energy including petroleum coke which is considered a waste fuel. PURPA created a market for non-utility electric power producers, known as Qualifying Facilities (QFs). As implemented in California, PURPA requires electric utilities, such as PG&E and SCE, to buy power from QFs at the utilities' "avoided cost" rate (the avoided cost being the price the utility would have otherwise paid to generate power produced by the QFs). GWF has five 30 year "QF" contracts – one for each of the petroleum coke facilities. Some of the benefits of using petroleum coke as a fuel source include: fuel diversification away from, and conservation of, natural gas; ability to take prices not tied to natural gas; use of a waste product as a fuel source; and a fuel source procured in the local economy from local refiners.

### **Petroleum Coke Poses an Atypical Leakage Problem For Cap-and-Trade Under AB 32**

The alternative use for petroleum coke is its export out of California overseas, primarily to various Asian markets, with China being one of the biggest markets for any petroleum coke not used in California. Whereas GWF power plants utilize very clean, state of the art, fluidized bed combustion technology, this is not always the case in many other countries, including China. Petroleum coke will be produced even if GWF does not consume it in our power plants as it is a by-product of the refining of crude oil. Exporting petroleum coke across the Pacific Ocean, instead of burning it in California, can increase criteria pollutant emissions (particularly if ultimately consumed in China and/or India) and GHG emissions due to a) oceanic shipping emissions (from bulk container ships), b) subsequent local in-country transportation, and c) potential weaker in-country criteria pollutant standards.

One of AB 32's core concepts concerns "leakage" (Health & Safety Code sec. 38505(j)), defined as "a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state." Section 38562(b)(8) requires ARB to minimize leakage in the way it crafts any market-based compliance mechanism. Petroleum coke is unique in the clarity of its leakage potential – currently approximately 80% of the California produced petroleum coke moves overseas, the remaining consumed in state.

Additionally, Section 38570(b)(2) directs ARB to design any market-based compliance mechanism to prevent any increase in the emissions of toxic air contaminants or criteria air

pollutants. Consumption of petroleum coke in China and India instead of California seems certain to increase criteria air pollutants as the emissions standards in these countries are not as stringent as California's criteria pollutant standards and the shipping and ground transportation emissions are additional. Particulate matter emissions are of significant concern as the toxicity of these emissions is high. Furthermore, it appears that the Pacific Coast is subject to Asian criteria pollutant emissions. The New York Times reported that, "Researchers in California, Oregon and Washington noticed specks of sulfur compounds, carbon and other byproducts of coal combustion coating the silvery surfaces of their mountaintop detectors. These microscopic particles can work their way deep into the lungs, contributing to respiratory damage, heart disease and cancer." [K Bradsher and D Barbozany, "Pollution From Chinese Coal Casts a Global Shadow," NYT, June 11, 2006].

### **Allowance Allocation Risk to GWF In a Cap-and-trade Program**

GWF would not be able to continue operating if it had to purchase allowances at the price levels described in the March 2010 EAAC report. Those rates (in Table 1 and 2 of the EAAC report) when applied to GWF's emissions would result in allowance costs that exceed our fixed costs, and our variable costs.

At the same time, GWF's contractual obligations and operational realities would not permit it to stop producing electricity from petroleum coke, or to substantially reduce operations, should a cap-and-trade program impose overwhelming allowance costs. GWF has contractual commitments through 2020/21 for its 5 Bay Area petroleum coke plants.<sup>1</sup> These commitments, as mentioned previously, are in the form of long-term PPA contracts with PG&E as the counterparty. Simply stated, GWF must perform above certain production (energy) levels each month in order to also achieve a corresponding capacity payment. Reduction (partial or full) in output due to changes (increases) in marginal cost economics threatens our ability to meet our existing contractual (production) commitments to PG&E.

Furthermore, solid fuel power plants (like GWF's petroleum coke plants) do not have a meaningful ability to cycle due in part to thermal expansion and contraction of the refractory (cycling refers to the ability to turn on and off the power plant, or raise and lower output). If totally shut down these power plants take 12 hours to start, and when turned down to lower levels the per unit output emissions increase due to decreased plant efficiency. Cycling as a method to reduce our CO<sub>2</sub>e footprint is challenging on its own irrespective of our contractual commitments.

### **GWF's Allowance Allocation Proposal**

There will be market pressure on the electric sector to reduce climate change emissions as a result of the progressive policies California has embraced, including fuel switching (SB 1368) and lower run times per year (33% RPS, million solar roofs, energy efficiency measures, etc.). As a result of these and other policies in California, the electric sector as whole will

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<sup>1</sup> GWF's Kings County PPA for 25MW petroleum coke generation terminates in 2011, prior to any foreseen implementation of a cap-and-trade program.

reduce its emissions on a percentage basis beyond the overall percentage emission reductions outlined in the Scoping Plan.

To fulfill its mandate to give leakage and criteria pollutant issues due consideration when designing a cap-and-trade program, as well as give the economic impact of these programs consideration, and given the by-product nature of petroleum coke, we recommend ARB consider petroleum coke's best use, and best alignment with California's environmental goals, as one where petroleum coke is used near its source, under controlled conditions, and with California regulatory oversight. As such, it is fair and just for ARB to allocate a meaningful percentage of allowances (or require a smaller percentage to be surrendered for compliance purposes) so that GWF may continue its petroleum coke operations and ensure this continued benefit to Californians through the life of GWF's existing PPA contracts. GWF recommends that ARB ensure that GWF receive allowances equivalent to 90 percent of its historical emissions through 2021.

### **Conclusion**

GWF supports California's efforts to combat climate change and has already contributed to that effort. GWF understands the benefits of a cap-and-trade program and appreciates the ARB staff's consideration of our request. As California endeavors to reduce GHG emissions from the electricity sector, however, it is essential that the full implications of a cap-and-trade program be examined closely. If GWF (a California company) does not use petroleum coke, CO<sub>2</sub>e leakage will occur, global GHG emissions and criteria pollutant emissions will increase, and GWF's state-of-the-art solution for this by-product will not be utilized. To avoid this outcome, our company will need special consideration in any cap-and-trade program between 2012 and 2021 in the form of allowances equivalent to 90 percent of our historical emissions.

Thank you for your attention; I look forward to speaking with you and your staff in the near future to address any questions or concerns you may have with GWF's proposal.

Cordially,



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