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**BEFORE THE GUAM PUBLIC UTILITIES COMMISSION**

IN THE MATTER OF:

**DOCKET NO. 07-10**

Guam Power Authority's Filing Regarding  
Fuel Hedging Program

**FILING RE FUEL HEDGING PROGRAM**

**COMES NOW**, the GUAM POWER AUTHORITY (GPA), by and through its counsel of record, D. GRAHAM BOTHA, ESQ., and hereby files its proposed Fuel Hedging Program. The goal of GPA's hedging program is to shield GPA's customers from the impact of rising oil prices, which cannot be achieved through a fuel risk management program previously employed by GPA. GPA believes that the optimal strategy is to pursue the purchase of call options and zero cost collars. All costs both actual and forecast for the purchase of call options should be recovered through the Levelized Energy Adjustment Clause.

**RESPECTFULLY SUBMITTED** this 15<sup>th</sup> day of March, 2010.

**D. GRAHAM BOTHA, ESQ.**  
GPA Legal Counsel

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# GUAM POWER AUTHORITY

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## Guam Power Authority

Fuel Hedging Program  
DRAFT

**Purpose:** The purpose of this document is to describe the fuel hedging program the Guam Power Authority wishes to adopt.

### Background

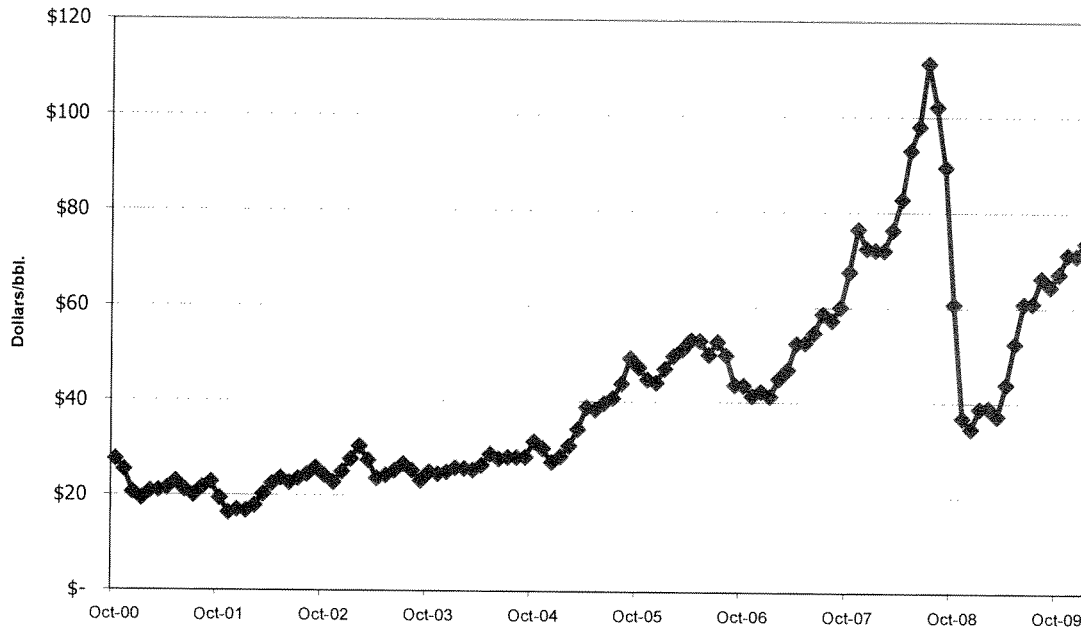
The Guam Power Authority petitioned the Public Utilities Commission (PUC) for the creation of a fuel hedging program in 1999. The program recommended by the Authority was a zero cost collar program wherein the Authority would purchase a call option for a period and at the same time would sell a put option at a price that would exactly offset the cost of purchasing the call option. The hedge products would provide a band for GPA fuel transactions. If the price of fuel remained within the band of the hedging products, there would not be a gain or a loss from the hedging transactions. If the price of fuel rose above the price of the call option, GPA would receive a payment for the difference between the actual average market price for the month and the call price. If the price of fuel dropped below the put price, GPA would be required to pay to the hedge provider the difference between the put price and the actual average market price for the month. PUC approval was necessary to ensure the Authority would be able to recover any hedging losses through the Levelized Energy Adjustment Clause.

In 2007, GPA amended its program to allow for the Authority to enter into three or four contracts with hedge providers. Each time GPA is ready to issue a bid for a hedge, all contractors are contacted and the vendor with the lowest price is awarded the hedge contract for that purpose. This structure was developed to ensure there is sufficient competition to ensure that the Authority is receiving the best hedge price possible.

The chart below reflects the market pricing for the type of fuel oil upon which GPA's fuel contract is linked:

# Historical Fuel Prices

(Platt's Average Monthly Price)



## Hedging Goals

GPA would like to ensure that its customers are permanently shielded from the impact of rising oil prices. However, such a goal as that cannot be achieved through a fuel risk management program. Therefore, the goal of GPA's hedging program is to provide protection to GPA ratepayers from periods of extreme fluctuations in the price of fuel purchased by the Authority and, in the case of structural increases in fuel pricing, to provide time to ratepayers some time to adjust their household budgets for the new realities on the fuel market environment.

## Basic Types of Hedging Products

There are many different types of hedging products. Because GPA has developed a hedging program purely for risk management purposes and not as a vehicle to attempt to increase earnings, the Authority has limited its scope to only the most basic hedging products. Some of these are described below:

### **Spot Market Contract**

With a spot market contract, the Authority would lock in a price for the period of the hedge. GPA would be assured of paying the fixed price throughout the year regardless of whether the price of fuel went up or down. The U.S. Navy at one time expressed interest in this type of a product to help them in their annual budgeting process, however, GPA has determined it would not be acceptable to ratepayers in general to pay a higher price in the event of a deterioration in the market price.

### **Purchasing a Call Option**

The purchase of a call option is the hedging product that most closely resembles an insurance policy. GPA would purchase a call option at the prevailing market price plus 10%. If the market price of fuel stayed below the call price, GPA would pay the market price of fuel. If the price of fuel moved above the call price, GPA would be reimbursed for the difference between the actual average market price for each month and the call price. This is an attractive option in that ratepayers would benefit from any decreases in fuel prices and would be protected from increases in the price of fuel. When GPA was first exploring options for its fuel hedging program, it sought a quote for the purchase of a call option. The quote came back at approximately \$7 million for a one year call option. At that time, GPA's annual cost of fuel was approximately \$50 million. GPA determined a 14% premium would be unacceptable for its ratepayers to bear in return for the protection against an upward swing in fuel prices. In 2009, GPA requested for a quote for a call option 10% above the market price for a one year period. The quote came back at approximately \$7 million. With the estimated cost of fuel being at \$286 million at the time, the purchase of the call option would represent a premium of the fuel price of approximately 2.5%. If GPA were to continue its practice of hedging approximately 50% of its fuel costs, the premium would be reduced to approximately 1.25%. (Actual pricing is subject to actual market conditions at the time the contract is purchased.) Clearly, the purchase of call options has become a more attractive option as the price of fuel has increased.

### **Zero Cost Collar Option**

The Authority would purchase a call option for a period and at the same time would sell a put option at a price that would exactly offset the cost of purchasing the call option. The hedge products would provide a band for GPA fuel transactions. If the price of fuel remained within the band of the hedging products, there would not be a gain or a loss from the hedging transactions. If the price of fuel rose above the price of the call option, GPA would receive a payment for the difference between the actual average market price for the month and the call price. If the price of fuel dropped below the put price, GPA would be required to pay to the hedge provider the difference between the put price and the actual average market price for the month. This is the method that GPA originally adopted for its fuel hedging program.

### **Market Timing vs. Disciplined Approach**

The last few years as market prices have increased, the risk of a downward price movement has risen. This placed GPA management in a very uncomfortable position. If GPA were to sell a put option when prices were trending upward and then fuel prices dropped, management would inevitably be blamed for poor judgment in the purchase of the put option. Because of this discomfort, GPA missed many opportunities to execute hedge contracts that would have increased the gains of the Authority during the period from 2003 to 2008. GPA had been concerned with the downside risk in utilizing the costless collar product and chose to look for periods of market weakness before executing a hedge contract. Unfortunately, there were not many periods of market weakness in the years leading up to the market peak of July 2008.

In 2007, GPA adopted a disciplined approach to the purchase of hedge contracts. The Authority continued to utilize the costless collar product. GPA adopted a hedge target of 50% of GPA's fuel supply. GPA would be allowed to increase the hedging level during periods of market weakness, but GPA would never be hedged more than 80% of its fuel supply. And the Authority set a target of obtaining hedge contracts one year in advance.<sup>1</sup>

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<sup>1</sup> Because of GPA's non-investment grade bond rating the Authority's hedge providers were unwilling to

In determining the appropriate time to hedge, GPA adopted a strategy of executing a hedge contract of 25% of its fuel supply for a quarter every two weeks until GPA was hedged for the next five quarters. GPA would begin to look for market weakness the last two weeks of each quarter to purchase the next hedge contract for the period ending 15 months after the current quarter end date. If GPA did not identify a period of market weakness, GPA would execute a hedge on the last day of the month. Following this practice, GPA would be assured of always being hedged one year in advance. GPA will extend this period to two to three years when the Authority's bond rating is restored to investment grade.

The theory behind the disciplined approach is to remove the judgment and subjectivity from the hedge contracting process. GPA's goal was to make the purchase of hedges methodical and mechanical in order to address the missed opportunities for hedge gains that had been missed due to the reluctance of GPA management to execute trades while the market was regularly setting new market highs.

History has shown us that 2007 was a good time to switch from a practice of targeting 100% hedging of fuel supply to 50% hedging of fuel supply, however, it was a poor time to execute costless collars.

### **Historical Analysis**

The table below shows what the results would have been if GPA had employed various approaches on a disciplined basis over the last decade and reflects versus the actual gains and losses (in dollars) incurred by the Authority over the period:

<b>Fiscal Year</b>	<b>Purchase Call Option Only</b>	<b>Purchase Costless Collar</b>	<b>Actual Results</b>
FY01	(6,154,720)	(5,865,679)	-
FY02	(5,857,912)	(4,262,956)	(532,148)
FY03	2,127,200	9,127,200	5,567,435
FY04	(6,689,896)	310,104	8,926,064
FY05	16,385,528	23,385,528	5,653,595
FY06	31,187,984	38,187,984	(3,844,730)
FY07	(4,317,256)	1,028,053	(2,983,811)
FY08	87,724,784	94,724,784	6,776,767
FY09	(7,000,000)	(59,039,324)	(67,182,327)
FY10*	6,214,939	266,483	1,275,304
<b>Total</b>	<b>\$113,620,651</b>	<b>\$97,862,177</b>	<b>(\$46,343,851)</b>
<p>* A disciplined approach would not have been available to the Authority in order to achieve these gains as GPA was precluded by its hedge providers from entering into hedge contracts during much of FY09 due to the credit already extended to the Authority.</p>			

The first two columns indicate the gains that would have been achieved by the Authority if it had brought a disciplined approach to the purchase of hedging products for 100% of its fuel supply, as described above, during the entire period of the last decade.<sup>2</sup> It should be noted that GPA's hedging program was initiated less than a decade ago and GPA could not have been expected to develop the level of hedge sophistication in order to develop a program that would yield these types of gains. It should also be noted that most utilities and many other industries that utilized hedge contracts to manage fuel price risk were caught off-guard by the world-wide financial crisis that led to the collapse of the fuel market pricing in the first quarter of Fiscal Year 2009. Many utilities were 100% hedged leading into the financial crisis.

The analysis reveals that the gains incurred by GPA for the last 10 years. However, the last 10 years was a very extraordinary period for the fuel markets and such a performance is not likely to be duplicated. Gains from pursuing the purchase of call options would only return positive gains during periods where there is a general upward movement in fuel prices. During periods of flat or decreasing prices, the Authority could be in a position where it is paying approximately \$7 million per year for hedge contracts without any gains to offset the costs. Ratepayers, however, would see a benefit from the reduced fuel market prices.

In periods of flat growth in fuel prices, GPA would reduce the risk of loss and exposure to high prices through the execution of costless collar contracts. However, GPA would be at risk of incurring losses or expenses during a period of decreasing prices.

GPA believes the general trend of fuel prices in the future will tend towards higher product costs. Therefore, GPA believes the optimal strategy of the basic strategies GPA is exploring would be to pursue the purchase of call options and zero cost collars at GPA's discretion using the disciplined approach described above. GPA would strive to utilize the collared approach when prices appear to be at a trough and would tend to use calls when prices are in the medium to high range.

GPA has recently re-issued its procurement for hedge providers. Of the three firms selected, two stated that with its improving financial condition, no margin calls would be required for GPA hedge contracts. The third provider indicated that GPA's credit limit would be increased to \$10 million now and would be increased to \$15 million when GPA receives a second investment grade credit rating. GPA desires to continue seeking a letter of credit provider for its fuel hedging program to address the potential risk of a margin call with the one provider. GPA believes the order authorizing the procurement of a letter of credit facility with costs to be recovered through the levelized energy adjustment clause should remain in effect.

### **Recommended Strategy**

GPA recommends the following strategy be adopted for its fuel hedging program moving forward:

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<sup>2</sup> GPA utilized some fairly broad assumptions in order to develop the numbers in this table. The analysis was not intended to reflect exact gains but only to provide broad indications as to the type of gains and losses that GPA would have been subjected to if these programs had been in place during that time.

1. GPA should continue to utilize a disciplined approach (described above) for determining when to enter into hedge contracts.
2. GPA should conduct hedging transactions for the purchase of call options as well as using the zero cost collar approach.
3. GPA should revise its target to gain hedge coverage for 100% of its fuel supply.
4. GPA should recover its costs – both actual and forecast – for the purchase of call options through the Levelized Energy Adjustment Clause.
5. Any gains experienced by the fuel hedging program should continue to be applied to minimize and delay the impact future fuel price increases.