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CITY OF TALLAHASSEE
FUEL EMERGENCY PLAN

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**FUEL EMERGENCY PLAN
CITY OF TALLAHASSEE
ELECTRIC UTILITY**

**LONG TERM EMERGENCY PLAN
FUEL SUPPLY ELEMENT
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SYSTEM DESCRIPTION

The City owns, operates and maintains an electric generation, transmission and distribution system that supplies power to approximately 107,000 customers.

The City's major generation facilities are located at two different sites.¹ Sam O. Purdom Generating Station (Purdom Plant) located at St. Marks, Florida has approximately ~~50-48~~ MW of steam generation, ~~235-233~~ MW of combined cycle and 20 MW of combustion turbine generation capacity. Arvah B. Hopkins Generating Station (Hopkins Plant) located 10 miles west of Tallahassee, Florida, has approximately ~~325-76~~ MW of steam generation, 300 MW of combined cycle and ~~140-128~~ MW of combustion turbine capability.

All of the steam units can be fired with either natural gas, low sulfur No.6 fuel oil or a mixture of the two fuels. The combined cycle units ~~at Purdom (Purdom Unit 8) is~~ are normally fueled with natural gas and can be switched to ultra low sulfur diesel or No. 2 fuel oil (ULSD). ~~Due to the size of the physical inventory storage capacity, Purdom Unit 8 can run at full load on fuel oil for a maximum of 32 consecutive hours.~~ The combustion turbines can be fired with either natural gas or ~~No.2 fuel oil~~ ULSD. Due to permit limitations at the Purdom facility, Unit 7 has limited run hours available on #6 fuel oil. As a result, the #6 fuel oil is considered an emergency fuel for Purdom Unit 7.

Further, the City's C. H. Corn Hydroelectric Plant at Jackson Bluff Dam located 20 miles west of Tallahassee with a peak capability of 11 MW. On average, it has a dependable capacity of approximately 5 MW.

Currently, the City can purchase ~~No.2~~ ULSD and No. 6 fuel oil utilizing pre-established agreements with various ~~oil suppliers~~ oil suppliers. There is not a limit on the number of such active agreements and they are identical with all vendors

The City has a barge unloading facility located at the Purdom pPlant. Historically this has been utilized for delivery of #6 fuel oil. It is in the process of being modified for #2 fuel oil delivery. This will allow for #2 fuel oil to be delivered by barge or truck to both plants. #6 fuel oil will be delivered by truck to both plants once these modifications are completed. Typically, the City's No. 6 fuel oil is shipped by barge and received at the Purdom Generating Station located on the St. Marks River. Transfer of No. 6 fuel oil from the Purdom Generating Station to the Hopkins Generating Station is made by truck. Further, No. 6 fuel oil is occasionally delivered by truck directly to the Hopkins Plant. No. 2 fuel oil is typically delivered by truck directly to both generating stations.

In the middle 1990's the fuel oil storage facilities at both generating stations underwent substantial upgrades to bring them in compliance with the new Florida Department of Environmental Protection rules. The upgrades included cleaning, inspection, and repair of all of

¹ All ratings are summer ratings

the bulk fuel oil storage tanks at the generating stations, installation of impervious secondary containment for all of the No. 2 fuel oil tanks, and upgrading of the fuel transfer facilities to incorporate secondary containment. The fuel oil storage tanks are surrounded by containment of adequate capacity to contain fuel should the tanks rupture. Three of the City's fuel oil tanks (2 at Purdom and 1 at Hopkins) are in the process of being upgraded to the standards required to store #2 fuel oil. Once the tank modifications are completed, the City's fuel oil inventory capacities are shown in the table below.

<u>Tank</u>	<u>Capacity (barrels)</u>	<u>Future Product</u>
<u>Hopkins Tank 1</u>	<u>10,000</u>	<u>#2</u>
<u>Hopkins Tank 2</u>	<u>10,000</u>	<u>#2</u>
<u>Hopkins Tank 3</u>	<u>55,000</u>	<u>#6</u>
<u>Hopkins Tank 4</u>	<u>180,000</u>	<u>#2</u>
<u>Purdom Tank 1</u>	<u>20,000</u>	<u>#2</u>
<u>Purdom Tank 3</u>	<u>77,000</u>	<u>#2</u>
<u>Purdom Tank 4</u>	<u>10,000</u>	<u>#2</u>

~~At the Purdom Station, fuel oil storage facilities consist of three above-ground tanks with the following nominal capacities: (i) 80,000 barrels and (ii) 20,000 barrels; both of which are utilized for No. 6 fuel oil; and (iii) 10,000 barrels utilized for No. 2 fuel oil. At the Hopkins Station, fuel oil storage facilities consist of four above-ground tanks: a 180,000 barrel tank and a 55,000 barrel tank utilized for No. 6 fuel oil and two 10,000 barrel capacity tanks utilized for No. 2 fuel oil. The City maintains an oil inventory sufficient to supply the City's operational needs for approximately an eighteen (18) day period under peak load demands.~~

The City receives gas supply for its Electric System through two delivery points with Florida Gas Transmission Company ("FGT"): one at the Arvah B. Hopkins Generating Station and one at the Sam O. Purdom Generating Station.

With the implementation of the FERC'S Restructuring Order No. 636 by FGT on November 1, 1993, the City consolidated into one agreement all previous arrangements for firm transportation service on the FGT system. Additionally, agreements for interruptible transportation were renewed while certain contracts for priority interruptible services were phased-out. Further, the City ~~had~~ has contracted for additional quantities of firm transportation on FGT'S Phase III and Phase V facility expansion projects, which have been in service since March 1, 1995 and April 1, 2002 ~~respectively. respectively;~~ as well as the Phase VIII expansion projected for commencement on April 1, 2011.

Recognizing the opportunity for improving operational efficiencies and for enhancing economic benefits by consolidating activities of related resources of its Electric and Gas Utilities, the City has implemented a number of organizational and procedural changes which includes aggregating all gas requirement programs for both utilities. This aggregation of requirements has enabled the City to better optimize resource utilization and reduce its overall gas transportation capacity

requirements. Further, restructuring of the natural gas industry has allowed the City to trade seasonal excess transportation capacity and participate routinely in the secondary gas supply and transportation markets. Wholesale purchases and sales of natural gas are performed daily on the open market by the City's Wholesale Energy Services staff.

It should be noted that additional transportation may be required, from time to time by the City and purchased on a short-term or interim-term basis at the open market, sometimes bundled with supply delivered to our citygate. Also, FGT is anticipated to continue conducting open season firm solicitations on contracting for additional transportation. Further, the City has executed Interruptible Transportation Agreements with FGT for transporting gas economically on an as needed and as available basis subject to interruption.

In order to assure the gas supply needs for its combined Electric and Gas Utility systems, the City has entered into supply contracts with various producers/suppliers for ~~well-head~~ wellhead supply purchases of natural gas. To provide as much flexibility and diversity to the City as possible, these contracts contain varying terms and pricing provisions. The contracts provide for the sales, purchase and exchange of gas supply, gas transportation balancing and other services.

The ~~City,~~ City has successfully met past challenges; however like other market participants, the City could ~~encounter—difficulties~~ encounter difficulties in securing sufficient gas supply at competitive market prices in the future, as a result of catastrophic events.

The City's existing bulk power transmission system includes approximately 185 circuit miles of transmission lines that are operated at 230 kV, 115 kV and 69 kV voltage levels. The 115 kV transmission network forms a loop around the City's eighteen substations located at various sites ~~which sites that~~ transform the transmission voltage of 115 kV to the distribution voltage of 12.5 kV.

The City has one 230 kV, two 115 kV and two 69 kV interconnections with Florida Power Corporation. Also another 230 kV transmission line from the City's Hopkins Plant to Georgia's Power Company's South Bainbridge Station interconnects the City's electric system with that of Southern Company's.

UTILITY PLAN

FUEL INVENTORY PLAN AND FUEL SHORTAGE FORECASTING:

The City of Tallahassee's primary fuel for its steam generators is natural gas. In accordance with the City's fuel hedging plan, natural gas supply requirements of approximately 25% to 50% (or greater) are covered under short-term (up to one year) or long-term physical and financial trade transactions. Further, the City maintains sufficient low sulfur fuel oil inventory to continue operation of its generating facilities for a period of approximately ~~approximately~~ at least 18 peak load days to meet the City's requirements, in the event gas supply is curtailed for an extended

period.

The availability of natural gas and fuel oil, together with the inventory of fuel oil and power requirements of the City are evaluated monthly and monitored on a daily basis. This evaluation and monitoring will be more frequent and more extensive if an irregularity is noticed in the ~~fuel supply~~ fuel supply. The seriousness and extent of actual and potential disruptions of fuel supply will be addressed and handled accordingly by the City officials.

NOTIFICATION TO REGIONAL GOVERNMENT OFFICIALS AND NEWS MEDIA:

As soon as ~~the reality of a potential long interruption in fuel supply is determined by City officials~~ City officials determine the reality of a potential long interruption in fuel supply, it will be reported to the City Commissioners, other authorities and the news media. The general public will be informed through the Communications Office of the City of Tallahassee, local television, radio stations and newspapers and will be urged to take the following measures:

1. Reduce outside and inside lighting to an absolute minimum.
2. Lower heating and cooling loads. To heat homes, use means other than electricity, such as wood stoves, oil and gas heaters, etc.
3. Lower water heater thermostats.
4. Reduce usage of electrical appliances.
5. Reduce water consumption. This will reduce the City's water pumping load.

APPEAL TO LARGE COMMERCIAL CUSTOMERS:

The large retail customers will be informed of the emergency through the City's Utility Account Representatives and the City's Public Information Office and urged to take the following steps to reduce electric consumption:

1. Reduce lighting including lighting inside their establishments and outside lighting for decorative purposes.
2. Reduce heating and cooling load.
3. If possible, use other means to supplement their power needs; e.g. diesel generator sets (customer shall have proper isolating equipment installed to avoid feedback into the City's system).

REDUCTION OF AUXILIARY POWER USAGE:

The auxiliary power usage for the City's generating units is approximately 7.5% of the total power generation. In case of emergency, the following steps will be taken to reduce our auxiliary electrical consumption.

1. Inside lighting of the plants will be reduced to a minimum.

2. Outside lighting in areas like treatment ponds, cooling towers, tank farms and switchyards will be reduced to a minimum.
3. Thermostats in office areas will be adjusted to minimize the heating (cooling) load.
4. All nonessential equipment (fans, pumps, etc.) will be shut down

OPTIMUM USAGE OF GENERATING EQUIPMENT:

The City utilizes economic dispatch methodologies operate its generating facilities. Economic dispatching ensures the best possible blend of fuel amount operation in recognition of different heat rates. The City will continue to operate generating facilities in a consistently efficient manner.

INTERRUPTIBLE LOADS:

In the event a fuel shortage is declared, the City interruptible and curtailable class customers would be notified that their loads will be interrupted.

ROTATING INTERRUPTION:

The City's distribution system is capable of rotating interruption of electrical services by remote control. Upon declaration of a fuel shortage, the City may utilize rotating interruption to equalize the use of available energy, while maintaining adequate underfrequency load shedding capability.

When rotating interruptions, customers and communities with special needs that are essential to health, safety and welfare shall be considered and their special needs addressed. The City has established a coordinated underfrequency load shedding plan and rotating circuitry plan which takes into consideration the following community needs:

1. Hospitals, nursing homes and similar medical facilities;
2. Police and fire stations;
3. Operation, guidance control and navigation for public transportation, commercial air transportation and other forms of transportation;
4. Communication services, including telephone and telegraph systems, television and radio stations;
5. Water supply and sanitation services, including waterworks, pumping and sewage disposal

activities which cannot be reduced without seriously affecting public health;

6. Cold storage facilities for preservation of medical and/or food supplies essential to the community;
7. Federal activities essential for national defense and state and local activities service, and providing emergency services and
8. Fuel transmission and distribution facilities required to provide essential services to the community.

The City's Underfrequency Load Shedding Plans are standard operating procedures, copies of which can be found in the City Electric Power Supply Emergency Preparedness Manual.

VOLTAGE REDUCTION:

The City has capability to reduce supply voltage levels. In case of an emergency, the voltage level can be lower manually, if dire need arises, to a point within acceptable limits of electrical appliances.

ENERGY INTERCHANGE:

The City has interchange contracts with every Florida utility, the Southern Company and in excess of 20 independent power marketing entities for emergency, scheduled, economy interchange and negotiated transactions. Specifically, the tie-line with Southern Company enables the City to purchase power from out of state utilities.

The City will utilize all of its resources to mitigate the impact of an emergency on its customers and other neighboring utilities in Florida through the interchange of energy.

Actual sharing of fuel oil with other utilities would be highly impractical, due to location of the City's generation and fuel oil storage facilities with respect to other utilities. In cases of absolute necessity, however, fuel sharing with other Florida utilities will be considered. Further, natural gas supplies may be shared among other utilities, during emergencies.

FUEL SHORTAGE

FORECASTING THE EXTENT OF FUEL SHORTAGE:

Upon declaration of a fuel shortage by City officials, the City will:

1. Monitor and forecast short term City load;
2. Monitor and forecast the fuel inventory; and

Determine unit commitment and forecast fuel consumption on a daily basis for the next 30 days and on a weekly basis for the next 60 days.

REIMBURSEMENT BY A UTILITY RECEIVING ENERGY OR FUEL:

During the fuel shortage, the energy interchange with the other utilities will be made through existing agreements.

If a physical transfer of fuel should become necessary, due to some physical limitation of the electrical system, mutual agreements will be developed between the utilities involved. The original owner or procurer of the fuel will be fully reimbursed in terms of cost, quantity and quality of the fuel transferred, as soon as possible, after the emergency.

FUEL SUPPLY ALERT

If the implementation of actions described in the Fuel Supply Shortage Element have been or are anticipated to be inadequate, the Chairman of the Florida Reliability Coordinating Council's (FRCC) Engineering Committee will be noticed of this impending emergency.

Upon declaration of a Fuel Supply Alert by the Florida Public Service Commission and after a request from the Chairman of Engineering Committee, the City will do the following:

1. Supply sufficient data to FRCC for verification of the threat of a fuel shortage;
2. Cooperate with FRCC'S Engineering Committee in determining if all measures to alleviate the emergency conditions have been exhausted, and
3. Honor FRCC'S Engineering Committee's recommendation of taking any additional measures.

FUEL SUPPLY EMERGENCY

Following the designation of Fuel Supply Alert, the following will be implemented and the remaining days of fuel supply will be determined by FRCC.

Step A

1. Take measures to reduce the usage of electricity at City's owned facilities.
2. Implement conservation measures to minimize generation of electricity from the fuel in short supply. Make optimum usage of purchase energy, if available.
3. Discontinue all non-firm sales.
4. Request permission of the proper authorities to ease environmental and other regulations where such actions will be effective in increasing the supply of alternate fuels.
5. Employ all existing load management systems to reduce peaks and increase efficiency of generation.
6. The FRCC Executive Board, upon advice from the Operating ~~Committee~~ Committee, may request that the Governor of the State of Florida declare a Fuel Supply Emergency in Florida pursuant to Chapter 377.703, Florida Statutes or other appropriate statutory authority.
7. Upon declaration of a Fuel Emergency by the Governor of the State of Florida, the City will take the following actions as deemed to be appropriate by the Engineering Committee.

Step B

1. All previously implemented steps will be continued.
2. Make public appeals to all wholesale and retail customers to reduce their electrical consumption.
3. Request reduction in all outdoor lighting to a minimum level necessary for life and property protection, and elimination of all advertisement lighting except for the minimum required to indicate commercial facilities open after dark.
4. Substitute 75% of spinning reserve requirement by implementing lower underfrequency relay setting on distribution feeders.
5. Request proper legal authorization for proceeding to Steps C through E.

Step C

1. Continue all previously implemented steps.
2. Maximize usage of purchased energy, if available, so as to minimize the imbalance of energy supply among the participating utilities.
3. Request customers supplement their power requirements by using their own power generating equipment, if any. This equipment must be isolated from the City's system to avoid backfeed.
4. Replace remaining spinning reserve requirement by placing additional feeders on lower underfrequency relaying.

Step D

1. Continue all previously implemented steps.
2. Implement mandatory curtailment to the degree necessary to protect health, safety and welfare as invoked by proper legal authorities.

Step E

1. Continue all previously implemented steps.
2. Utilize rotating interruption, including essential services, using load shedding procedure as necessary.
3. Should it become necessary in the Plan to bypass any of the steps and immediately proceed with more severe measures, the City will implement actions under the bypassed steps immediately.