

The ScheduleDetail XML contains 2 categories of Fuel Types: EnergyFuelTypes and StartupFuelTypes. These 2 categories of fuel types contain 2 sub components – Primary fuel and a Sub fuel. The Primary and Sub fuels must be set to valid eMKT recognized fuel types. A participant may reference the table below, which has been previously provided, for the acceptable values to set these primary and sub fuel types. The primary fuel type corresponds to the table headings, and the sub fuel types correspond to the values in the columns.

The problem with using a static table is that it may be subject to change, and one would have to rely on knowing if/when the table has changed. PJM has provided a means to obtain the table programmatically via XML which will always contain the latest supported fuel types as described further below.

Participants may then alter their applications to utilize the data set returned from the QueryFuelTypes XML submittal in order to submit valid fuel types within their ScheduleDetail XML.

The table of valid fuel types is:

Coal	Gas	Petroleum	Nuclear	Hydro	Other	Co-Fire
Meta-Anthracite	Natural Gas	Distillate #1	Enriched U	Run of River	Bagasse	Nat Gas/#6 Oil 0.5 S
Anthracite	Propane	#2 Oil	Other	Pumped	Battery	Nat Gas/#6 Oil 1.0 S
Semi-Anthracite	Landfill Gas	Diesel Grade 1-D		Storage	Compressed Air	Nat Gas/#6 Oil 2.0 S
Bituminous 0.5 S	Butane	Diesel Grade 2-D		Other	Fuel Cell Nat	Nat Gas/#2 Oil
Bituminous 1.0 S	Hydrogen	Diesel Grade 4-D			Gas/Hy	Nat Gas/Coal 0.5 S
Bituminous 1.5 S	Gasified Coal	Diesel Grade S-M			Fuel Cell Nat Gas	Nat Gas/Coal 1.0 S
Bituminous 2.0 S	Refinery Gas	#4 Oil Light			Geothermal	Nat Gas/Coal 1.5 S
Bituminous 2.5 S	Other	#4 Oil Heavy			Municipal Waste	Nat Gas/Coal 2.0 S
Bituminous 3.0 S		#5 Oil Light			Sludge	Nat Gas/Coal 2.5 S
Bituminous 4.0 S		#5 Oil Heavy			Solar	Nat Gas/Coal 3.0 S
Bituminous 5.0 S		#6 Oil 0.5 S			Tires	Nat Gas/Coal 4.0 S
Bituminous 6.0 S		#6 Oil 1.0 S			Wind	Nat Gas/Coal 5.0 S
Sub Bituminous 0.5 S		#6 Oil 2.0 S			Wood	Nat Gas/Coal 6.0 S
Sub Bituminous 1.0 S		Crude			Other	#2 Oil/Coal
Sub Bituminous 1.5 S		Kero L Sulfur Jet 55				Other
		Kerosene Jet 54				
		Jet A / JP-5				
		Jet B / JP-4				
		Petroleum Coke				
		Orimulsion				
		Gasoline				
		Other				

The XML Query that can be used to obtain the latest fuel types is:

```
<?xml version="1.0"?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header/>
  <env:Body>
    <QueryRequest xmlns="http://emkt.pjm.com/emkt/xml">
      <QueryFuelTypes/>
    </QueryRequest>
  </env:Body>
</env:Envelope>
```

The XML response that is returned from issuing the QueryFuelTypes:

```
<?xml version="1.0" encoding="UTF-8"?>
<Envelope xmlns="http://schemas.xmlsoap.org/soap/envelope/">
  <Body>
    <QueryResponse xmlns="http://emkt.pjm.com/emkt/xml">
      <FuelTypeSet>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/#6 Oil 0.5 S"/>
        <FuelType primaryType="Co-Fire" subType="Other"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/#6 Oil 2.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/#2 Oil"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 0.5 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 1.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 1.5 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 2.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 2.5 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 3.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 4.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 5.0 S"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/Coal 6.0 S"/>
        <FuelType primaryType="Co-Fire" subType="#2 Oil/Coal"/>
        <FuelType primaryType="Co-Fire" subType="Nat Gas/#6 Oil 1.0 S"/>
        <FuelType primaryType="Coal" subType="Meta-Anthracite"/>
        <FuelType primaryType="Coal" subType="Anthracite"/>
        <FuelType primaryType="Coal" subType="Semi-Anthracite"/>
        <FuelType primaryType="Coal" subType="Bituminous 0.5 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 1.0 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 1.5 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 2.0 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 2.5 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 3.0 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 4.0 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 5.0 S"/>
        <FuelType primaryType="Coal" subType="Bituminous 6.0 S"/>
        <FuelType primaryType="Coal" subType="Sub Bituminous 0.5 S"/>
        <FuelType primaryType="Coal" subType="Sub Bituminous 1.0 S"/>
        <FuelType primaryType="Coal" subType="Sub Bituminous 1.5 S"/>
        <FuelType primaryType="Coal" subType="Lignite"/>
        <FuelType primaryType="Coal" subType="Liquified Coal"/>
        <FuelType primaryType="Coal" subType="Other"/>
        <FuelType primaryType="Gas" subType="Natural Gas"/>
        <FuelType primaryType="Gas" subType="Propane"/>
        <FuelType primaryType="Gas" subType="Landfill Gas"/>
        <FuelType primaryType="Gas" subType="Butane"/>
      </FuelTypeSet>
    </QueryResponse>
  </Body>
</Envelope>
```

<FuelType primaryType="Gas" subType="Hydrogen"/>
<FuelType primaryType="Gas" subType="Gasified Coal"/>
<FuelType primaryType="Gas" subType="Refinery Gas"/>
<FuelType primaryType="Gas" subType="Other"/>
<FuelType primaryType="Hydro" subType="Other"/>
<FuelType primaryType="Hydro" subType="Pumped Storage"/>
<FuelType primaryType="Hydro" subType="Run of River"/>
<FuelType primaryType="Nuclear" subType="Other"/>
<FuelType primaryType="Nuclear" subType="Enriched U"/>
<FuelType primaryType="Other" subType="Wood"/>
<FuelType primaryType="Other" subType="Other"/>
<FuelType primaryType="Other" subType="Wind"/>
<FuelType primaryType="Other" subType="Tires"/>
<FuelType primaryType="Other" subType="Solar"/>
<FuelType primaryType="Other" subType="Sludge"/>
<FuelType primaryType="Other" subType="Municipal Waste"/>
<FuelType primaryType="Other" subType="Geothermal"/>
<FuelType primaryType="Other" subType="Fuel Cell Nat Gas"/>
<FuelType primaryType="Other" subType="Fuel Cell Nat Gas/Hy"/>
<FuelType primaryType="Other" subType="Compressed Air"/>
<FuelType primaryType="Other" subType="Battery"/>
<FuelType primaryType="Other" subType="Bagasse"/>
<FuelType primaryType="Petroleum" subType="Petroleum Coke"/>
<FuelType primaryType="Petroleum" subType="Diesel Grade S-M"/>
<FuelType primaryType="Petroleum" subType="Gasoline"/>
<FuelType primaryType="Petroleum" subType="Other"/>
<FuelType primaryType="Petroleum" subType="Diesel Grade 4-D"/>
<FuelType primaryType="Petroleum" subType="Diesel Grade 2-D"/>
<FuelType primaryType="Petroleum" subType="Diesel Grade 1-D"/>
<FuelType primaryType="Petroleum" subType="#2 Oil"/>
<FuelType primaryType="Petroleum" subType="Distillate #1"/>
<FuelType primaryType="Petroleum" subType="Jet B / JP-4"/>
<FuelType primaryType="Petroleum" subType="Jet A / JP-5"/>
<FuelType primaryType="Petroleum" subType="Kerosene Jet 54"/>
<FuelType primaryType="Petroleum" subType="Kero L Sulfur Jet 55"/>
<FuelType primaryType="Petroleum" subType="Crude"/>
<FuelType primaryType="Petroleum" subType="#6 Oil 2.0 S"/>
<FuelType primaryType="Petroleum" subType="#6 Oil 1.0 S"/>
<FuelType primaryType="Petroleum" subType="#6 Oil 0.5 S"/>
<FuelType primaryType="Petroleum" subType="#5 Oil Heavy"/>
<FuelType primaryType="Petroleum" subType="#5 Oil Light"/>
<FuelType primaryType="Petroleum" subType="#4 Oil Heavy"/>

```
<FuelType primaryType="Petroleum" subType="#4 Oil Light"/>
<FuelType primaryType="Petroleum" subType="Orimulsion"/>
</FuelTypeSet>
</QueryResponse>
</Body>
</Envelope>
```