

SDE Preferred Method for Removing The Relative Importance of Fuel from CPI Increases

The method below is intended only for use with contracts which contain a CPI increase clause as well as a separate fuel escalation clause. Contracts which have only one of the other will not need to adjust the CPI increase, but can use the information in the first section below to obtain each year's CPI adjustment. It should also be noted that these instructions assume the use of the CPI-U All Urban Consumers listing as this is the listing utilized by the majority of contracts. If for some reason a different CPI listing must be utilized, the methodology would remain the same, however the source for the numbers should be changed to the appropriate listing.

This method is based on the methodology recommended by the Bureau of Labor Statistics at <http://www.bls.gov/cpi/cpimathfs.pdf> with adjustments made to simplify the number of calculations required and the number of data points that must be collected. Either methodology is allowable, although they will differ slightly due to differences in rounding based on whether the base numbers come from the reports listed below or are calculated by hand from the Bureau of Labor Statistic's tables as explained in the link above. However, whichever method is used should be specified and used consistently through the life of the contract.

➤ **Obtaining Base CPI and Base Fuel Change**

- Go to the Bureau of Labor Statistics website for CPI listings at <http://www.bls.gov/data/#prices>
- Under "All Urban Consumers (Current Series)", select "One-Screen Data Search" for the numbered sections that come up do the following:
 1. Select "U.S. city average"
 2. Select "All Items"
 3. Have "Not Seasonally Adjusted" as the only checked box
 4. Press "Get Data"
- On the page that comes up, click "More Formatting options" in the middle upper right (a red arrow is next to this).
- In the "Select View of the data" section, have only "12-Month Percent Change" check marked.
- In the time-frame section, specify the appropriate year change range (e.g. if you were looking for the CPI increase from March 2010 to March 2011, select 2011 for both years).
- Below that, mark "Select one time period" and then select the benchmark month used for your CPI increase (in the example above, this would be March).
- Press "Retrieve Data"
- Note the percent change number from the table that comes up in the lower left-hand side of the screen (for the above example his would be 2.7%).
- Go back to the "One-Screen Data Search" Under "All Urban Consumers (Current Series)" screen.
 1. Select "U.S. city average".
 2. Go down to the "transportation" section, then "private transportation", then "motor fuel", then the only item you should select will be "Other motor fuels".
 3. Have "Not Seasonally Adjusted" as the only checked box
 4. Press "Get Data"
- On the page that comes up, click "More Formatting options" in the middle upper right (a red arrow is next to this).
- In the "Select View of the data" section, have only "12-Month Percent Change" check marked.
- Use the same date parameters as before (e.g. 2011 and March from the example above).
- Press Retrieve data

- Note the percent change number from the table that comes up in the lower left-hand side of the screen (for the above example his would be 33.6%).

➤ **Obtaining Relative Importance of Fuel**

- Return to <http://www.bls.gov/data/#prices>
- Under “All Urban Consumers (Current Series), select “Tables.”
- Scroll down to the section titled “Relative Importance of Items in the Consumer Price Index.”
- Select the weights for US City Average
- Scroll down again to “transportation” section, then “private transportation”, then “motor fuel”, then finally “Other motor fuels”.
- Take the number for CPI-U (the first column, in the example above the relative importance of other motor fuels would be 0.189).
- The relative importance for all items will also be used in our calculation, however it will always be 100 as it is the sum of the relative importance of all items which will always be 100%

➤ **Calculation**

1. Take the Base CPI change and Base Fuel change from above and divide them by 100 to convert from percentage to decimals

Example: Base CPI change $2.7 / 100 = 0.027$

Base fuel change $33.6 / 100 = 0.336$

2. Multiply the results by the appropriate relative importance to obtain the adjusted relative importance.

Example: 0.027×100 relative importance for all items = 2.7 adjusted relative importance

0.336×0.189 relative importance for other motor fuel = 0.063504 adjusted relative importance

3. Subtract the base relative importance for other motor fuel from the base relative importance for all items

Example: 100 relative importance for all items – 0.189 relative importance for other motor fuel = 99.811 relative importance less other motor fuel.

4. Repeat step 3 for the adjusted relative importances obtained in step 2

Example: 2.7 adjusted relative importance for all items – 0.063504 adjusted relative importance for other motor fuel = 2.636496 adjusted relative importance less other motor fuel.

5. Divide the result of step 4 by the result of step 3

Example: 2.636496 adjusted relative importance less motor fuel / 99.811 relative importance less other motor fuel = 0.02641488413 change between selected periods

6. Multiply the result of step 5 by 100 to convert back to percentage

Result = 2.641488413% or 2.64% CPI increase for the period less the relative importance of other motor fuel.