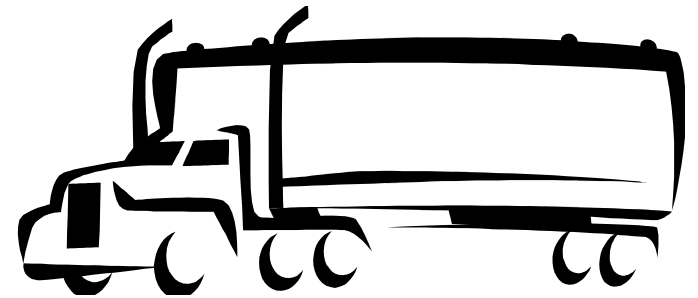
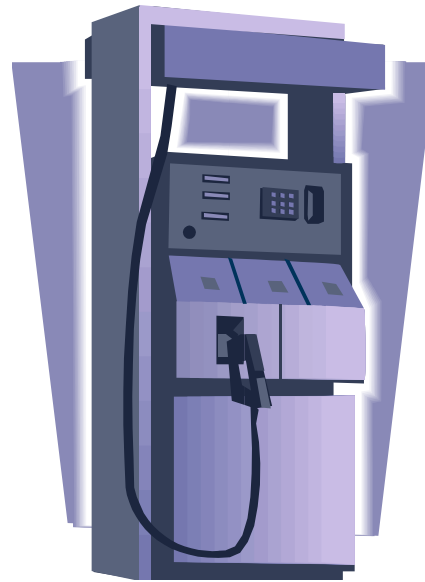
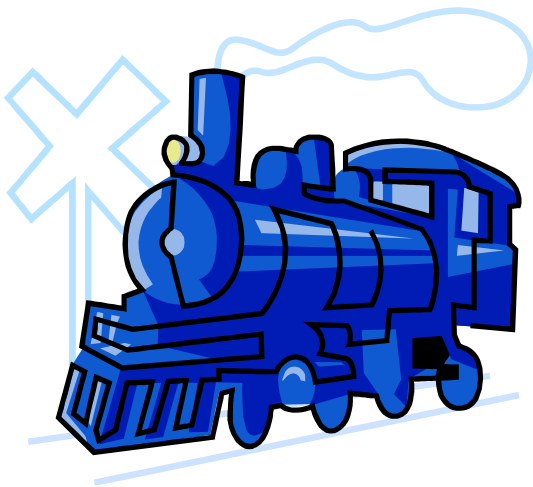


Fuel Surcharge using Rate Factors

Jai Shahpuri – Consology Solutions



Consology Solutions

What is Fuel Surcharge

- Fuel Surcharge (FSC) is the cost carriers are allowed to add to the normal freight charges. This helps the carrier offset the constantly fluctuating cost of fuel
- The US Energy Information Administration (US EIA) publishes the weekly fuel prices on Monday, calculated as an average of the fuel prices during the previous week
- The most common Index used for FSC calculations is the DOE (Department of Energy) Index. Some of the other indices are HDF (Highway Diesel Fuel), WTI (West Texas Index)
- The Index and Frequency (Weekly or Monthly) used is determined by the carrier contract

Types of Fuel Surcharge

Most Common Types of Fuel Surcharge Contracts

Unit Based

- Charged based on cost per mile driven (\$/mi)
- e.g. For every \$0.10 increase in Rate Factor, Fuel Surcharge increases by \$0.045/mi
- Most common in the Trucking world

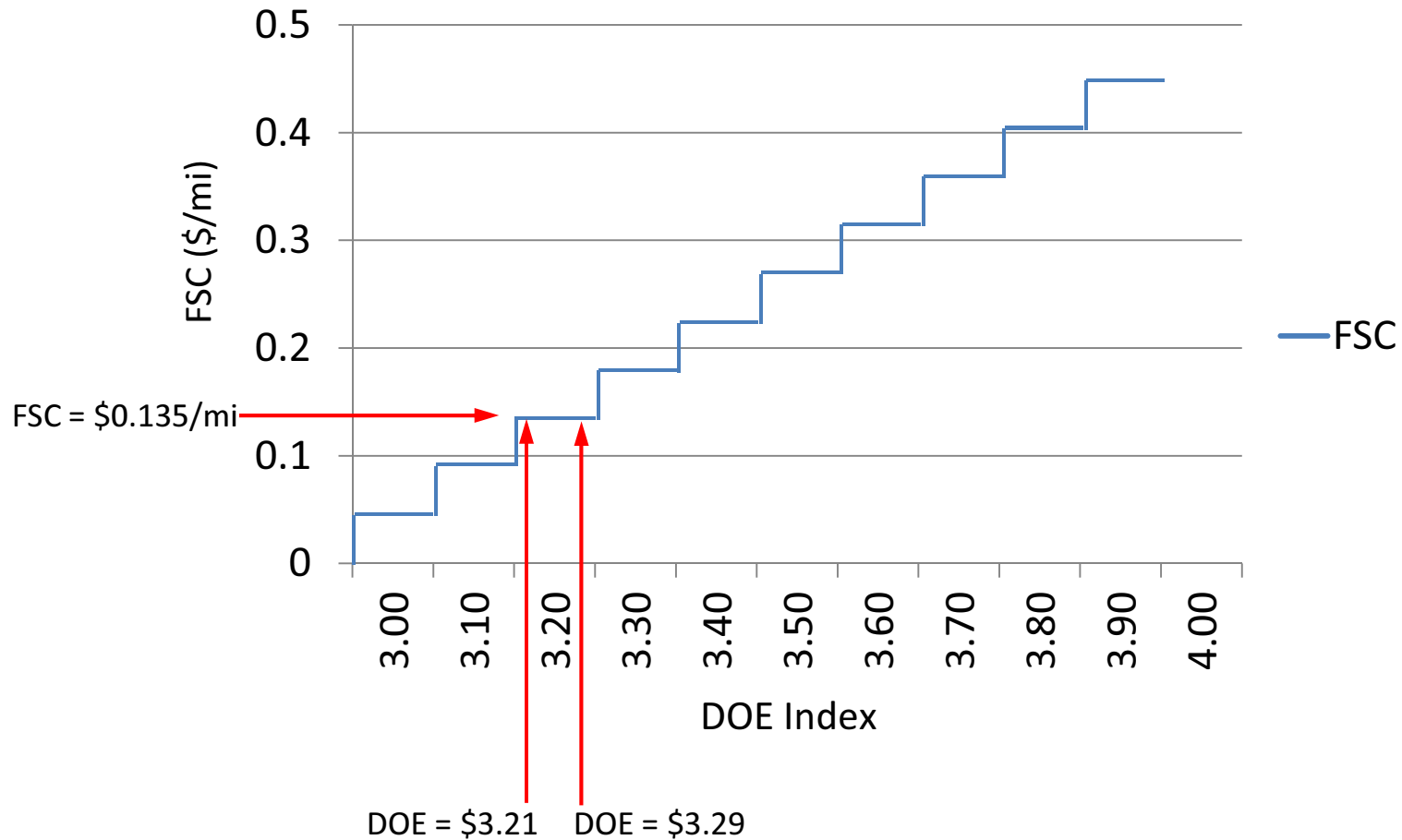
Percent Based

- Cost determined as a Percentage of Total Shipment Cost
- e.g. For every \$0.10 increase in Rate Factor, Fuel Surcharge increases by 0.5%
- Most common in the Rail industry, however...

Note: FSC calculation is a 'step' function and not a linear formula

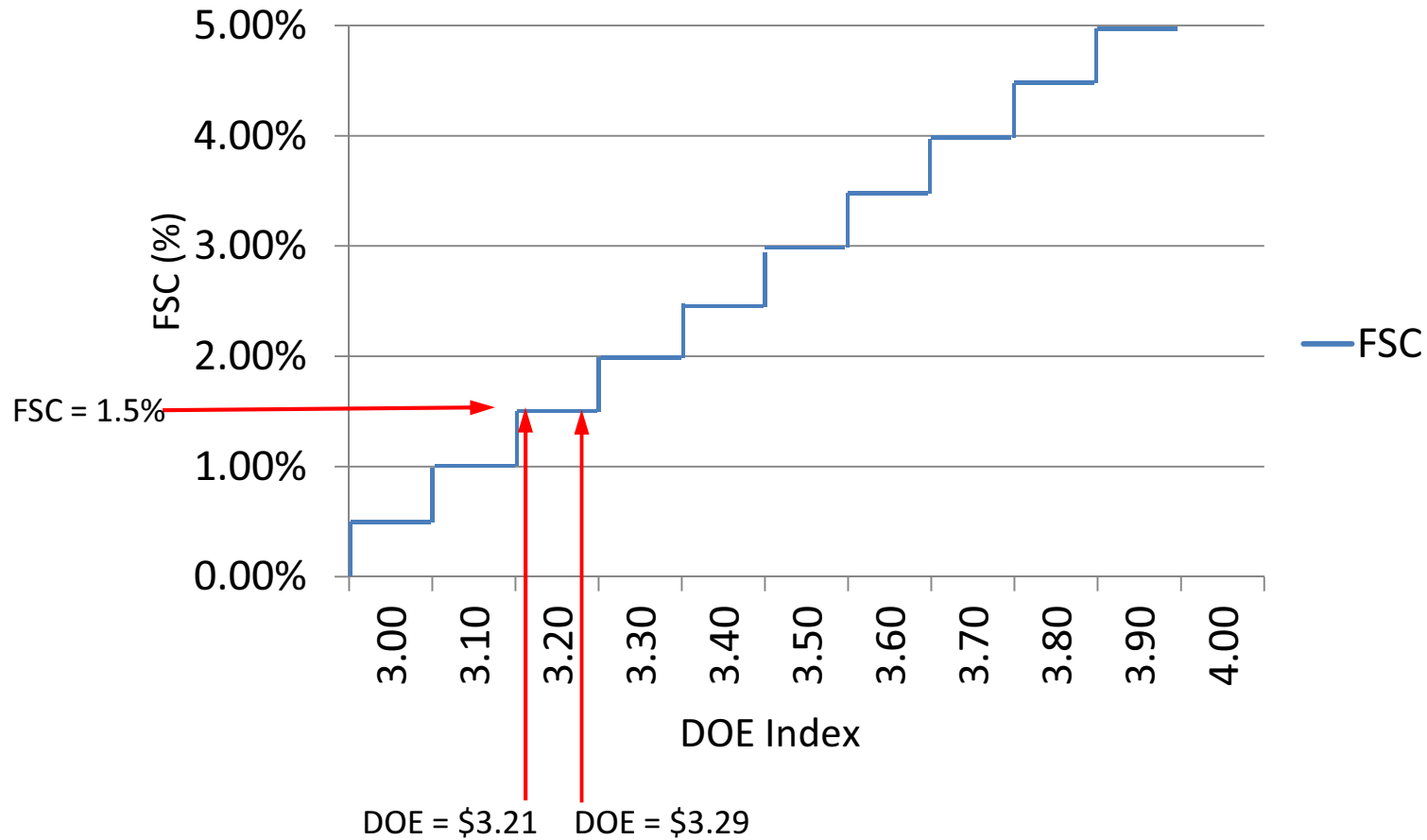
Unit Based

Unit based Fuel Surcharge



Percentage Based

Percentage based Fuel Surcharge



Most Common Fuel Setup

- All fuel costs are calculated in an Excel spreadsheet
- Fuel Accessorial costs are loaded manually (via CSV) each week/month
- New Accessorial Cost is associated to each Rate Offering every week/month
- Very time consuming and prone to simple calculation errors
- Very difficult to troubleshoot and correct errors

Rate Offering Result > Rate Offering

Rate Offering 1 of 1 [New](#) [Finished](#) [Actions](#)

[Rate Header](#) [Attributes](#) [Accessorials](#) [Special Services](#) [Involved Parties](#) [Con](#)

Offering ID Rate Service ID	Service Provider ID Version	
* Accessorial Code ID	* Accessorial Cost ID	Save
<input type="text"/>	<input type="text"/>	
FUE	20100323	
FUE	20100330	
FUE	20100406	
FUE	20100413	
FUE	20100420	
FUE	20100427	
FUE	20100504	
FUE	20100511	
FUE	20100515	
FUE	20100518	
FUE	20100525	
FUE	20100601	
FUE	20100608	
FUE	20100622	
FUE	20100629	
FUE	20100706	

[Top](#) [Special Services](#)

Why Use Rate Factors?

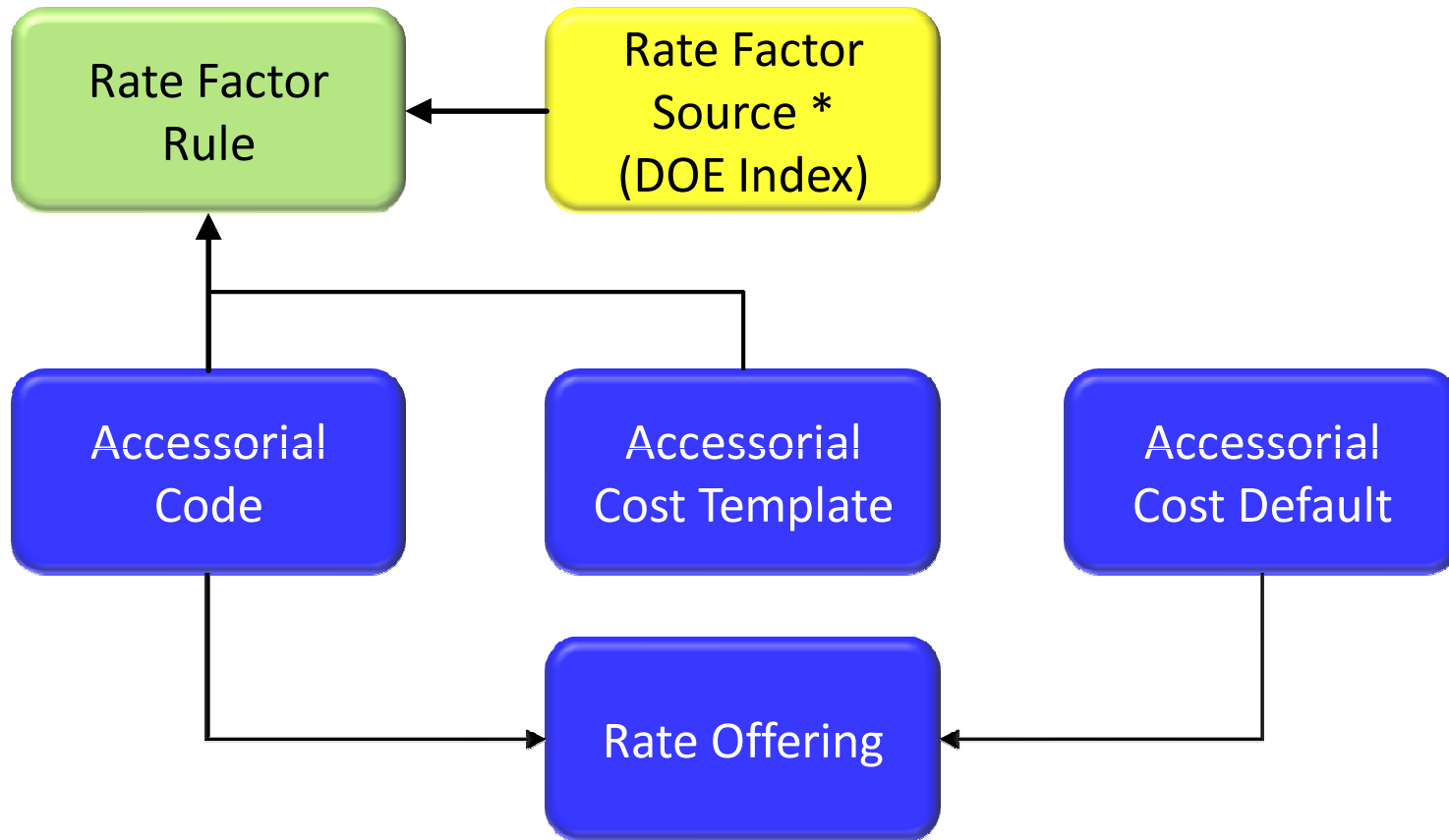
- 'Almost' completely automated
- Weekly/Monthly excel calculations and loading large CSVs becomes a thing of the past, save time, effort (read frustration!!!) and money
- Minimize chances of errors
- Compels Users and Carriers to move to a few 'Standard' Fuel Surcharges
- Helps with system and UI performance by minimizing Accessorial Costs associated with Rate Offerings
- Easier to maintain historical FSC data within the application

OTM Configuration

Data Inputs needed before Configuration

- From the Carrier contracts, determine:
 - Type of Fuel Surcharge (Unit or Percentage)
 - Fuel Index used by each Carrier (DOE, HDF, WTI etc)
 - Index trailing usage
 - Periodicity per Carrier (Weekly, Monthly)
 - Increase/Decrease of FSC based on Index change (size of the 'step')
 - Any complexities or variations from the standard setup

Fuel Surcharge Configuration



* Can be used with multiple Fuel Surcharges

The 'Brains' of FSC Setup – Accessorial Cost Template

- The Accessorial Cost Template is the 'formula' used by OTM to setup the Accessorial Cost
- Unit Based: \$1/Mile of Distance Traveled
- Percentage Based: 1 % of Shipment Cost

[Accessorial Costs Finder](#) > Accessorial Cost

Accessorial Cost

CHARGE 1.0000 USD PER 1 MI OF SHIPMENT.DISTANCE

Accessorial Cost ID	Calendar ID
FSC_TL_TEMPLATE	
Use Defaults	Filed as Tariff
△	△
Cost Category ID	

[Accessorial Costs Result](#) > Accessorial Cost

Accessorial Cost

1.0% OF SHIPMENT.COSTS.AMOUNT

Accessorial Cost ID	Calendar ID
FSC_PER_TEMPLATE	
Use Defaults	Filed as Tariff
△	△
Cost Category ID	

And The 'Heart' of FSC Setup – Rate Factor Rule

- Unit Based Rate Factor Rule
- For every \$ 0.10 (Factor Increase) the Fuel Surcharge increases by \$ 0.045 (Cost Increase)

Rate Factor Rule 1 of 1

* Rate Factor Rule ID FSC_TL	Description UNIT BASED FSC	* Source Rate Factor ID DOE_NATL_AVG	* Accessorial Code ID FSC_TL	* Accessorial Cost ID FSC_TL_TEMPLATE
* Sequence Number []	* Rate Record Type []	Rate Offering ID []	Rate Record ID []	<input type="button" value="Save"/>
1 Accessorial Default				
Effective Date 2013-01-01	Expiration Date 2020-12-31	Factor Increase 0.1	Cost Increase 0.045	<input type="button" value="Save"/>
<input type="button" value="New Rate Factor"/>				

Rate Factor Rule

Effective Date 2013-01-01	* Source Effective Date Factor Effective	Offset Effective Date []	Fixed Eff. Day of Month []
* Expiration Date 2020-12-31	* Source Expiration Date Factor Expiration	Offset Expiration Date []	Fixed Exp. Day of Month []
* Cost Type Lookup	* Apply To Per Unit	Factor Increase 0.10000	Cost Increase 0.04500
* Maximum Factor Value []	* Cost Value []	<input type="button" value="Save"/>	
3.00000		0.00000	

Similarly...

- Percentage Based Rate Factor Rule
- For every \$ 0.10 (Factor Increase) the Fuel Surcharge increases by 0.5% (Cost Increase)

Rate Factor Rule 1 of 1 [New](#) [Finished](#)

* Rate Factor Rule ID FSC_PER	Description PERCENT BASED FSC	* Source Rate Factor ID DOE_NATL_AVG	* Accessorial Code ID FSC_TL_PER	* Accessorial Cost ID FSC_PER_TEMPLATE
* Sequence Number 1	* Rate Record Type Accessorial Default	Rate Offering ID	Rate Record ID	Save
Effective Date 2013-01-01	Expiration Date 2020-12-31	Factor Increase 0.1	Cost Increase 0.5	New Rate Factor

Rate Factor Rule

* Effective Date 2013-01-01	* Source Effective Date Factor Effective	Offset Effective Date	Fixed Eff. Day of Month
* Expiration Date 2020-12-31	* Source Expiration Date Factor Expiration	Offset Expiration Date	Fixed Exp. Day of Month
* Cost Type Lookup	* Apply To Percentage	Factor Increase 0.10000	Cost Increase 0.50000
* Maximum Factor Value 3.00000	* Cost Value 0.00000	Save	

[Top](#) [Save](#) [Cancel](#)





FSC Maintenance

(“What should I do each week??”)

Add Weekly Index

- Contract and Rate Management > Power Data > General > Rate Factor
- Click “New Rate Factor”
- Enter Effective and Expiration Dates and the Factor Value and click Save



Rate Factor Source 1 of 1 [New](#) [Finished](#) [Actions](#)

* Source Rate Factor ID		Description				
DOE_NATL_AVG		DOE NATIONAL AVEF				
Effective Date	Expiration Date	Factor Type	Factor Value	Run Group ID	Processed	
2013-07-17	2013-07-23		3.1		<input checked="" type="checkbox"/>	 
2013-07-24	2013-07-30		3.2		<input checked="" type="checkbox"/>	 

[New Rate Factor](#)

Rate Factor Source Result > Rate Factor Source

Rate Factor Source

* Effective Date	Expiration Date	Factor Type	* Factor Value	Run Group ID	Processed
2013-07-17 	2013-07-23 	<input type="text"/>	<input type="text" value="3.10"/>	<input type="text"/>	<input type="checkbox"/>

[Top](#) [Save](#) [Cancel](#)

Notes:

- It is important to not overlap dates among multiple Rate Factors
- Do not check the “Processed” button

Process Rate Factor Source

- Search for Rate Factor Source
- Run the “Process Rate Factor” action

Rate Factor Source		Total Found: 1	New	View	Edit	Delete	Actions	
Pages 1	Selected Page: 1	Total: 1						
<input checked="" type="checkbox"/>	ID	Rate Factor Source	Actions					
<input checked="" type="checkbox"/>	JAI.DOE NATL_AVG	DOE_NATL_AVG	Process Rate Factor	Process Rate Factor Rule	Process Unprocessed Rate Factors			

Results

Confirmation
Successfully Processed Rate Factor

Rate Inquiry – Unit Based

- RIQ from Chicago to Ann Arbor

SNI_RO

Service Provider SNI_TL	Rate Offering ID SNI_RO	Rate Record SNI_RO_1	Mode TL
Cost 272.50 USD	Weighted Cost 272.50 USD	Pickup Time 2013-07-20 17:48 America/Chicago	Delivery Time 2013-07-20 23:20 America/New_York
	Distance 250.00 MI	Equipment Group	Chargeable Weight 0.00 LB
Rate Offering Domain Profile		Rate Record Domain Profile	

The R...

http://24.196.236.247/GC3/glog.webserver.servlet.riq.RiqResult/1374356881648?costdetail=JAI.SNI - Windows Internet Explorer

http://24.196.236.247/GC3/glog.webserver.servlet.riq.RiqResult/1374356881648?costdetail=JAI.SNI_RO_1&position=1&isWeighted=false&is_new

Cost Detail

Cost Type	Cost	Accessorial Code	Special Service Code	Weighted	Cost Category ID	Details
Base Cost	250.00 USD			△		
UNIT BASED FSC (Accessorial)	22.50 USD	FSC_TL		△		
Total Cost	272.50 USD					

Rate G

Date Delive

Offerin

Rate Prefer

Estimate Tiered Rate Using Tie

INCO Term Loca

Rate Inquiry – Percentage Based

- RIQ from Chicago to Ann Arbor

Ask Oracle About Rates

Legend: Optimal Rate Meets Service Time Will not meet Service Time Preferred Rate

SNI_PER_RO

Service Provider	Rate Offering ID	Rate Record	Mode
SNI_TL	SNI_PER_RO	SNI_PER_1	TL
Cost	Weighted Cost	Pickup Time	Delivery Time
253.75 USD	253.75 USD	2013-07-27 23:11 America/Chicago	2013-07-28 04:43 America/New_York
	Distance	Equipment Group	Chargeable Weight
	250.00 MI		0.00 LB

http://24.196.236.247/GC3/glog.webservlet.rfq.RfqResult/1374376276459?costdetail=JAISNI - Windows Internet Explorer

http://24.196.236.247/GC3/glog.webservlet.rfq.RfqResult/1374376276459?costdetail=JAISNI_PER_1&position=1&isWeighted=true&is_new

Weighted Cost Detail

Cost Type	Cost	Accessorial Code	Special Service Code	Weighted	Cost Category ID	Details
Base Cost	250.00 USD					
PERCENT BASED FSC (Accessorial)	3.75 USD	FSC_TL_PER				
Total Cost	253.75 USD					

[Close](#)

Mode
TL

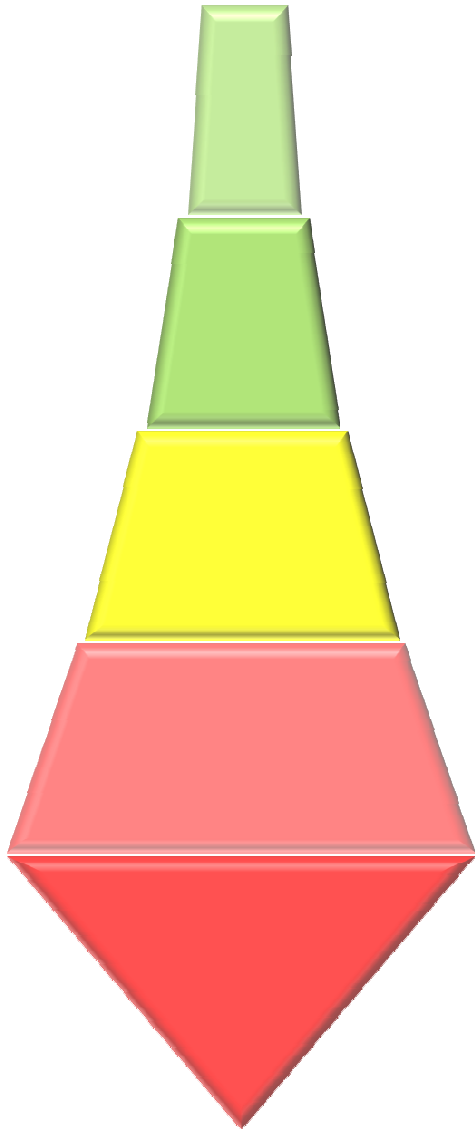
Delivery Time
2013-07-28 04:43 America/New_York

Chargeable Weight
0.00 LB

Watch Outs/Lessons Learned

- Hard to explain
- ...very easy to setup
- Do not leave the Expiration Dates blank
- Do not overlap dates
- Do not check the 'Processed' button when entering the Rate Factor Source

Advanced Use Cases



- Different FSC Indexes per Carrier
- Variations per Location
- Variations in the Accessorial Cost Template
 - Different Units
 - Different Cost Basis
 - Complex Conditional Basis

Questions?

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The logo for Consology Solutions, featuring a red rectangular bar with the text "Consology Solutions" in white. To the left of the bar is a grey square with a white corner cutout.

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