INDOT CES Designer Instructions

Contents

INDOT CES Designer Instructions

CES Project Setup Checklist:
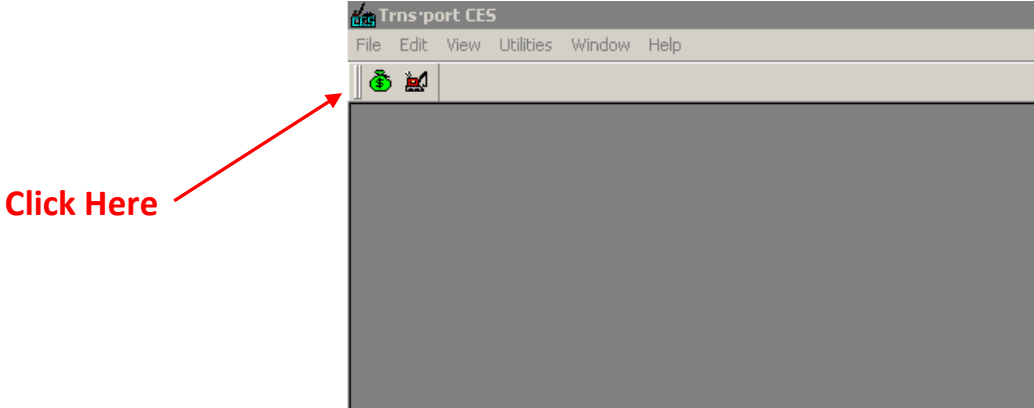
1) Ensure the *Spec Year* is set to 10.

2) Set the *Unit System* to ENGLISH.

3) Set the *Base Date* to the LETTING FINISH DATE from SPMS.

4) Set the *Work Type* to the HIGHEST level of summarization ("000" level) for the project type. (e.g. "A000" for a bridge project, "P000" for an intersection improvement, etc.)

5) Set the *Bid-Based Inflation* Radio Button to "USE MODEL" if the project is to be constructed within the current year or to USE JOB if the project is to be constructed in a future year.

6) Ensure that the *Inflation Percent* and the *Years Until Work* entries are correct. These values were imported from SPMS when the CES job record was created and may be obsolete.

7) Set the *Season* to the time of year when the job is to be CONSTRUCTED (Winter, Spring, Summer, or Fall).

8) Set the *Locations* to the COUNTY and DISTRICT where the job is located.

9) Choose the default *Item Bid History Library* that is appropriate for the Contract Type (B, M, R, RS, T).

10) Make sure you enter the *Latitude* and *Longitude* of the project midpoint on page 2 of the General tab.

11) If you have any problems or issues using CES, send an email to cessupport@indot.in.gov.

INDOT CES Designer Instructions

BASIC INSTRUCTIONS FOR USING CES

Setting up the Project Estimate

To get started click on the green money bag in the top left corner.

Click Here →

Find the project in the list and click once to select.

To correct the **Spec Yea**r (if necessary), choose **Edit**, then **Change Spec Year**. The **Spec Year should always be "10"**

INDOT CES Designer Instructions

Once the **Spec Year** is correct, double click on the Job Number to open the job file. Make sure the correct **Unit System** is selected and check the **Classification** and **Location** fields on **page 1** for accuracy. The **Work Type** should be set to the highest level of summarization (000 level). The Job Type should be set to the detailed work type for the project.

Set the **Inflation %** to the annual percentage inflation rate desired, and the **Years Until Work** to the number of years between the current date and the beginning of construction. The **Base Date** should be set to the date for which you want CES to produce pricing, which should be the *Letting Date* under normal circumstances.

INDOT CES Designer Instructions

Under **Bid Histories**, first click on the Arrow to the right of the **Cost Grp Hist** (Cost Group History) field and select the STANDARD cost group bid History from in the popup window and click **OK**

Note: This step is only necessary if you plan on using the Parametric Estimating Features

Cost Group Bid History Libr...

Library Name	Description
PCCP-93R	PORTLAND CEMENT CONCRETE PAVEMENT 3RI
PCT_OF	PRECENT OF
RESURF1	RESURFACE WORK
RESURFE	RESURFACE JOBS ENGLISH
RESURFM	RESURFACE METRIC
RSCONTRACTS	RS CONTRACTS FOR THE LAST TWO YEARS 200
STANDARD	STANDARD LIBRARY
TEST	TEST LIbrary for DSS import

OK   Filter   Sort   Cancel   Help
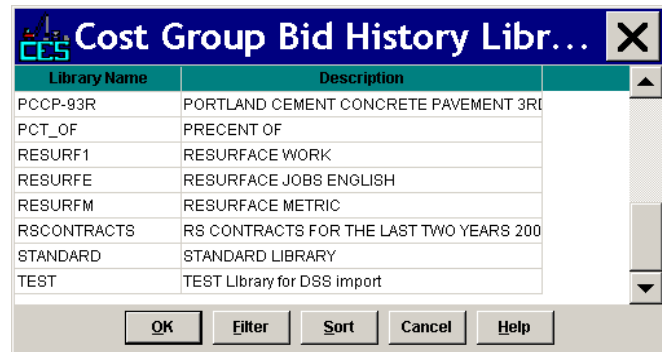
Next click on the arrow to the right of the **Item History** field.

Select the appropriate **Item Bid History Library** and click **OK.** Use ALL CONTRACTS – 3 YEARS bid history library unless you have reason to believe that that there are special conditions which warrant the use of the one year, two year, or contract type-specific Bid History Libraries

Item Bid History Libraries

Library	Description
ALL CONT - ONE YEAR	Updated 7/1/2010 Calculates prices based on all Contracts
ALL CONT - THREE YR	Updated 7/1/2010 Calculates prices based on all Contracts
ALL CONT - TWO YEAR	Updated 7/1/2010 Calculates prices based on all Contracts
LIBRARY - B ONLY	BID HISTORY FROM BRIDGE (B) CONTRACTS UPDATED 7
LIBRARY - M ONLY	BID HISTORY FROM MAINTENANCE (M) CONTRACTS UPD/
LIBRARY - R ONLY	BID HISTORY FROM ROAD (R) CONTRACTS UPDATED 7/1/
LIBRARY - RS ONLY	BID HISTORY FROM RESURFACING (RS) CONTRACTS UP
LIBRARY - T ONLY	BID HISTORY FROM TRAFFIC (T) CONTRACTS UPDATED 7

OK   Filter   Sort   Cancel   Help

Set the Bid-based **Inflation** radio buttons to either **Use Model** or **Use Job**. If you choose **Use Model** inflation will be calculated and applied to bid-based prices only based on the **Base Date** for the job. If you choose **Use Job** an inflation adjustment will be applied to the entire Job by inflating the total cost by the inflation rate specified by the Inflation % for the number of year specified in the Years Until Work.
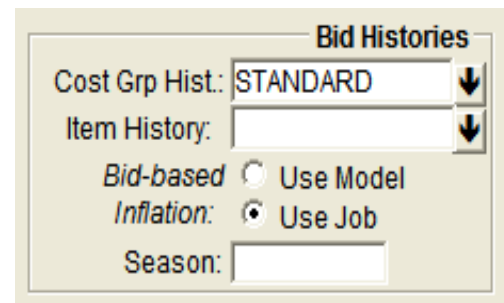
Bid Histories

Cost Grp Hist.: STANDARD
Item History:
Bid-based Inflation: ○ Use Model ● Use Job
Season:

INDOT CES Designer Instructions

The last things you need to do on page 1 are to set the anticipated construction season from the pull down menu next to **Season** and enter the project metrics**: Pavement Depth, Length, Width,** and **Lane Miles/Kilometers**.

This information should be entered on page one of the **General** tab in the block at the bottom left titled **Metrics**. English units should be used for english projects, metric units should be used for metric projects. All entries should be rounded to two decimal places as appropriate.

  a.   The **Project Length** is the overall length of pavement, entered in miles (kilometers).

  b.   The **Pavement Width** is the total width of new mainline pavement, excluding paved shoulders, entered in feet (meters)

  c.   The **Pavement Depth** is the average depth of new mainline pavement, excluding paved shoulders, entered in inches (millimeters).

  d.   **Lane Miles** (kilometers) is the project centerline length times the number of through travel lanes entered in miles (kilometers).

Next select the radio button for **page 2**. On page 2 enter the **Latitude** and **Longitude** in degrees, minutes, seconds without symbols or other punctuation. The **String 2** field is for the person checking the estimate and the **Date 2** field is for the date the estimate was checked. **Date 1** is reserved for the letting date and **Date 3** is reserved for the RFC date. Page 2 is also where you can set or reset the **Control Group.**

INDOT CES Designer Instructions
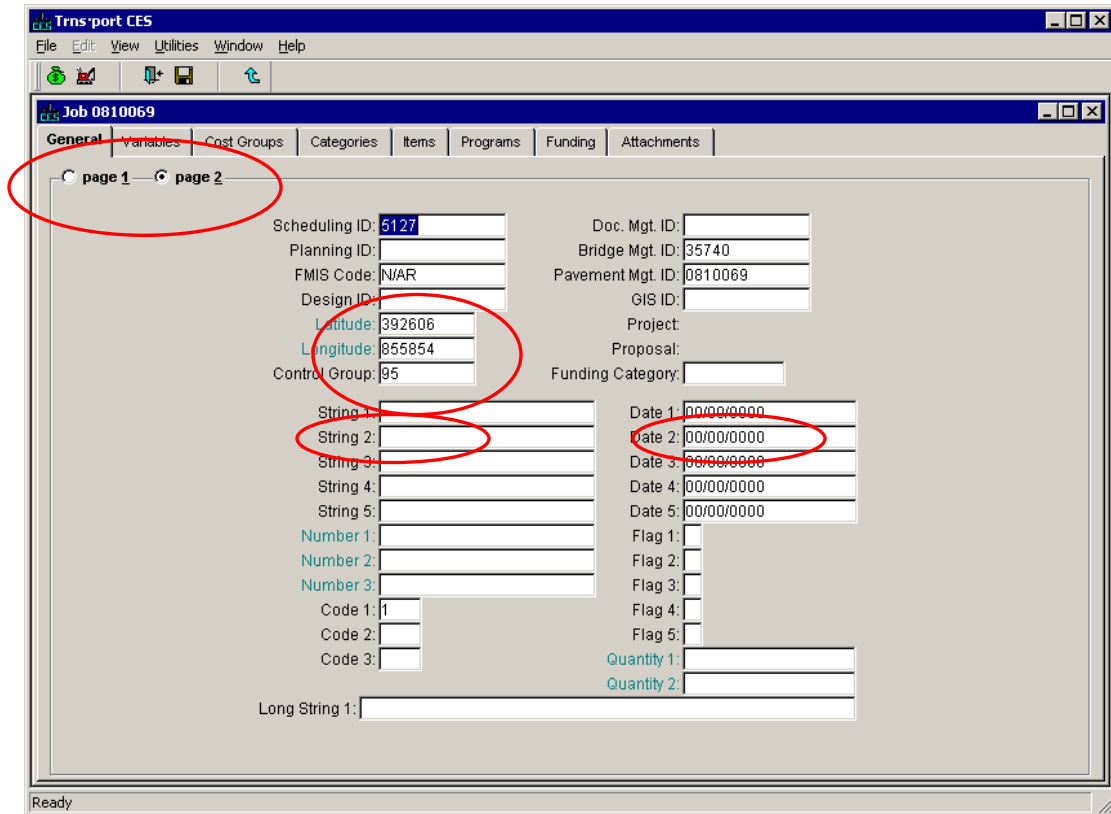
Deactivating Cost Groups

Next, click the **Cost Groups** tab. Cost Groups are only used for Parametric Estimating. Make sure all the boxes under **Active?**, are unchecked. If the box is checked, simply click on the check to remove it. The total amount of any item checked on this tab will be added to your estimate.
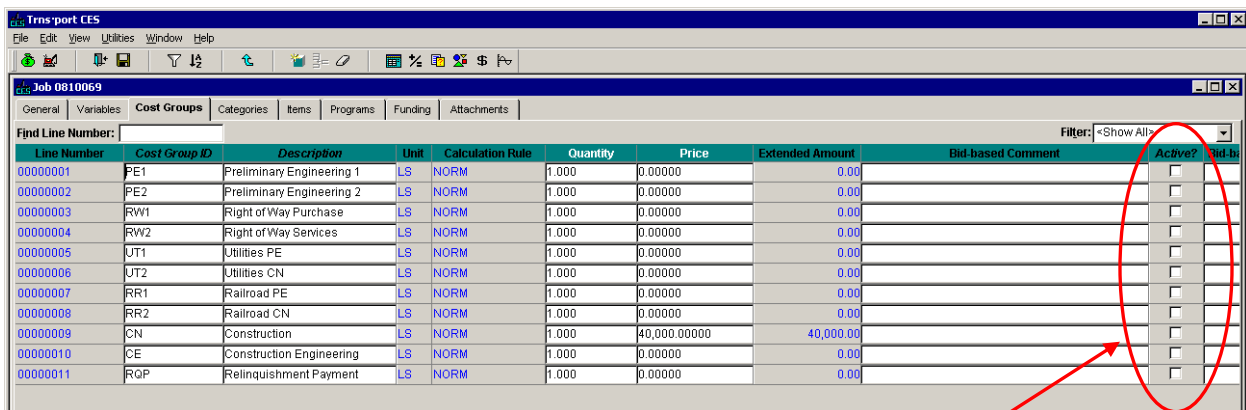
Click Here

Entering & Updating Project Categories

Next, click the **Categories** tab. The category **Description** should match the project work category in SPMS. Each job should have one category unless you are specifically instructed otherwise. The category tab is where you enter Bridge Information. You must enter the **Bridge ID**, **Bridge Length**, **Bridge Width**, **Number of Spans**, and **Bridge Type** for each Bridge in the project.

INDOT CES Designer Instructions
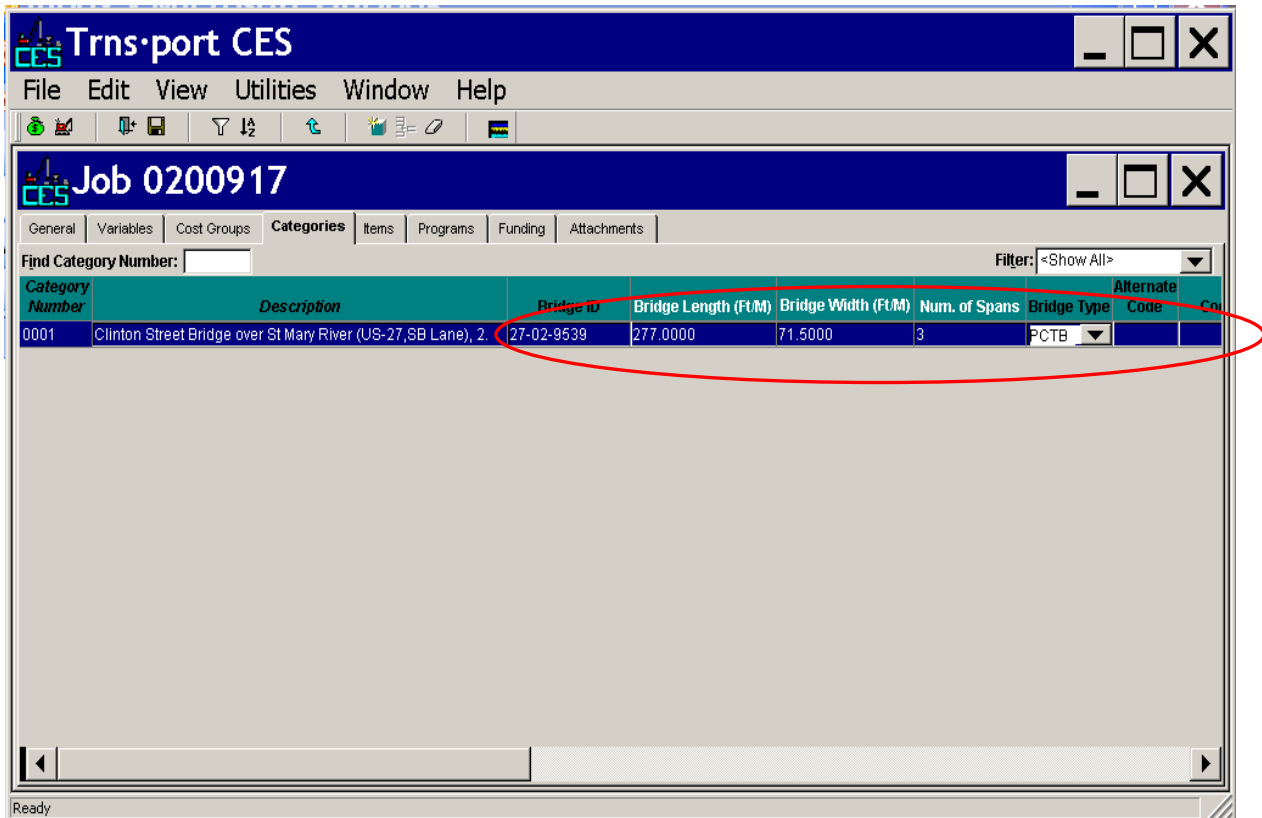
Note: You will be required to enter additional categories if your estimate includes alternate bridge or pavement designs. See the Alternate Bidding Section for details.

Entering Estimate Items

Next, click on the **Items** tab and then click on the folder tree icon for the "tree view" interface.

Click Here
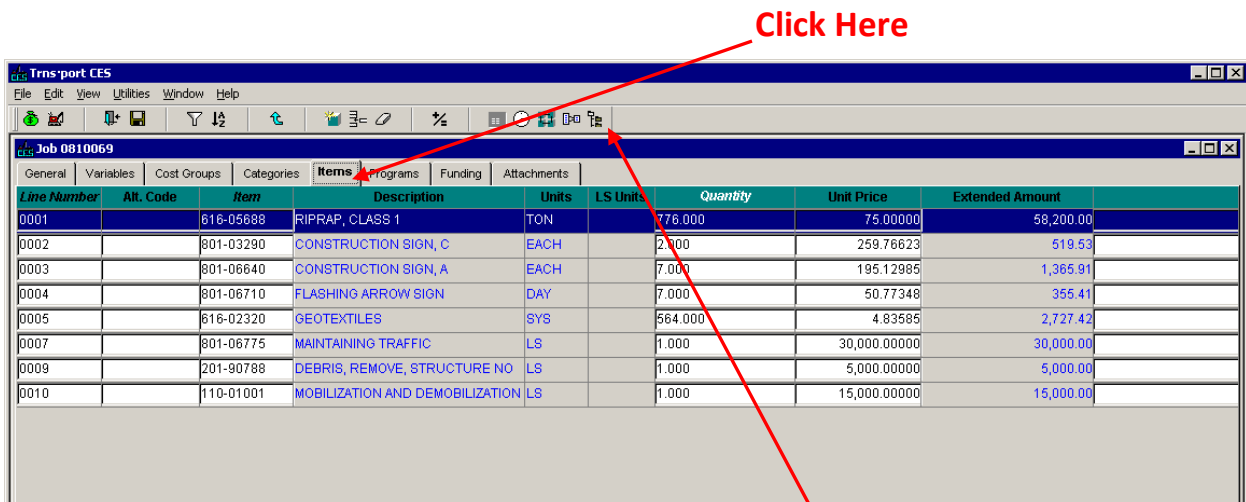
cessupport@indot.in.gov

INDOT CES Designer Instructions

"Tree View" Icon

To begin adding items to the estimate, right click on **Items for Job** and select **Add Item**.

Right Click Here
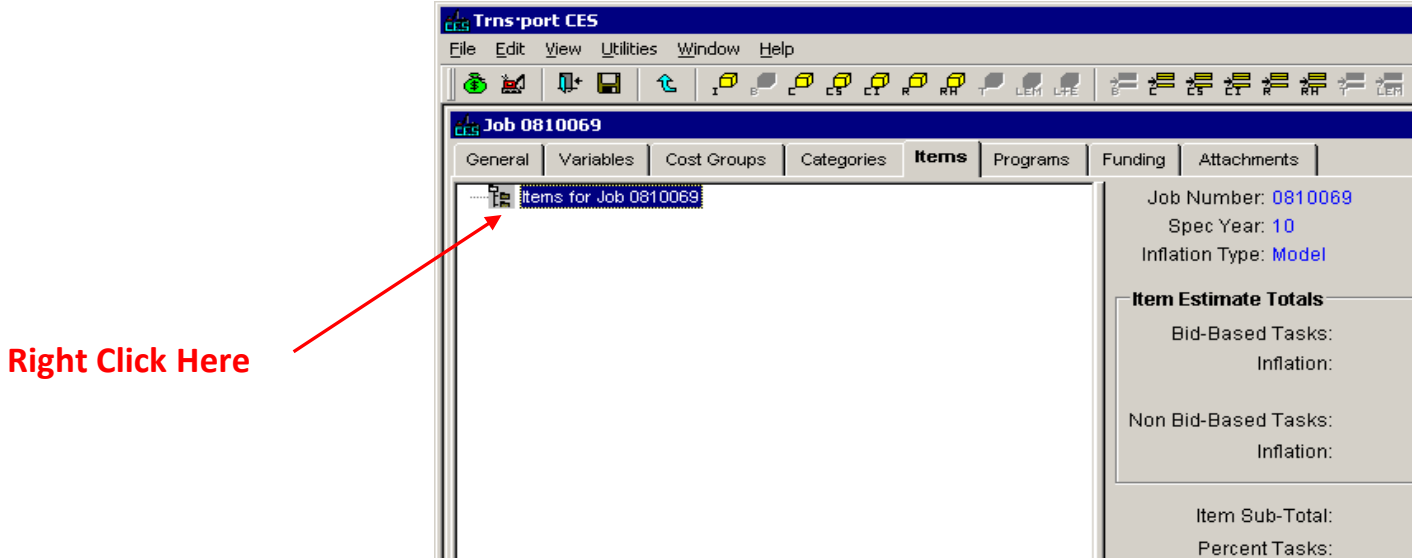
*Note: The **Items for Job** (root) level of the tree summarizes all of the item level price and inflation calculations*

INDOT CES Designer Instructions

To select an item, click on the arrow next to the **Item** field.

Click Here
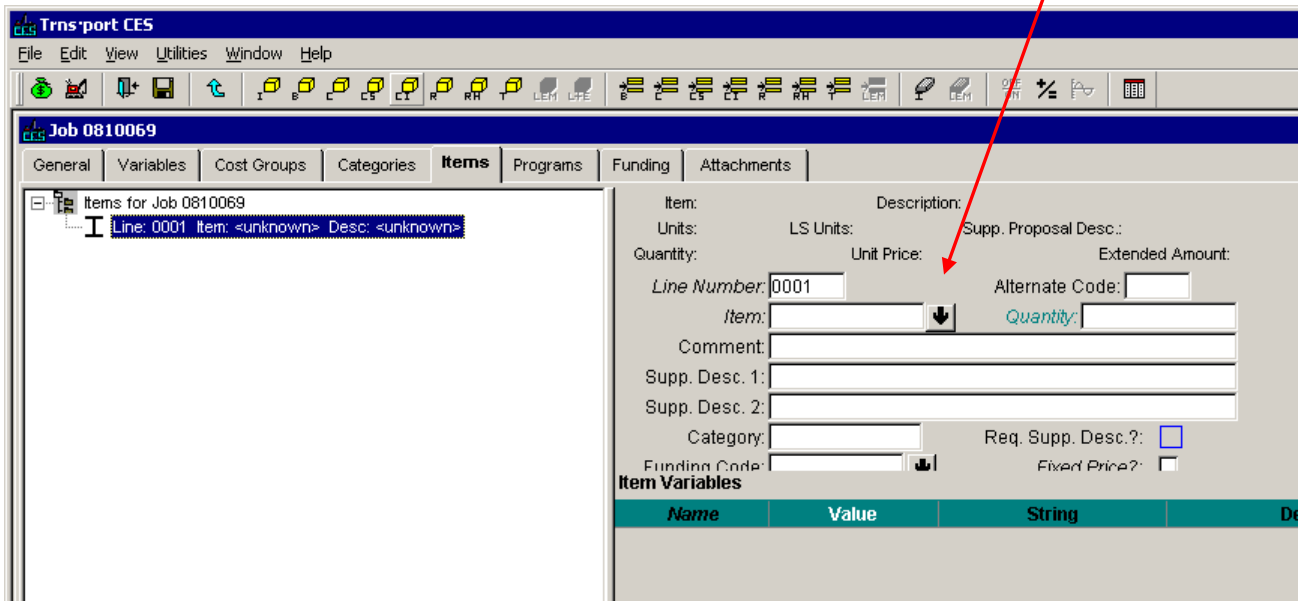
The item list window will pop up with all the pay items. Click the **Filter** button to search for a specific item.

Click Here

9
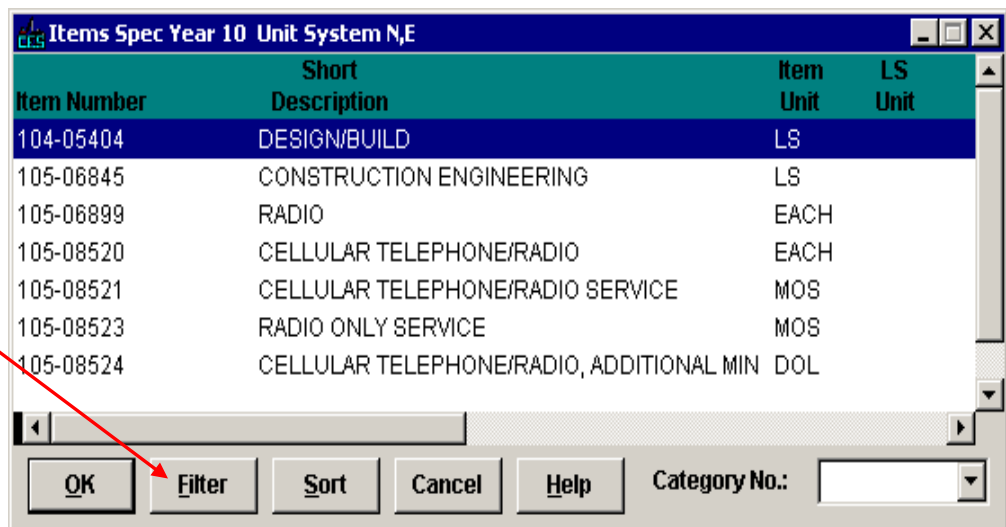
INDOT CES Designer Instructions

To search for an item by description, select **Short Description** in the **Column** pull down menu, select **Contains** in the **Operator** pull down menu and type part of the item name in the **Value** box in <u>**ALL CAPS**</u>. Then click OK. This will narrow the selection within the item list window
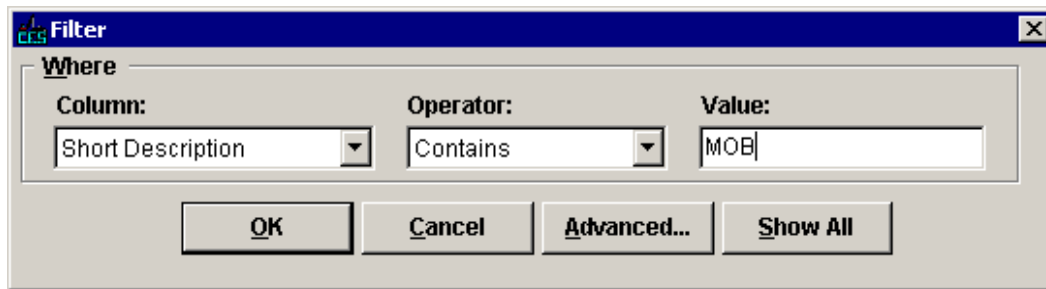
. To select an item, double click on the item or single click and select OK. The items details will now show up in the **Item**, **Description**, and **Units** fields.
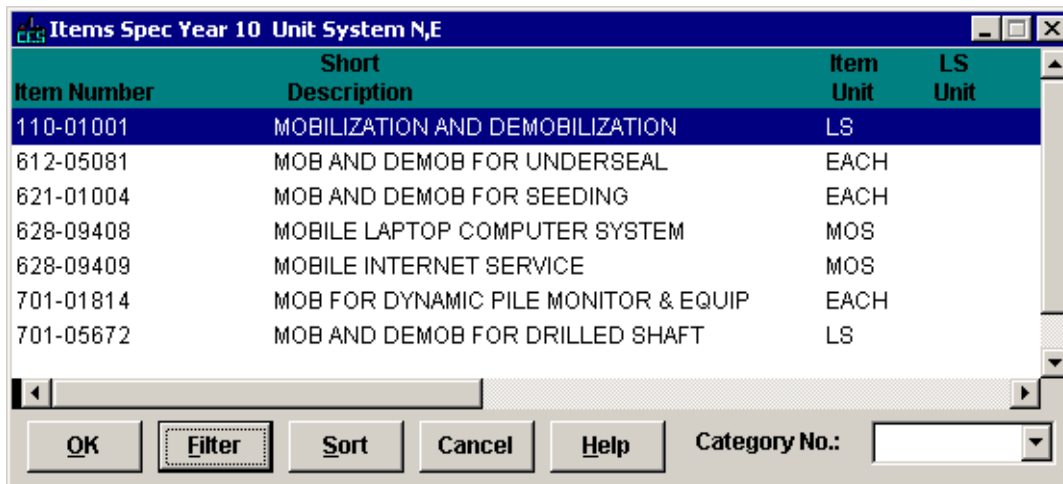
Next enter the **Quantity** in the given box.   Once you enter a quantity CES will automatically generate a price based on the default Task for that item and the Item History Library selected on the General Tab.

Entering Estimate Item Prices

Prices in CES are entered using *Tasks.* There are three basic types of tasks: Bid-based tasks, Cost-based tasks, and Reference price tasks.

Bid-based tasks use pricing models generated from historical bid data and stored in the Item History Library. Bid-based pricing models may be based on a regression model or an average.

Cost-based tasks build prices from cost sheets containing the material, equipment, and labor costs associated with constructing that item.

Reference price tasks allow you to enter an ad-hoc price for each item. There are three types of reference prices:

INDOT CES Designer Instructions

- *Historical* Reference prices use the price from the historical price field of the Item List
- *New Normal (Ad Hoc)* reference prices allow you to enter a dollar price for the item.
- *New Percent On Top* reference prices add the specified percentage of the item estimate to the total estimate.

Enter Item Quantity Here
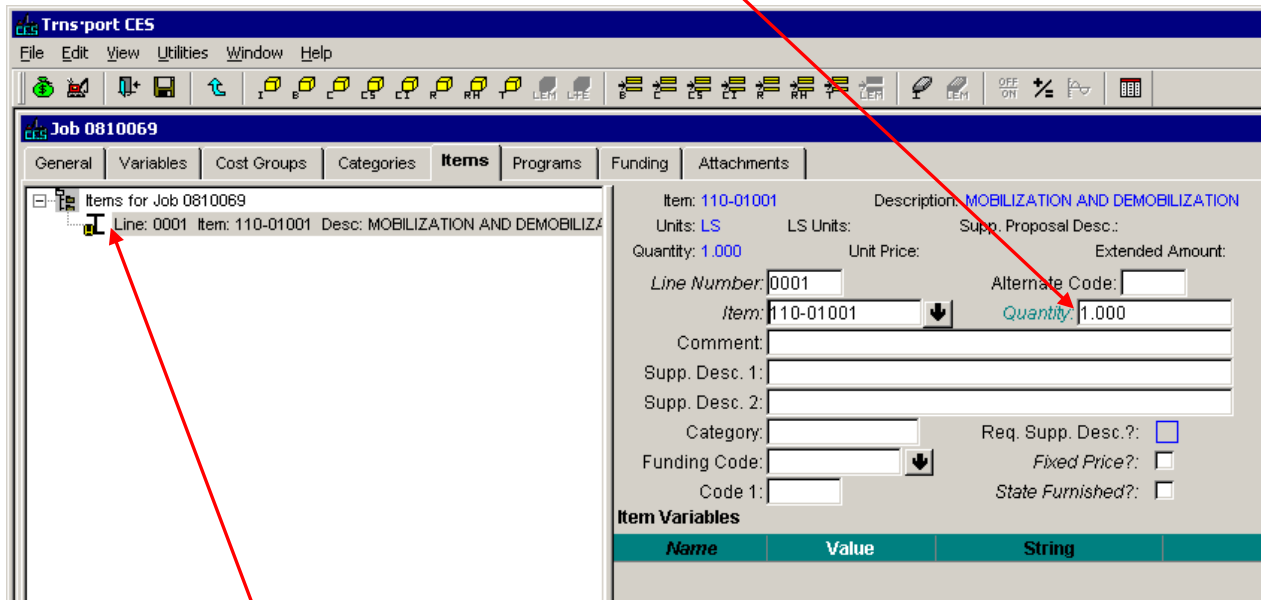
Right Click Here to Enter Tasks

To enter a *Reference Price* task right click on the item in the box on the left, select **Add**, select **Reference Price** and then select **New Price**. Enter the estimated cost in the **Price** field and hit Enter

Enter Estimated Cost Here
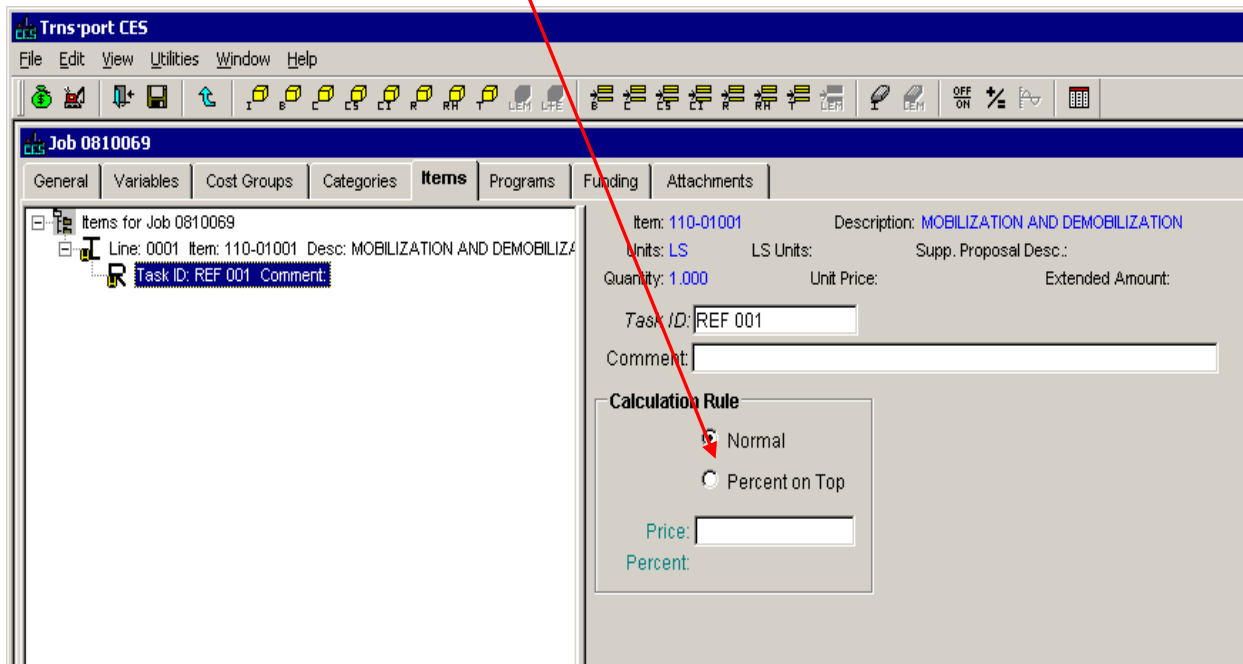
INDOT CES Designer Instructions

If you choose to enter a historical price CES will automatically enter the weighted average unit price from the pay item list. You may also choose to have CES calculate the price as a "Percent On Top" of the overall estimated cost. If you select "Percent on Top" CES will automatically set the price of the item to the designated percentage of the overall estimated cost.

The cost information will now show up in the **Unit Price** and **Extended Amount** fields.

If you wish to enter a *Bid-based* price generated by one of the CES pricing model right click on the item, select **Add** and then select **Bid-based Price**. CES will automatically select the model that most closely matches the project header information you entered on the **General** tab.

In most cases the **Unit Price** and **Extended Amount** will automatically propagate based on the values from the selected Price Histories and Libraries on the General tab. (Make sure a **Quantity** has been entered before adding a Bid-based Price.)
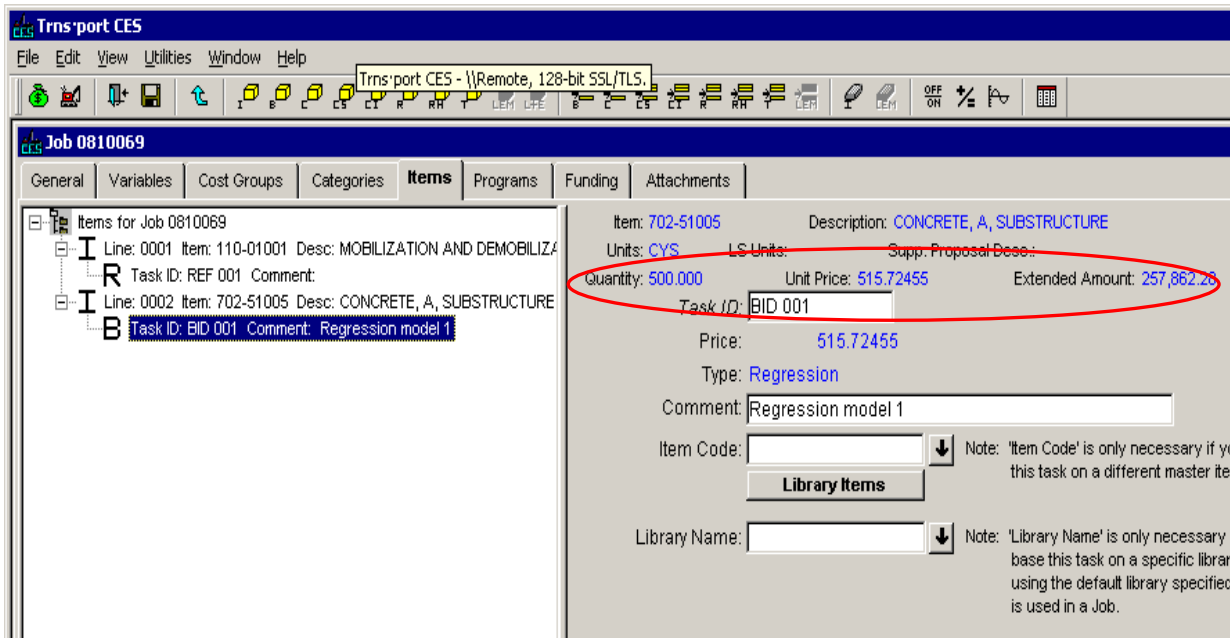
INDOT CES Designer Instructions

If the **Unit Price** does not automatically populate the current library does not contain a pricing model for your item. In those cases you can either use a price from a similar item in the current library or look for a price for that item in another library. To look for a price in the current library use the **Library Items** button to select a similar item from the currently selected Bid History Library. The **Unit Price** for the selected item will then be used for your item.
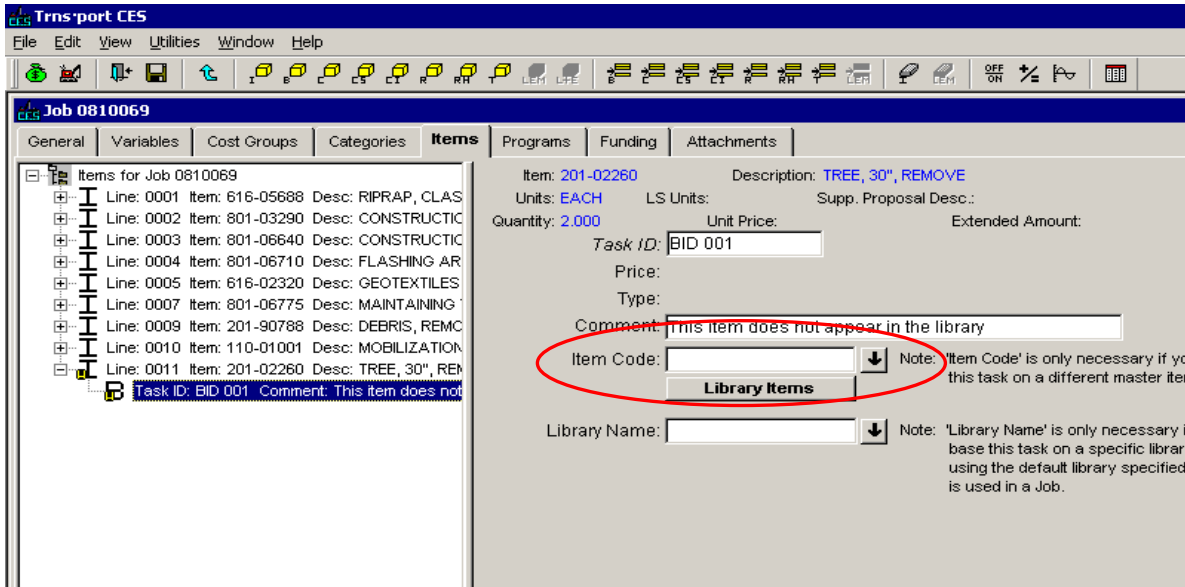
You can also use the **Library Name** field to look up prices in a different Library other than the default library selected on the General Tab
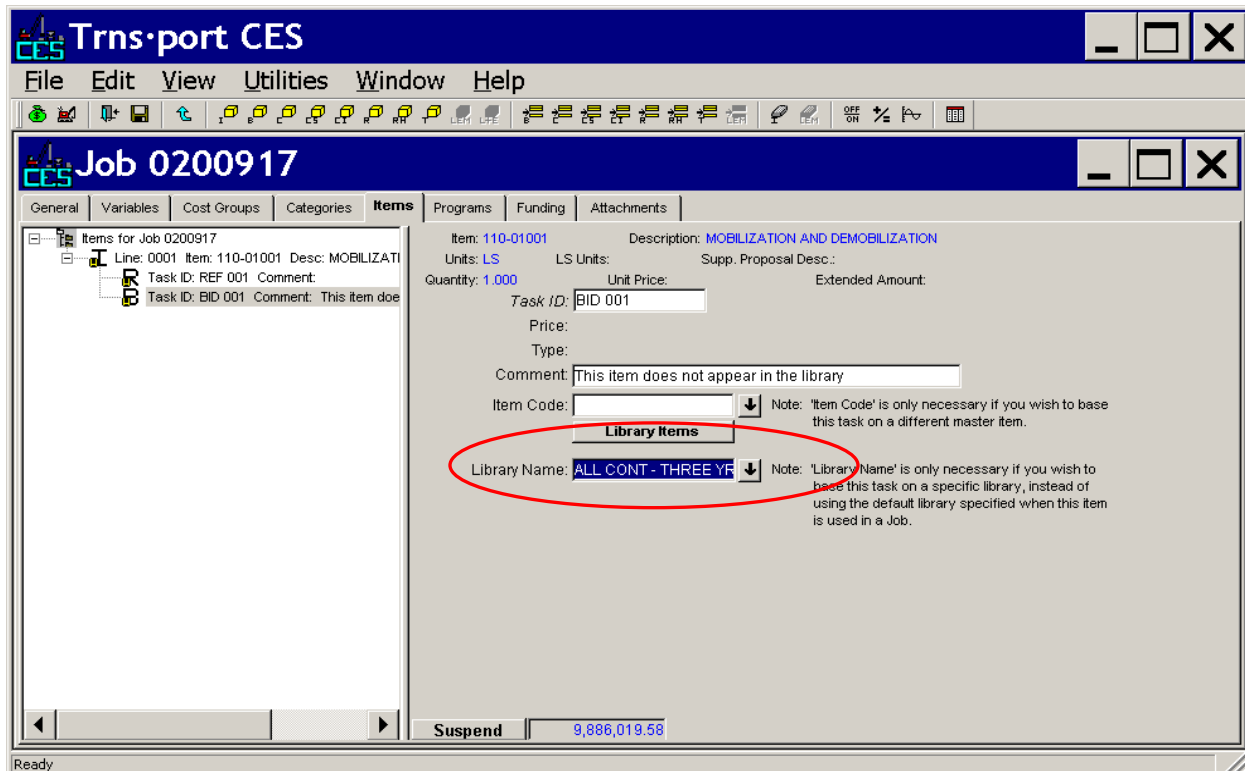
INDOT CES Designer Instructions

If a similar item cannot be found, or the item cannot be found in another Library, right click on the **Task ID** for the bid based price and delete the entry. Then follow the steps for creating a **Reference Price** for the item and enter a price estimated from other resources.

Right Click Here
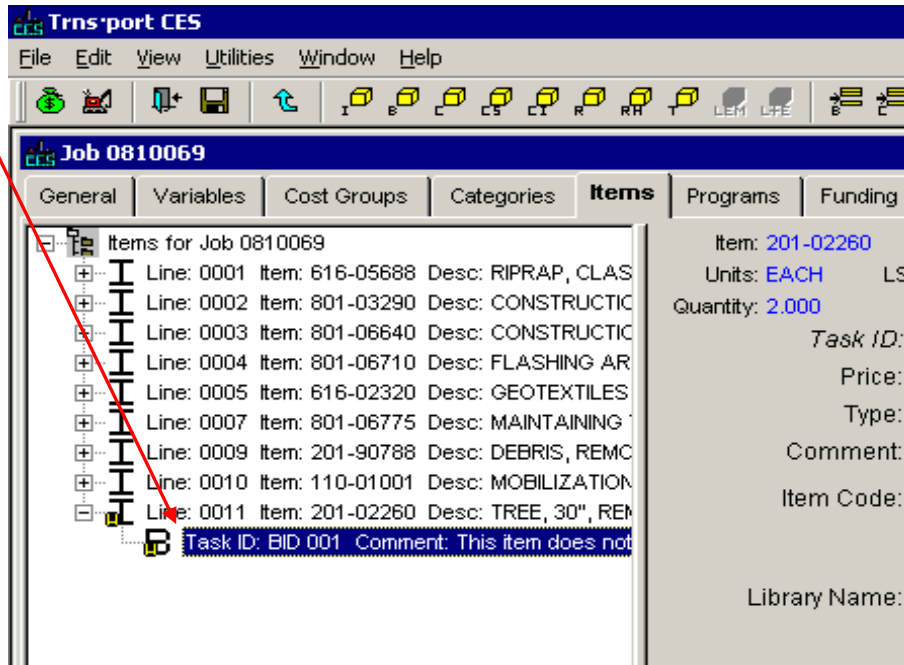
Continue entering Items and Prices until the estimate is complete. Next, click the **Save** disk and then **Close** the job by clicking the "X" in the upper right hand corner of the Job specific window.

Click Here to SAVE   **Click Here to Close Job**
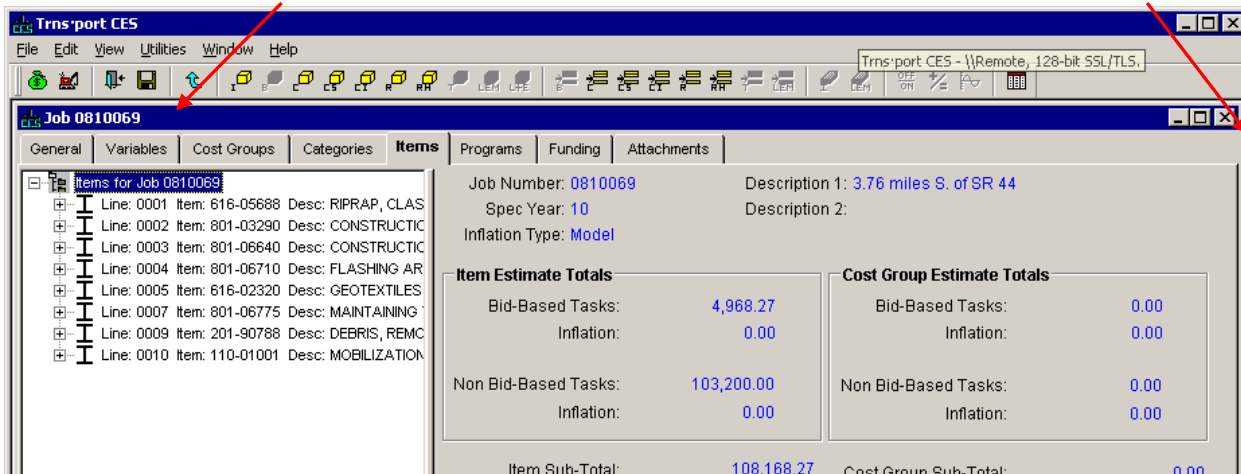
INDOT CES Designer Instructions

Marking Non-participating items

It is not normally necessary to mark the funding source for each item on your estimate. However, there may be circumstances where specific items on your estimate will not be eligible to participate in federal funding. You must enter a funding code for these items. The funding code used to mark "non-participating" items is "01Z", which is why these are commonly referred to as "Z items".

Enter the Funding Code Here
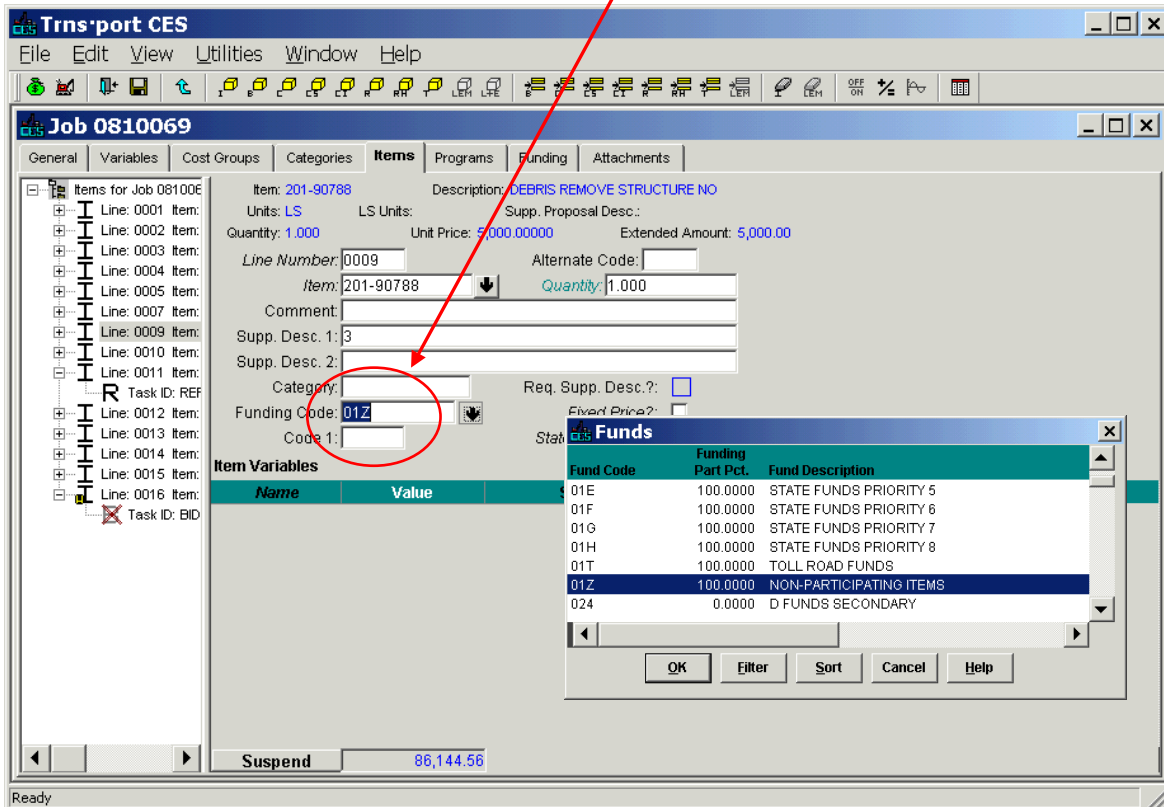
Enter funding code 01Z in the "Funding Code" field for each non-participating item. Clicking the arrow button next to the field will produce a list of available funding sources. However, it is not normally necessary to enter specific funding codes unless specifically instructed to do so by the project manager.

Note: Funding codes may be entered in either the tree view or the grid view.
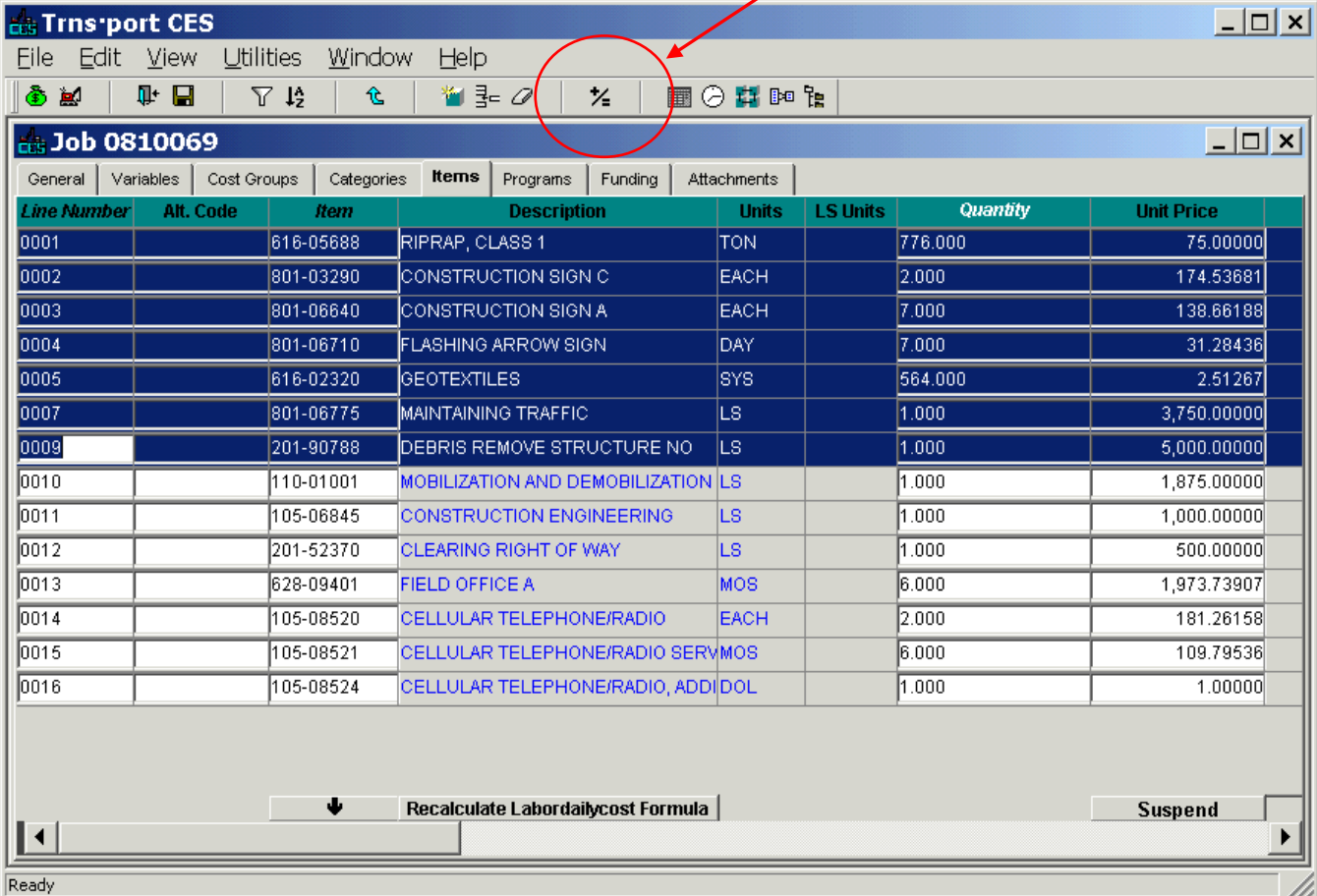
INDOT CES Designer Instructions

Recalculating Item prices

CES does not automatically recalculate all of the costs associated with all items on a job each time a change is made. Changing an item price or quantity will only cause CES to recalculate the costs associated with that specific item as well as the associated totals and subtotals.. However, there may be instances when you may wish to recalculate your estimate in order to ensure that all of the items on your estimate have the most current pricing.

To recalculate item prices, select the item(s) you wish to recalculate and select **Recalculate Values** from the edit menu or click the recalculate button on the tool bar. To select multiple adjacent items select the first item and then hold down the SHIFT key as you select the last item. You may also select multiple items by holding down the CTRL key while selecting the rows or use the standard Windows CTRL-A shortcut to select all items. All of the selected rows will be highlighted.

Recalculate Button

Note: You can only recalculate one item at a time in the tree view.

INDOT CES Designer Instructions

Generating Reports

To run a report, right click on the des number in the main Jobs window, select **Run Process,** select the report you wish to run and then select **OK.** Next select **Submit** on the **Confirm Process Submission** dialog. CES will return **DPS Status Monitor** dialog confirming the process **Profile** under which the process has been submitted.
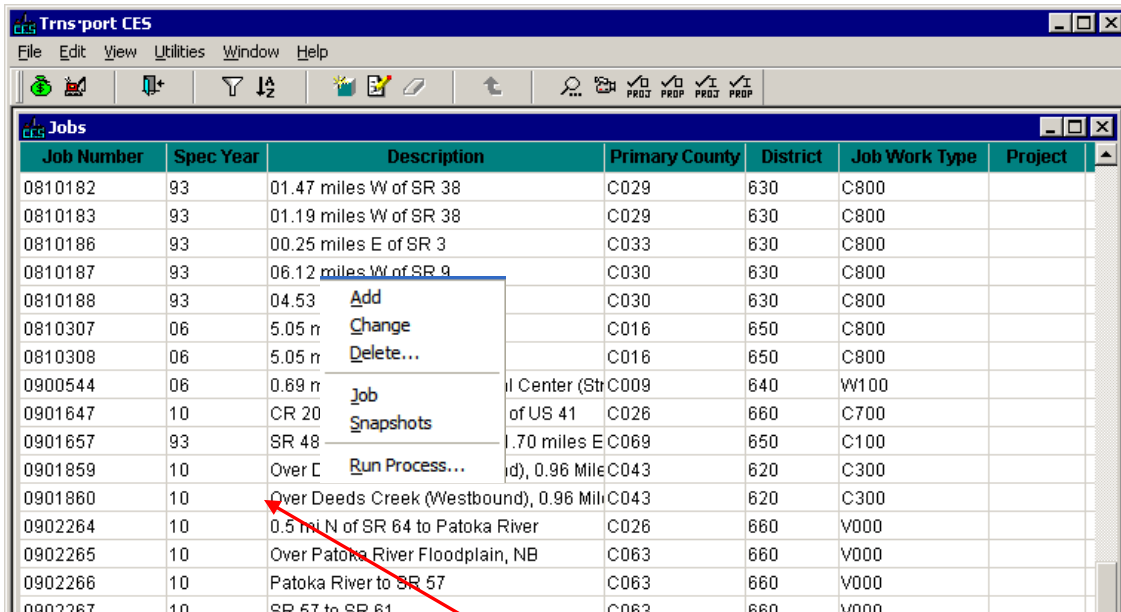
Right Click on Job to Run Process

After a few seconds, a **DPS Status Monitor** window will pop up indicating the report is complete. Select OK. Take note of the process **Profile**, you can use this to identify this report process in the **Process Status List** later.
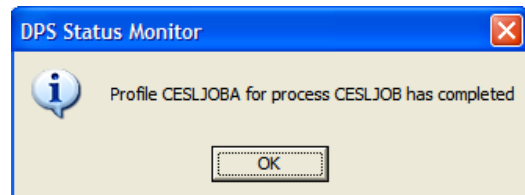
INDOT CES Designer Instructions

Viewing, Printing, and Saving your Reports

To **view** a report select **Process Status** from the **File** menu at the top left of the CES window. Locate the process profile you wantr and double dlick on it to view the process files. If you have only run one report it should be the most recent process based on Date Submitted.
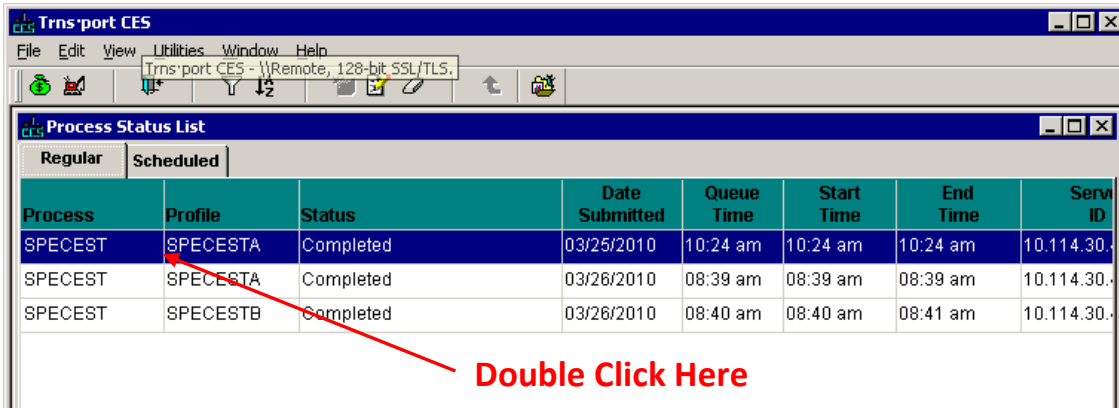
Double Click on the report file to open it in the file viewer windows. The report file should be the first text file on the list and should have a name similar to the **Output.txt** file in the example below.
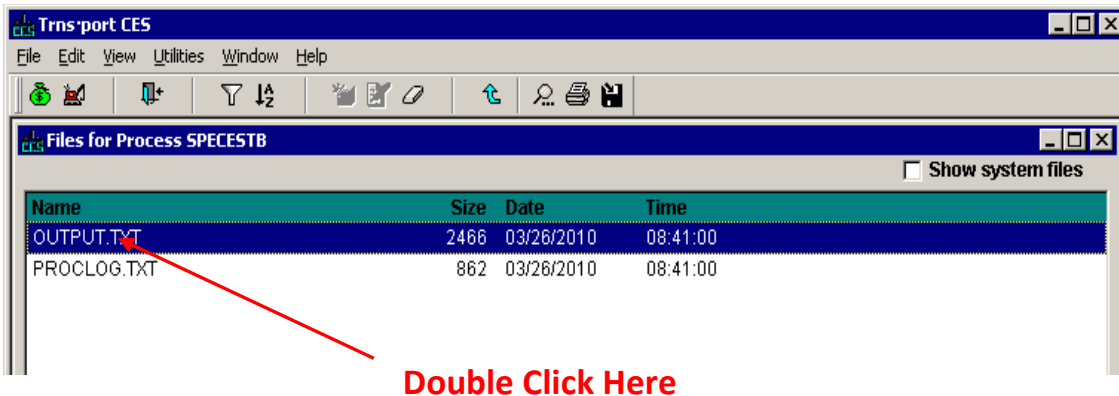
To **print** a report open it in the file viewer window and click the **Print Report** button on the bottom of the screen. You can also print the report by right-clicking on the file name in the **Process Status List** window and choosing **Print** from the popup menu.

*NOTE: All CES reports are formatted to print in an 8-1/2 by 11 **landscape** orientation**

INDOT CES Designer Instructions

To **save** a report open the report file in the file viewer window and click the **Save As Rich Text** button.
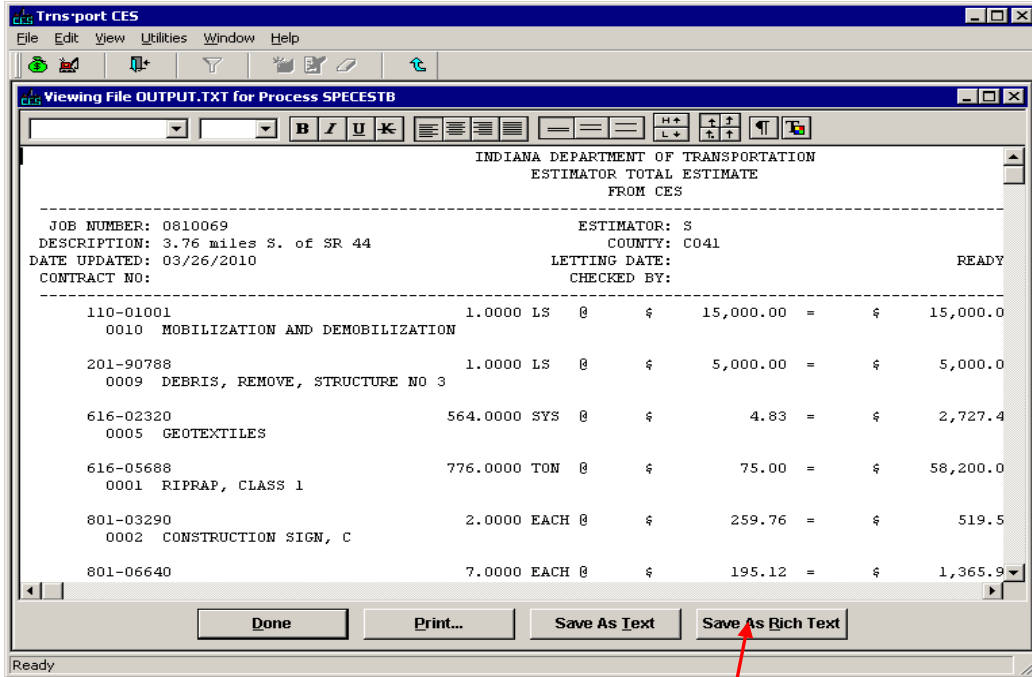
Click Here

Save the report as an ***.rtf** or a ***.doc** file.
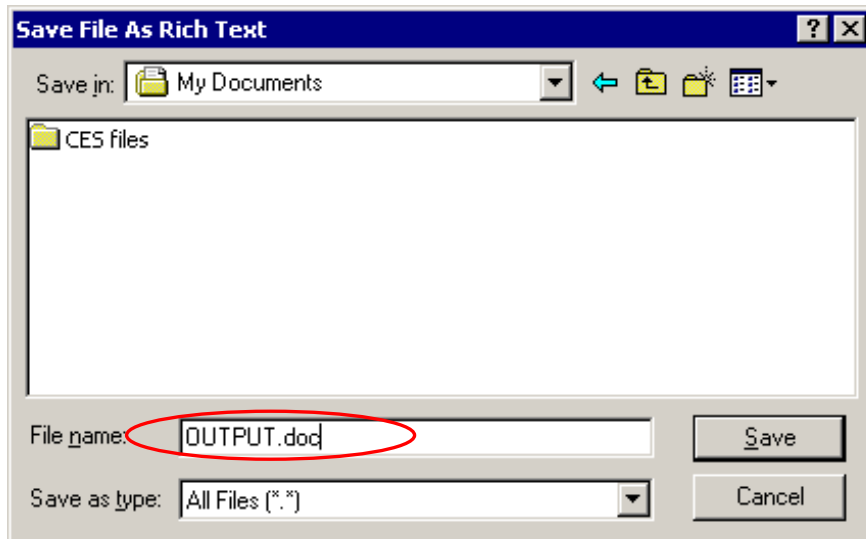
*NOTE: All of the CES reports are formatted to print in an 8-1/2 by 11 **landscape** orientation with half inch margins. You may need to adjust the page setup in your word processor program to display the report files properly.*

INDOT CES Designer Instructions

To return to the main **Jobs** window, close all the **Process** windows by clicking the "X" in the right hand corner until the **Jobs** window is the only one open.

Click Here
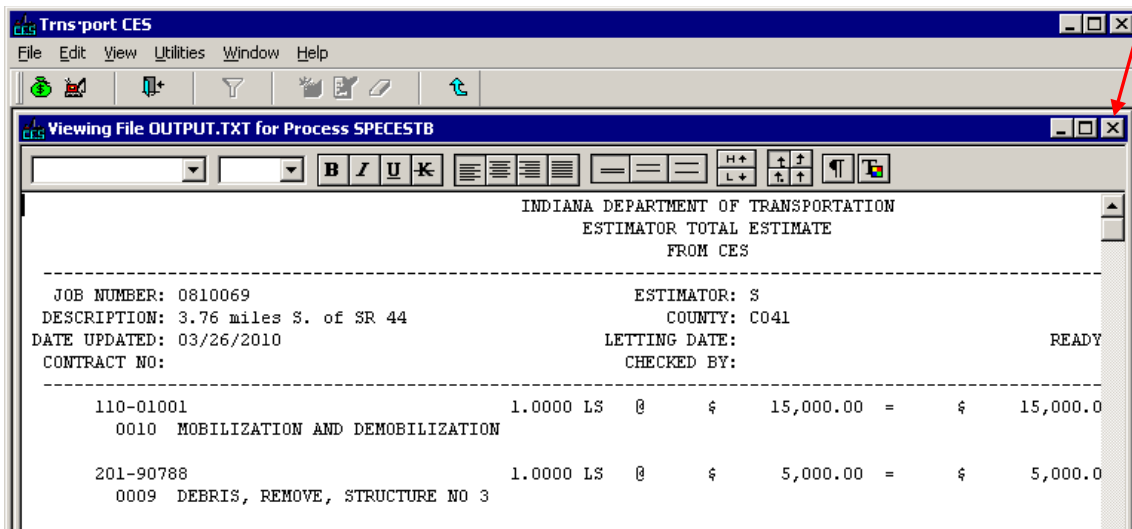
Available CES Reports

The **Job Summary Estimate Report** produces an output file named **ESTIMATE.TXT** that lists all items in your estimate including the description, supplemental description, quantity, unit, price and extension. It also shows whether the item is included in the standard specifications or must be defined by an accompanying unique or recurring special provision and flags obsolete items. You can run it by choosing **Generate Job Summary Estimate Report** from the **Run Process** dialog.

The **Estimate Item Verification Report** produces an output file named **ITEM_RPT.TXT** that also lists all items included in your estimate including the description, supplemental description, quantity, unit, whether the item is defined by the standard specifications or an accompanying unique or recurring special provision and flags obsolete items. However, this report does not print item prices or totals. You can run it by choosing **Estimate Item Verification Report** from the Run Process dialog.

The **Job Detail Estimate Report** produces a file named **OUTPUT.TXT** that includes the Job Summary Estimate as well as full details for all of the **Cost Groups** and price **Tasks** associated with your Estimate. You can run this report by choosing **Generate Job Detail Estimate Report** from the **Run Process** dialog.

HINT: You can save yourself some steps by "printing" reports directly to a .pdf file using a pdf file generator.*

INDOT CES Designer Instructions

Submitting Your Estimate with Final Tracings

1. Set the *Contingency Percent* and *Years Until Work* to Zero. (This will zero out all of the inflation calculations)
2. Create a snapshot of your estimate
3. Generate the Job Summary Estimate Report.
4. Upload the Job Summary Estimate to ERMS as an Adobe Acrobat (.pdf) file
5. Change the CES job control Group to "12".
6. Save and close the CES Job (Note: once the job is closed you will no longer have access to this estimate,)

WARNING

Once the control group is changed and saved, you will no longer have access to this CES Job!

HINT: You can save yourself a step by "printing" the Job Summary Estimate Report directly to a .pdf file using Adobe Acrobat or a free pdf file creation utility such as CutePDF.*

INDOT CES Designer Instructions

CREATING A SNAPSHOT

A **Snapshot** is a complete picture of a job at a given time. Snapshots can be used to trace the evolution of an estimate from conception to completion and can also as a backup. The user can create a snapshot at any time; snapshots will also be taken automatically when certain actions (such as splitting a job) are taken.

Select the job you wish to take a snapshot of, and select **Snapshots** from the **View** menu.
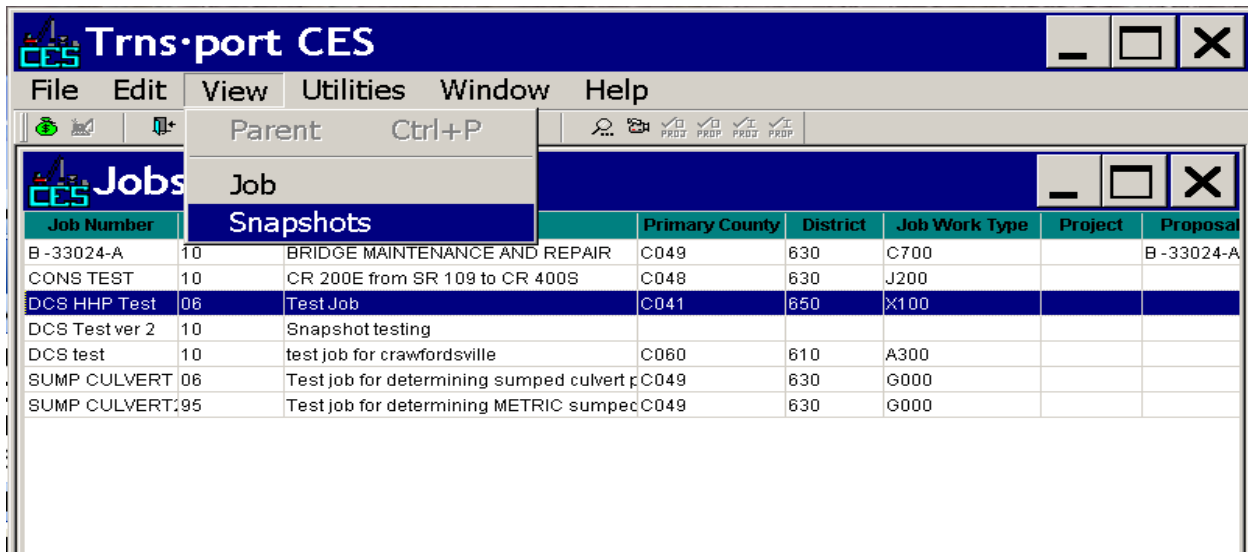
Or **right-click** on the Job and select Snapshots from the shortcut menu.
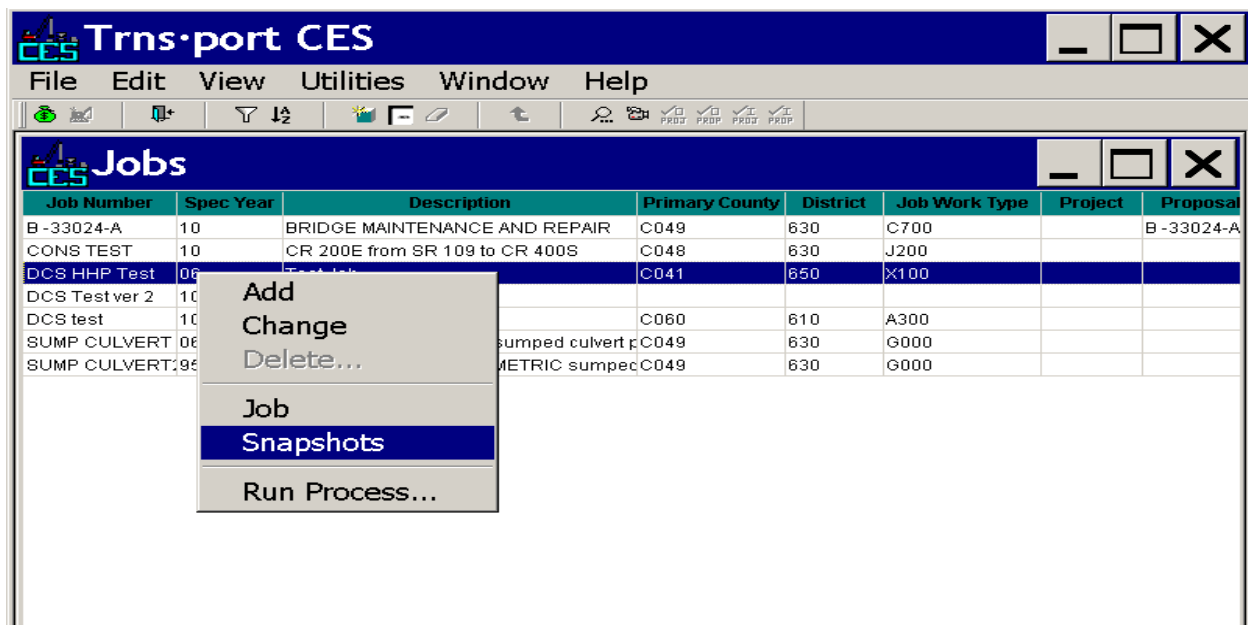
INDOT CES Designer Instructions

The Snapshot window will open and display any snapshots that have been taken of your CES job.
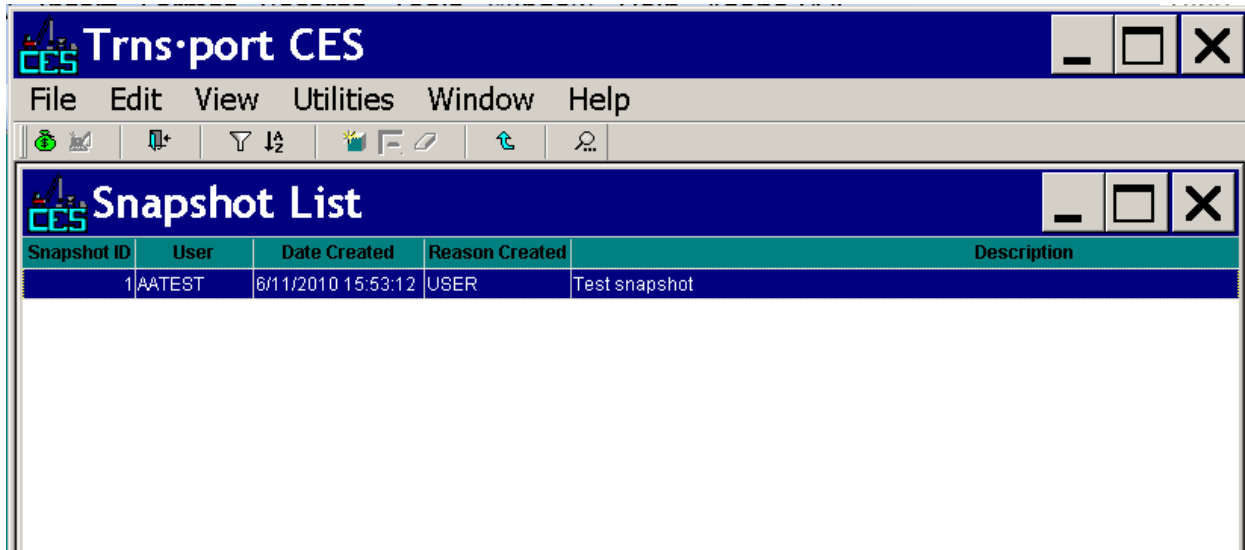
To open an existing snapshot, **double-click** on the **Snapshot** title or **right-click** on it and choose **Snapshot** from the shortcut menu.

The Snapshot window looks like the regular job window but you cannot edit any of the data.
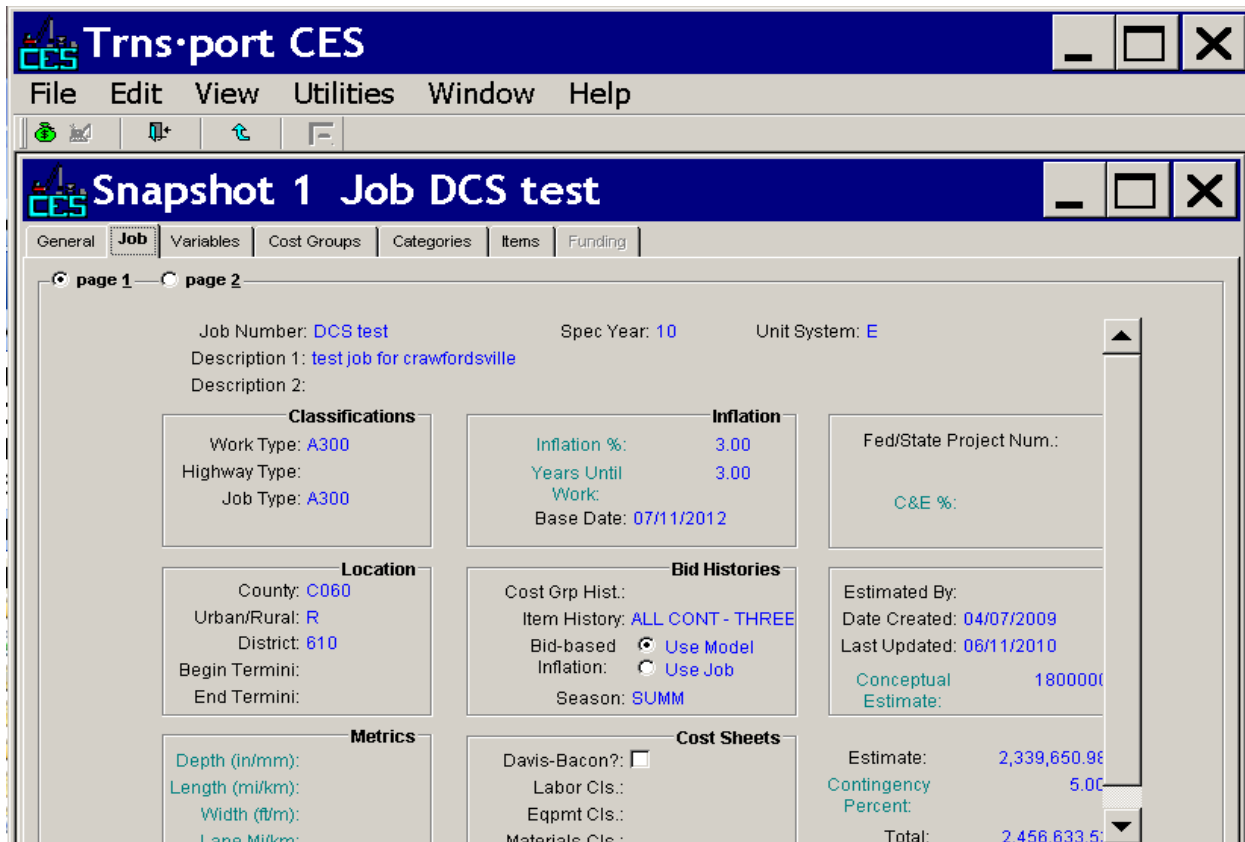
INDOT CES Designer Instructions

To add a snapshot, open the snapshot window for that contract and either choose **Add** from the Edit menu…
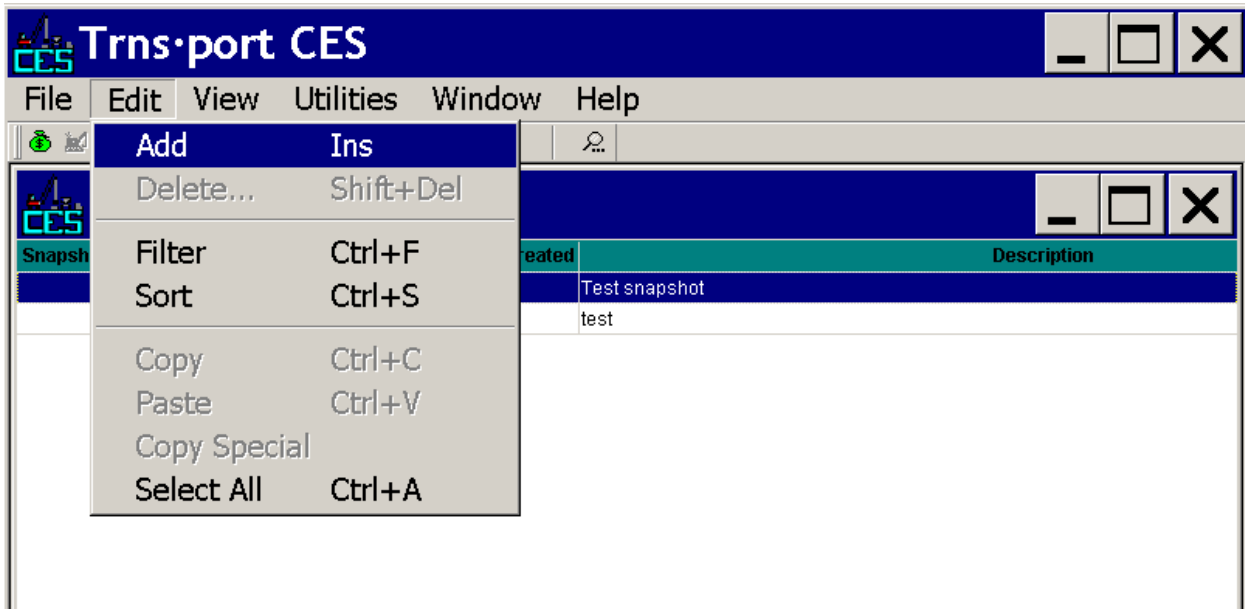
…or you can right-click on the snapshot window itself and choose **Add.**
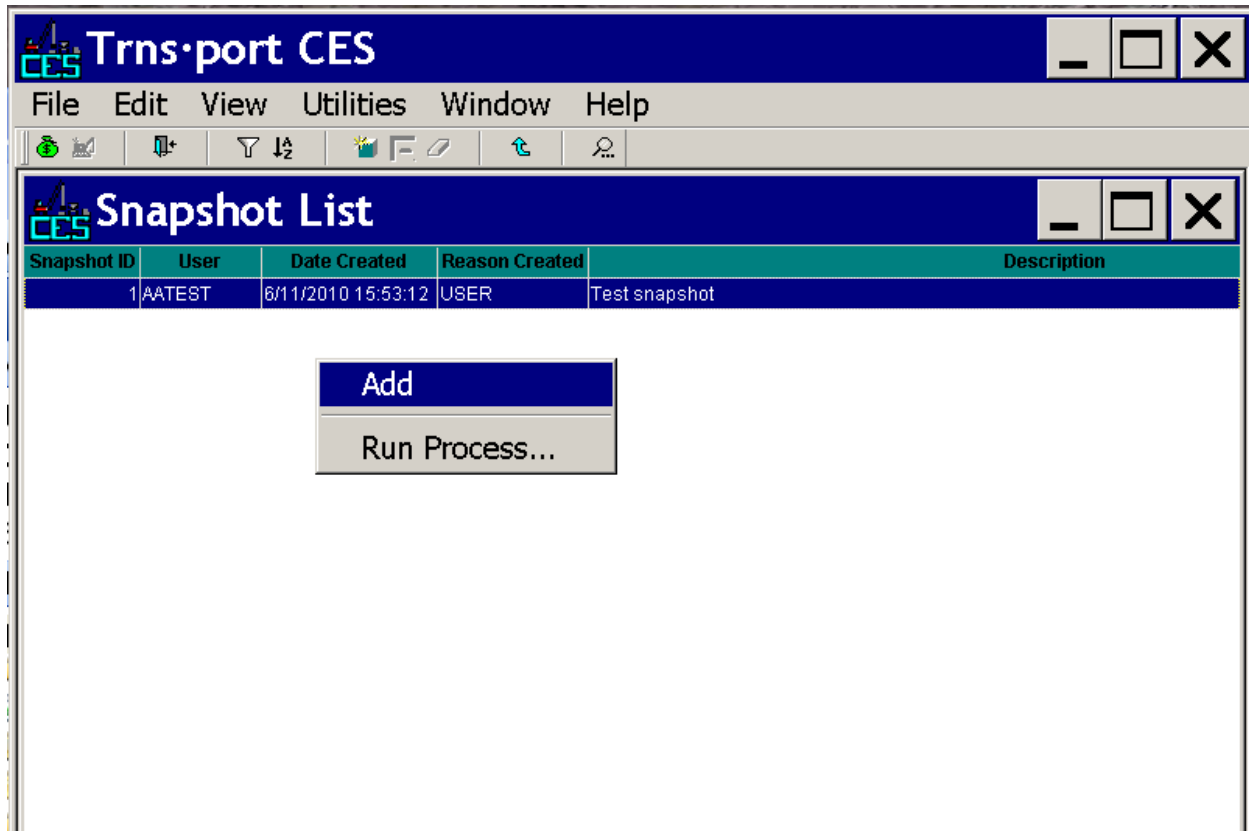
INDOT CES Designer Instructions

Enter a description for the Snapshot in the popup window and click **OK.**
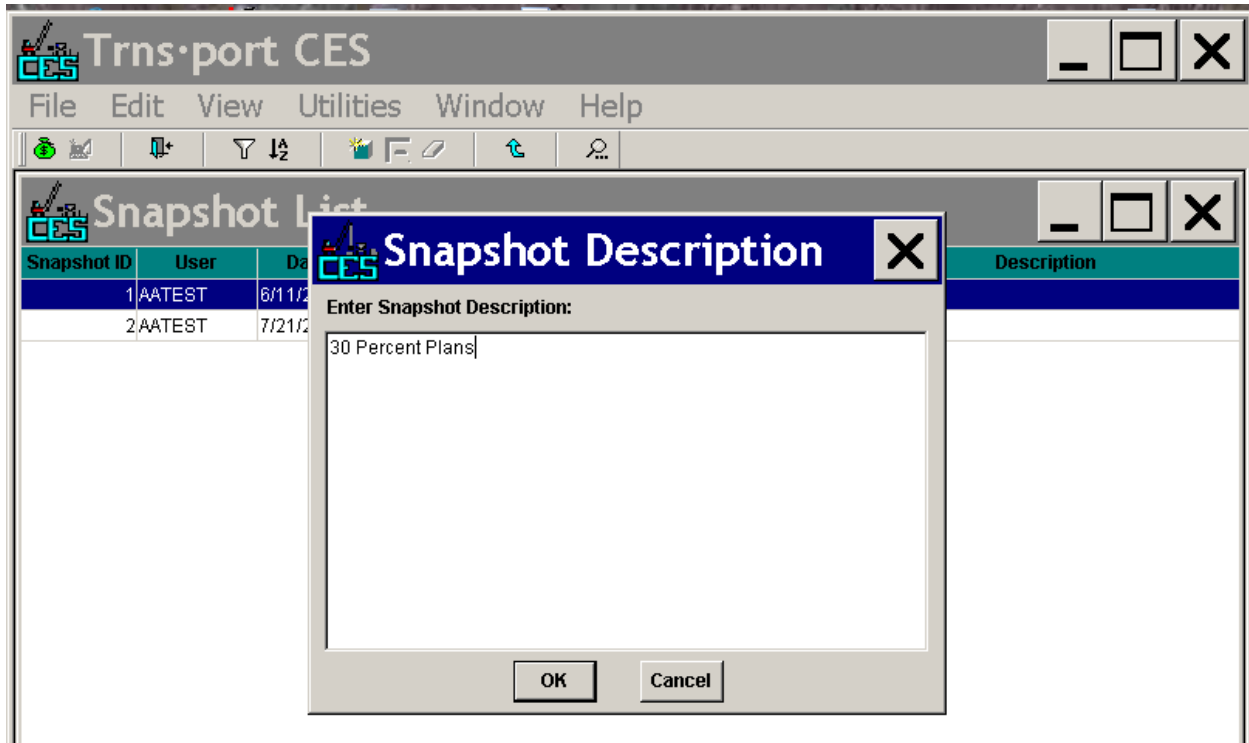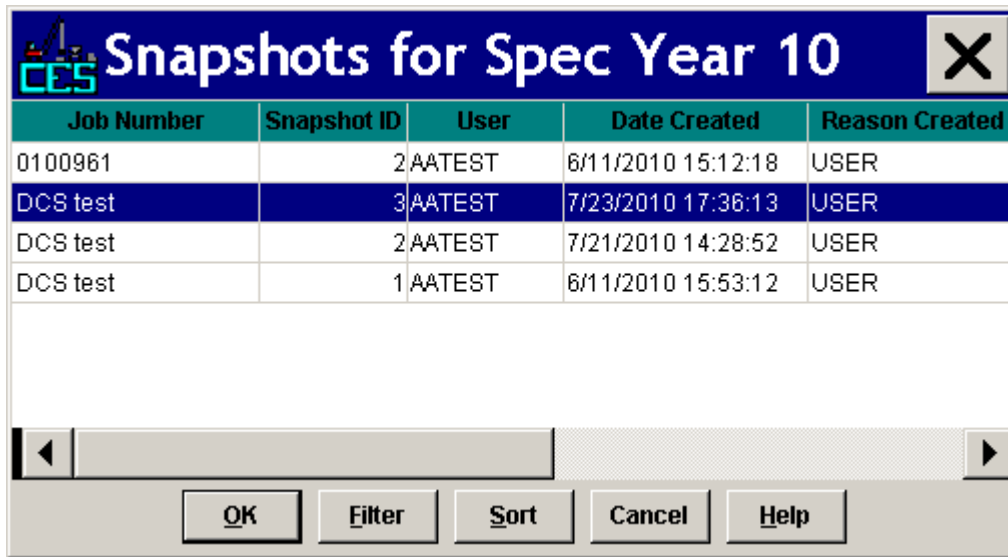
To restore project data from a snapshot, choose **Import** from the File menu and select **Job Information from CES Snapshot.**
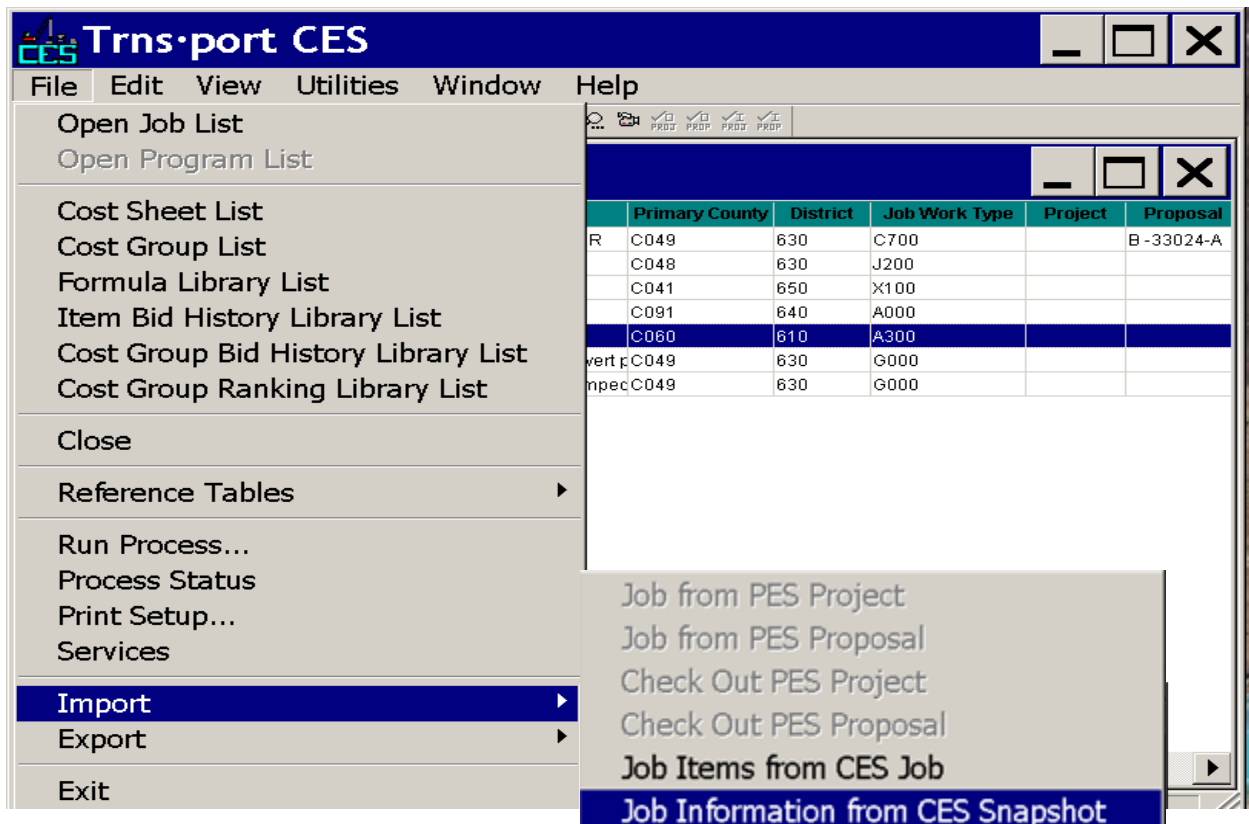
INDOT CES Designer Instructions

Then select the snapshot you wish to import from the popup window.
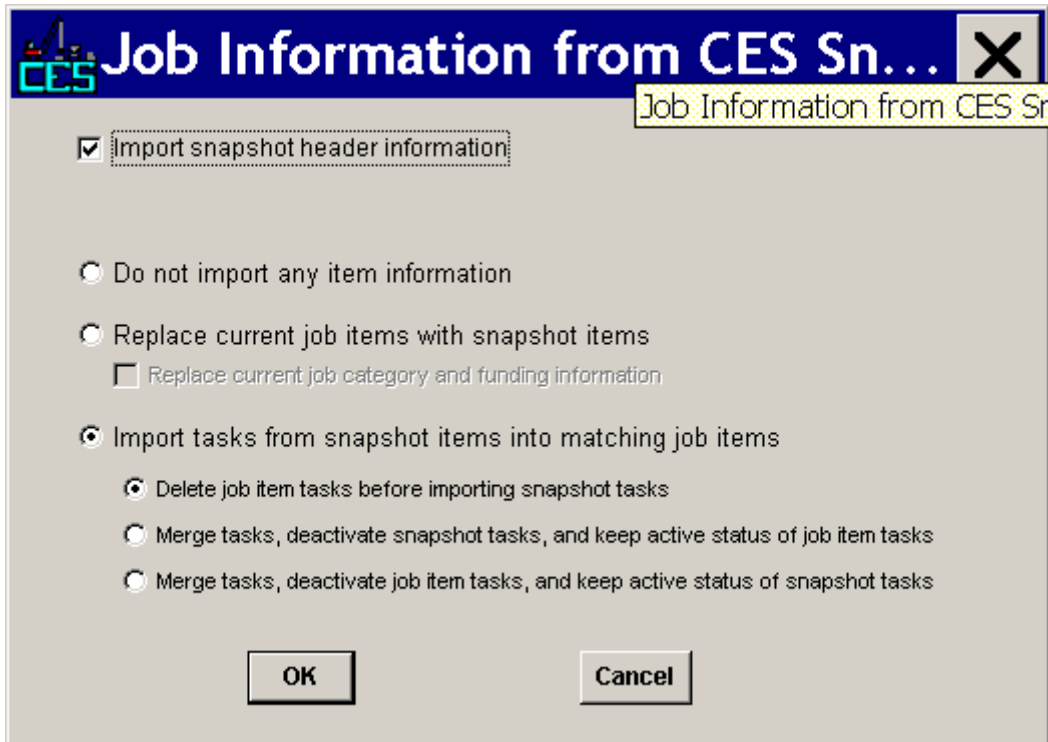
CES will give you the option of importing some or all of the snapshot data into your job.

INDOT CES Designer Instructions

IMPORTING AN ESTIMATE INTO A CES JOB USING AN XML FILE

Creating an XML file using Estimator®

1) Open the Estimator file and make sure all the information is in the required fields.
    a) **Estimate ID:**   DES #
    b) **Spec Year:**   10 for English, 05 for Metric
    c) **Base Date:**   Letting Date
    d) **Unit System:**   E for English, M for Metric
    e) **Description:**   The project description. should match the description in SPMS.
2) Make sure there is also a **Group Description** for each group in the estimate
3) Select **Export** from the **File** menu. Estimator it will prompt you to select a file location.
4) The File name should be the **Estimate ID/DES** number.
5) The "Save as type" should be **XML estimate file**.

Creating an XML file using Oman BidTabs ®

1) Open the Estimate file and make sure the Bid Price Column is populated for all items
2) Open the Project Settings and set the pay Item Sort to "Pay Item"
3) Click on the Export to XML button on the taskbar and then choose the directory where you want to save the file. Two files will be created. For example, if the project was: 8915400. The two files will be 8915400.PLUS and 8915400.XML.

Preparing CES to receive the Estimate

1) Open CES
2) Open the Jobs window
3) Scroll or filter the job window to locate the CES Job with the same DES number as the Estimate you are importing. If you cannot see the DES number, Contact CES Support to get the Estimate added to your Control Group. Do NOT upload an estimate if you do not have access to the DES number.
4) Set the **Spec Year** to the appropriate Specification Year for your Estimate if necessary.
5) Open The CES Job and check the **Items** tab to see if an estimate has been uploaded already.

Uploading the XML file into the database

1) Select **Upload File**>**Process I/O File** from the Utilities menu
2) Select the XML export file that you created in step one and click Open.
3) Select the **qpjiportdir** directory in the **Save Process I/O file** As dialog and make sure that the file name in the left column is the DES# followed by .XML (Hint: You can use the "Ctrl C" shortcut keys to copy this file name for use in the next step)
4) Click **Okay**.

Importing the XML file into the CES job

1) Select **Run Process** from the **File** menu
2) Select the **Import New Projects** process.
3) Select the **Estimator (Trns*Port Format)**

INDOT CES Designer Instructions

4) Enter the file name for the XML import file in the appropriate field on the Import Data Options dialog and select the import options you desire. The file name should be the DES number plus ".XML" and must be the same as the CES **Job number** and the Estimator **Estimate ID**. If you copied the file name during the previous step you can paste it into the field using **Ctrl V.**

5) Make sure the **Group number** matches the group number assigned to your organization and click Submit.

6) Open the CES job and click on the **Items** tab. Your items should now be in CES. Imported prices will appear as Reference Prices in CES.

7) Highlight all of the items and click the recalculate button to recalculate the estimate using the imported prices

Select Estimator Format

Import File Name

Enter Your Control Group

INDOT CES Designer Instructions

EXPORTING A CES JOB TO AN XML FILE

1) Select the **Job Number** you wish to export and select **Run Process** from the **File** menu **(or r**ight click on the **Job Number** and select **Run Process**
2) Select "Export Copy of Job" and click OK (A pop-up will confirm the start of the process; click OK to close)
3) A second pop-up will show the process has completed, go to File; Process Status; double click most recent Completed process; right click on OUTPUT.txt, Save As "Project number".xml
4) Open Estimator and choose Import from the File menu. Select the saved .xml file, Click Open.

RENUMBERING ESTIMATE ITEMS IN CES

While CES does not have a command to automatically renumber Estimate item lines, it does have the ability to renumber all of the following lines when you insert an new line in the middle of an estimate. This process takes advantage of that feature to "fool CES into renumbering your whole estimate by inserting a new line one.

1) Go to the CES job window **Items** Tab. You must be in Grid View for this process to work.
2) Go to the existing line #0001 and renumber it manually to 9999 (CES will automatically fix this later.) This is required because CES will not accept two lines numbered 0001
3) Sort the item list by pay item number so the lowest pay item number is on the first line, the next highest pay item number is on the second line, etc, etc. Don't worry about the line numbers, they will be fixed later as well.
4) Renumber the line the *Second* Item 0001.
5) Delete the first line. (It's probably going to be 105-06845, Construction Engineering, which is a lump sum, so it's no big hardship to delete it and recreate it, but make sure you keep careful notes because you're going to have to reenter this item later) Your second item (the one you just renumbered as line 0001) should now become the first.
6) Highlight that first line (The new Line 0001 you created in step 3) and click the **INSERT** button or select **Insert** from one of the menus. CES will ask you if you want to renumber all lines starting with this one or add the new item to the bottom of the list. Choose the renumber line option. CES will insert a new, blank line 0001 and renumber everything else sequentially (including the line 9999 you created in step 1)
7) Re-enter your first pay item on the new line #0001.

INDOT CES Designer Instructions

Setting Up CES Estimates for Alternate Bidding

Alternate bidding requires the bidder to bid at least one alternative while allowing the bidder to bid on any or all of the alternatives available.

Alternate bidding is used when the two alternatives must be evaluated using a value adjustment that is not known to the bidder prior to letting.

Category Level Alternates

Category Level alternates are used when entire groups of items are alternates to other groups of items, or when the two groups of items represent alternative categories of work, such as alternate pavement sections (asphalt vs. concrete) or alternate bridge designs (concrete vs. steel).

Basic principles:
- o All Common Items will be in Category 0001.
- o All items related to the first alternate will be in Category 0002.
- o All items related to the second alternate will be in Category 0003.
- o Alternate sets are distinguished by three character **Alternate Code** where he first two characters are letters defining the set (AP, AB, etc) and the third character is a number designating the set member (1, 2, etc) so AA1 is an alternate to AA2 and AB1 is an Alternate to AB2, but AA1 is *not* an alternate to AB2.
- o The first character of the **Alternate Code** must be "A" to define an alternate set.
- o CES will use the lower cost option for *each alternate set* when totaling the estimate. So if your estimate contains more than one alternate sets the final estimate will be the cost of common items + the lower cost alternate of the first alternate set + the lower cost alternate of the second alternate set and so on.
- o The CES *Estimate Item Total* (as shown on reports and the item tab) will always be the total of all items regardless of alternate status. The *Inflated Estimate Total* & *Total Estimate* are adjusted to account for alternatives as well as inflation and contingency.

Steps:

Create a Separate Category for Each Alternate

Make a backup snapshot of your Job

Open the Job and go to the "Categories" tab

- ➢ Select Category 0001 and choose "Hide/Show Details" to expand the detail section.
  - ▪ Edit the Category **Description** to specify Common Items (e.g. "Road Construction – Common Items" or "Bridge Construction – Common Items").
  - ▪ Leave the **Alternate Code** field blank to indicate that this category contains common items.
- ➢ Select "Add" from the Edit menu to create Category 0002.
  - ▪ Edit the Category **Description** to specify the second alternate (e.g. "Road Construction – PCCP" or "Bridge Construction – Concrete".
  - ▪ Set the **Alternate Code** to "AP2" for an alternate pavement or "AB2" for an alternate bridge.

INDOT CES Designer Instructions

- ➢ Select "Add" from the Edit menu to create Category 0003.
  - ▪ Edit the Category **Description** to specify the first alternate (e.g. "Road Construction – HMA" or "Bridge Construction – Steel".
  - ▪ Set the **Alternate Code** to "AP2" for an alternate pavement or "AB2" for an alternate bridge.

Now go to the "Items" tab and assign each item to a Category (Alternate) as necessary

Tips for using Category-level alternates

- ▪ All items must be assigned to a Category – either one of the alternates or to the common items.
- ▪ Leave the item-level **Alternate Code** *blank* unless you are also using alternate items within a category.
- ▪ You may have as many as 26 Alternate sets (AA-AZ)
- ▪ Use mnemonic codes for alternate sets ("AP" for alternate pavement, "AB" for alternate bridge, "AS" for alternate subbase, etc.) when possible
- ▪ You can have as many as nine alternate categories within each alternate set.
- ▪ Assign the full quantities of all items needed to construct each alternate to the applicable alternate set. Do not split out items between sets.
- ▪ Assign all items common to both alternates to the common items category.

Item Level Alternates

Item level alternates are used when specific items on the project are considered alternates to other specific items, such as lamp poles.

Basic principles:

- o Item level alternates will only be used when specific items are alternates to other specific items.
- o All alternate items must have a counterpart item or item(s). You cannot make *nothing* an alternative to *something*.
- o The alternate items that receive the lowest bid prices will always be considered part of the awarded bid. We cannot cherry pick alternates when awarding a contract.
- o CES will use the lower cost option when totaling the estimate.
- o Alternate sets are distinguished by three character code where he first two characters are letters defining the set (AP, AB, etc) and the third character is a number designating the set member (1, 2, etc). So AA1 is an alternative to AA2 and AB1 is an Alternative to AB2, but AA1 is *not* an alternative to AB2

Steps:

Make a backup snapshot of your Job

Open the Job and go to the "Items" tab

- ➢ Select or enter the first item for the alternate set.

INDOT CES Designer Instructions

- Set the Item **Alt Code** to indicate that this is the first alternate in the alternate set (e.g. "AA1")
- ➢ Select or enter the alternative item in the Alternate set
  - Set the Item **Alt Code** to indicate that this is the alternative item within the alternate set (e.g "AA2)
- ➢ Continue until you have designated all alternate items

Tips for using Item-level alternates

- Plan your alternate sets in advance to avoid surprises
- Item level alternates must be within the same category if categories are used.
- Leave the Category-level **Alternate Code** *blank* unless you are also using alternate categories
- Common Items do not receive alternate codes.
- You can make one item alternate to two (or more) items

Steps:

Create a snapshot to back up your Job

Open the Job and go to the "Items" tab

1) Select or enter the first item(s) in the Alternate set.
   a) Set the Item **Alternate Code** to indicate the alternate set (e.g. "AA1")
2) Select or enter the second item(s) in the Alternate set
   a) Set the Item **Alternate Code** to indicate that this is the alternative item within the alternate set (e.g. "AA2")
3) Continue until you have designated all alternate items

Tips for using Item-level alternates

- Plan your alternate sets in advance to avoid surprises
- Item level alternates must be within the same category if categories are used.
- Leave the Category-level **Alternate Code** blank unless you are also using alternate categories
- Common Items do not receive alternate codes.
- You can make one item alternate to two (or more) items and vice-versa.

INDOT CES Designer Instructions

Setting Up CES Estimates for Option Bidding

Option bidding forces the bidder to choose among alternatives by only allowing the bidder to bid on one of the available options.

Option bidding is used when the two alternatives are to be compared solely on the basis of price without value adjustments or evaluation factors.

Category Level Options

Category Level options are used when entire groups of items are options to other groups of items, or when the two groups of items represent alternative categories of work, such as option pavement sections (asphalt vs. concrete) or option bridge designs (concrete vs. steel).

Basic principles:
- o   All Common Items will be in Category 0001
- o   All items related to the first Option will be in Category 0002
- o   All items related to the second Option will be in Category 0003
- o   Option sets are distinguished by three character **Alternate Code** where he first two characters are letters defining the option set (OP, OB, etc) and the third character is a number designating the set member (1, 2, etc.) so OA1 is an option to OA2 and OB1 is an option to OB2, but OA1 is *not* an option to OB2.
- o   The first character of the **Alternate Code** must be "O" to define an option set.
- o   CES will use the lower cost option for *each option set* when totaling the estimate. So if your estimate contains more than one option sets the final estimate will be the cost of common items + the lower cost option of the first option set + the lower cost option of the second option set and so on.
- o   The CES *Estimate Item Total* (as shown on reports and the item tab) will always be the total of all items regardless of option status. The *Inflated Estimate Total* & *Total Estimate* are adjusted to account for alternatives as well as inflation and contingency.

Steps:

Create a Separate Category for Each Option

Make a backup snapshot of your Job

Open the Job and go to the "Categories" tab
- ➢   Select Category 0001 and choose "Hide/Show Details" to expand the detail section.
    - ▪   Edit the Category **Description** to specify Common Items (e.g. "Road Construction – Common Items" or "Bridge Construction – Common Items").
    - ▪   Leave the **Alternate Code** field blank to indicate that this category is common to both options.
- ➢   Select "Add" from the Edit menu to create Category 0002.
    - ▪   Edit the Category **Description** to specify the second option (e.g. "Road Construction – PCCP" or "Bridge Construction – Concrete".
    - ▪   Set the **Alternate Code** to "OP1" for an optional pavement or "OB1" for an option bridge.

- ➢ Select "Add" from the Edit menu to create Category 0003.
  - ▪ Edit the Category **Description** to specify the first option (e.g. "Road Construction – HMA" or "Bridge Construction – Steel".
  - ▪ Set the **Alternate Code** to "OP2" for an optional pavement or "OB2" for an optional bridge.

Now go to the "Items" tab and assign each item to a Category (Option) as necessary by selecting the appropriate category in the Category field.

Tips for using Category-level options

- ▪ All items must be assigned to a Category – either one of the alternates or to the common items.
- ▪ Leave the item-level **Alternate Code** *blank* unless you are also using alternate items within a category.
- ▪ You may have as many as 26 Alternate sets (OA-OZ)
- ▪ Use mnemonic codes for alternate sets ("OP" for optional pavemonts, "OB" for optional bridges, "OS" for alternate subbases, etc.) when possible
- ▪ You can have as many as nine optional categories within each option set.
- ▪ Assign the full quantities of all items needed to construct each option to the applicable option set. Do not split out items between sets.
- ▪ Assign all items common to both options to the common items category.

Item Level Options

Item level options are used when specific items on the project are considered options to other specific items, such as lamp poles.

Basic principles:

- ○ Item level options will only be used when specific items are options to other specific items.
- ○ All optional items must have a counterpart item or item(s). You cannot make *nothing* an alternative to *something*.
- ○ The optional items that receive the lowest bid prices will always be considered part of the awarded bid. We cannot cherry pick options when awarding a contract.
- ○ CES will use the lower cost option when totaling the estimate.
- ○ Option sets are distinguished by three character code where he first two characters are letters defining the set (OP, OB, etc) and the third character is a number designating the set member (1, 2, etc). So OA1 is an alternative to OA2 and OB1 is an Alternative to OB2, but OA1 is *not* an alternative to OB2
- ○ The first character of the **Alt Code** must be "O" to define an option set

Steps:

Make a backup snapshot of your Job

Open the Job and go to the "Items" tab

- ➢ Select or enter the first item for the option set.
  - ▪ Set the Item **Alt Code** to indicate that this item is part of an option set (e.g. "OA1")

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INDOT CES Designer Instructions

- ➢ Select or enter the optional item for the option set.
  - ▪ Set the Item **Alt Code** to indicate that this item is the alternative within the option set (e.g "OA2")
- ➢ Continue until you have designated all option items
- ➢ You must use "O" as the first letter to indicate that this is an option set

Tips for using Item-level options

- ▪ Plan your option sets in advance to avoid surprises
- ▪ Item level options must be within the same category if categories are used.
- ▪ Leave the Category-level **Alternate Code** *blank* unless you are also using option categories
- ▪ Common Items do not receive **Alt Codes**.
- ▪ You can make one item option to two (or more) items

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