

# An Introduction to MOVES: Custom Domains

FHWA Resource Center  
EPA Office of Transportation and Air Quality



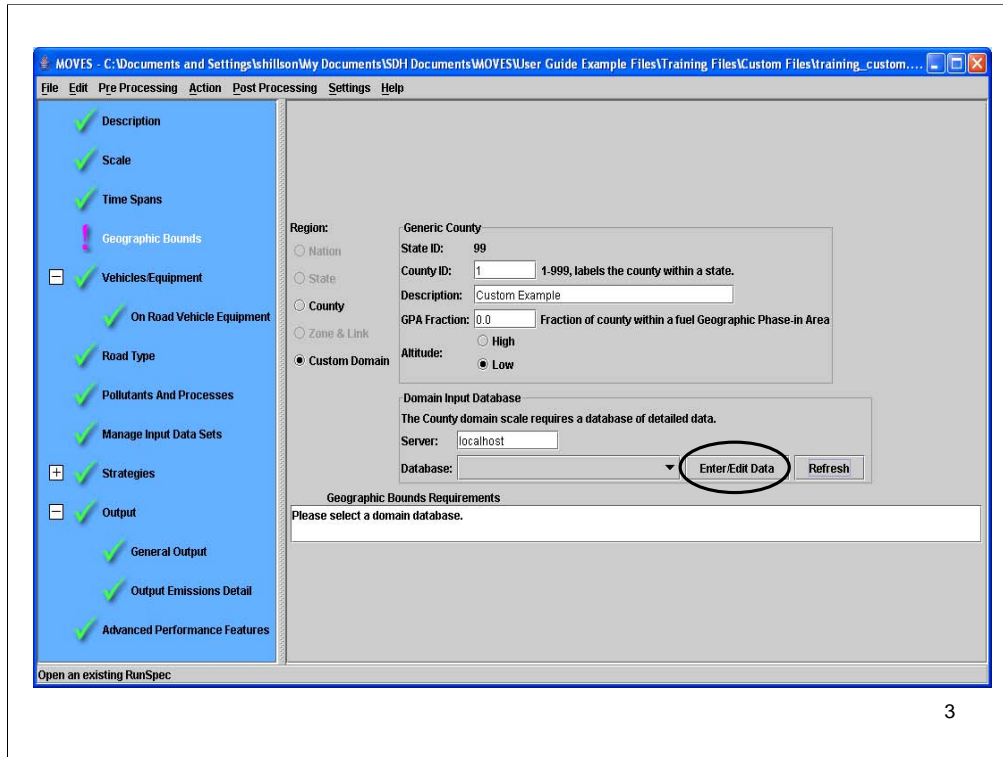
EPA-420-B-09-022

## Custom Domain Option

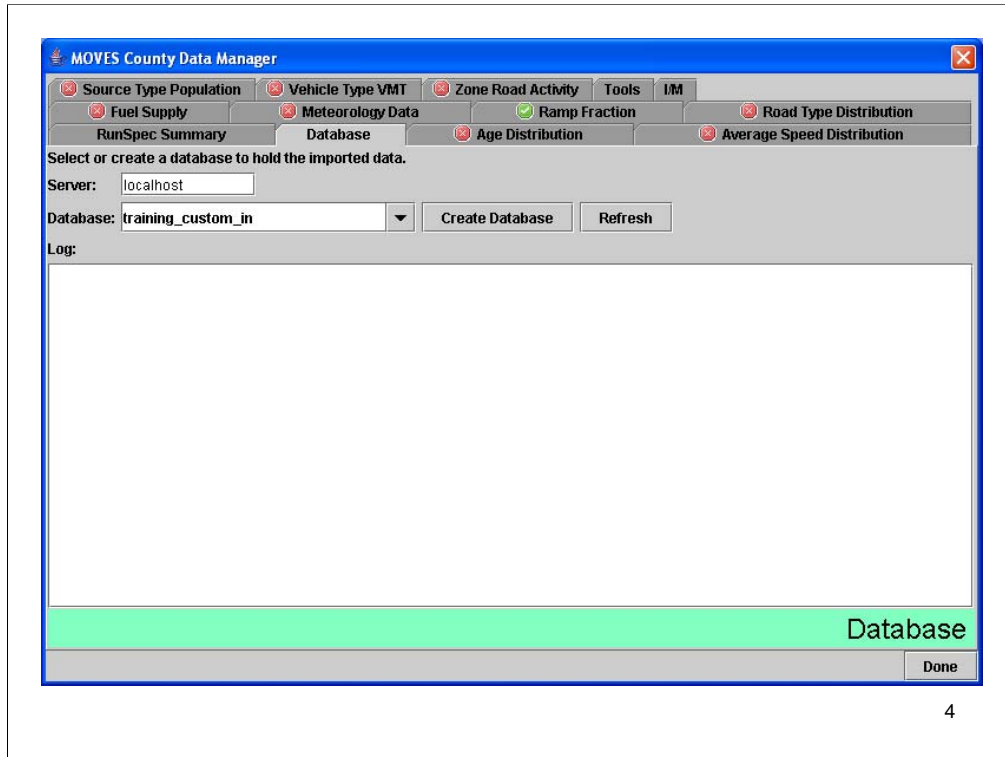
- After selecting the County Scale, the user can select either an individual county or can create a “custom domain”
- A Custom Domain can be used to model a multi-county area as a single county
- MOVES database has no default values for any of the County Data Manager tabs, so the user must have all the necessary information

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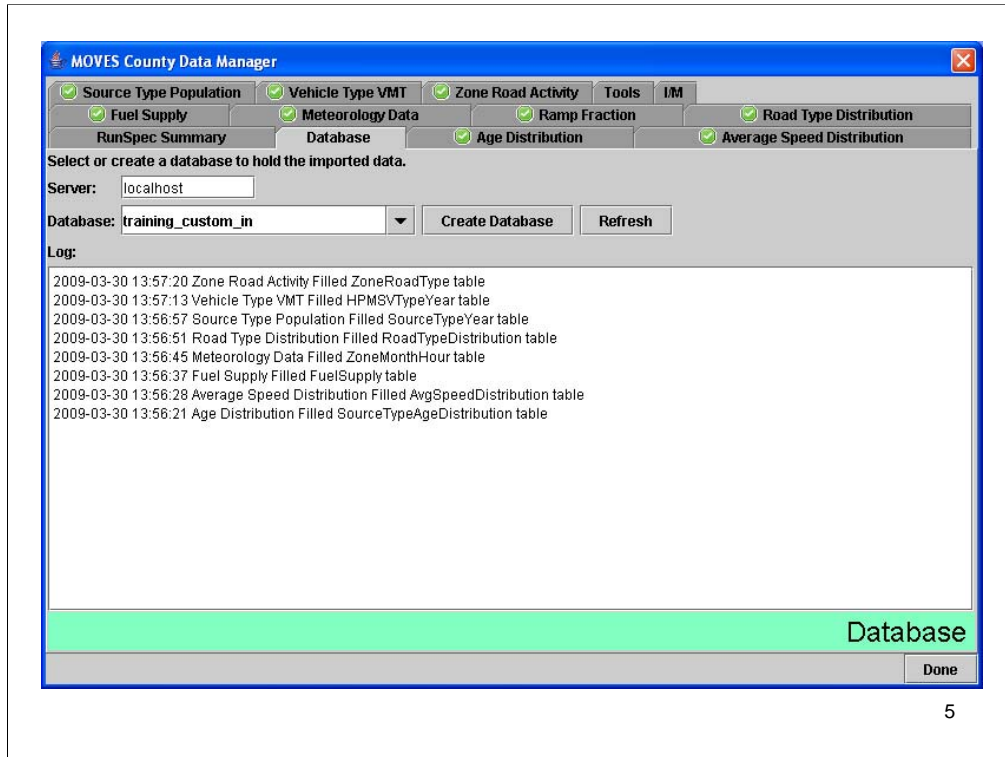
After going over bullets, load the runspec “training\_custom.mrs” in the “Custom Files” folder. Go through all the tabs of the runspec to show users what the runspec will cover, create or select a previously created output database on “General Output” panel, and then return to the “Geographic Bounds” panel.



Point out that selecting the “Custom Domain” option in the “Region” section changes the appearance of the panel. Fill in the “County ID” and “Description” fields. Explain that Geographic Phase-in Area covers the Rocky Mountain states and (if users are from that area and need to know what the GPA is) allowed the Tier 2 gasoline sulfur requirements to be phased in over a longer timeframe. Since there is no default data for a custom domain, the selection of “High” or “Low” altitude gives you the average barometric pressure of the High and Low areas in the default database (4,000 ft is the altitude that determines high altitude). Click the “Refresh” button to clear an old database name if present, followed by the “Enter/Edit Data” button to open the County Data Manager.



Enter a database name and click the “Create Database” button. Tell the users to import all the files in the “Custom Files” folder. The instructor can walk around to help the users import the files at this time.



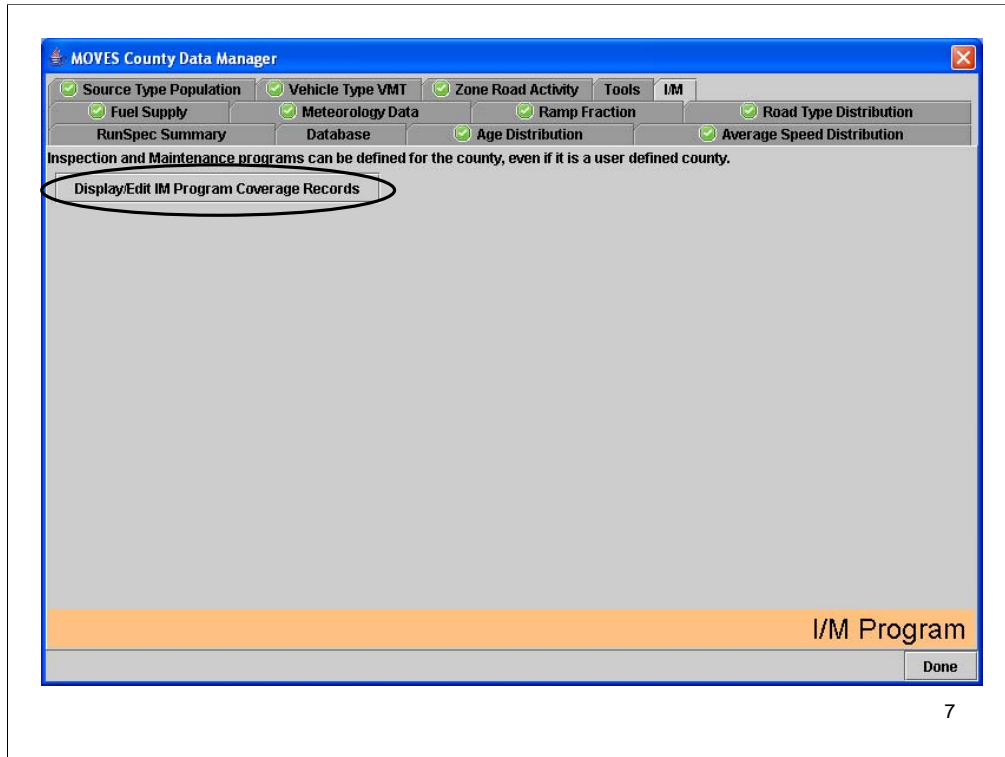
This is what the “Database” tab will look like after all the files have been imported.

## I/M Editor

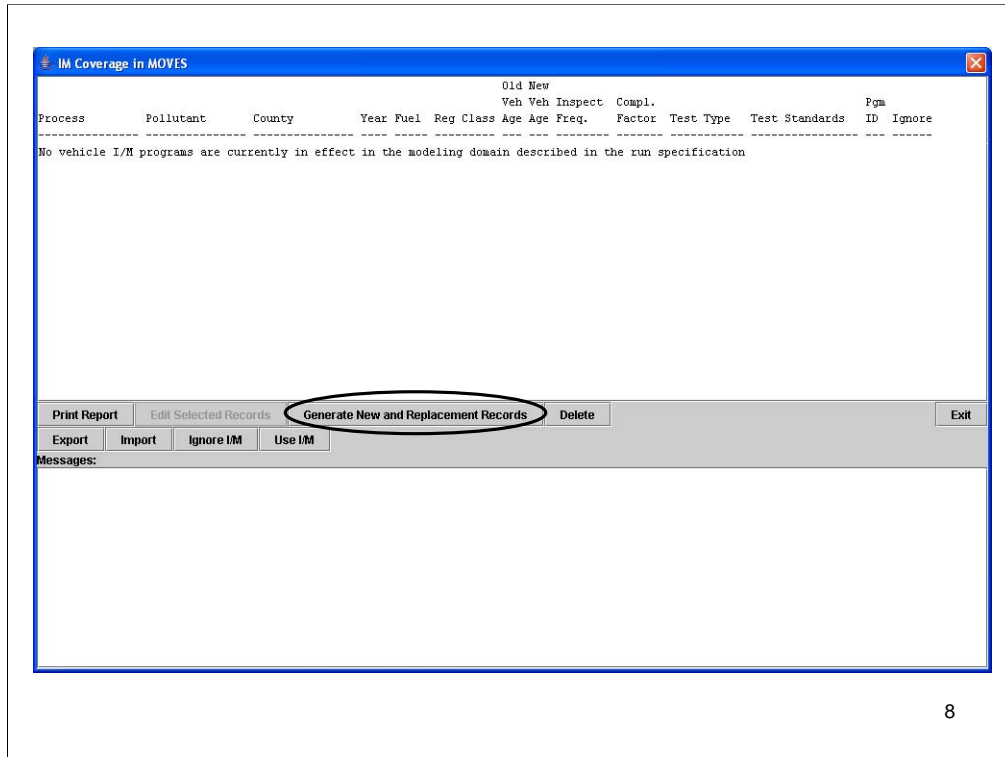
- I/M Editor allows users to ignore default programs, add new programs, or alter multiple attributes of listed I/M programs
- MOVES has default I/M programs for most counties that have programs that will be active unless the user chooses to ignore them
  - Default I/M programs may be incorrect, so a user should check the I/M programs rather than rely on the defaults
- There are no default I/M programs for a custom domain

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IM Program attributes that can be altered: Process, Pollutant, Fuel, Regulatory Class, Applicable Model Years, Frequency, Compliance Factor, Test Type, and Test Standard



Go to the "I/M" tab and the users can open it by clicking the button.



As you can see, for a custom domain there are no default programs. We will create a new one by clicking the “Generate New and Replacement Records” button.



IM Coverage Categories

Select IM coverage categories and program: IM Program ID: 10

Pollutants:	Counties:	Years:	Fuels:	Reg Class:
Running Exhaust - Oxides of Nitrogen	Custom Example	2013	Gasol	HHD
Running Exhaust - Total Gaseous Hydrocarbons				LDT
				LDV
				LHD45
				LHD<=14k
				MC
				MHD
				Urban Bus

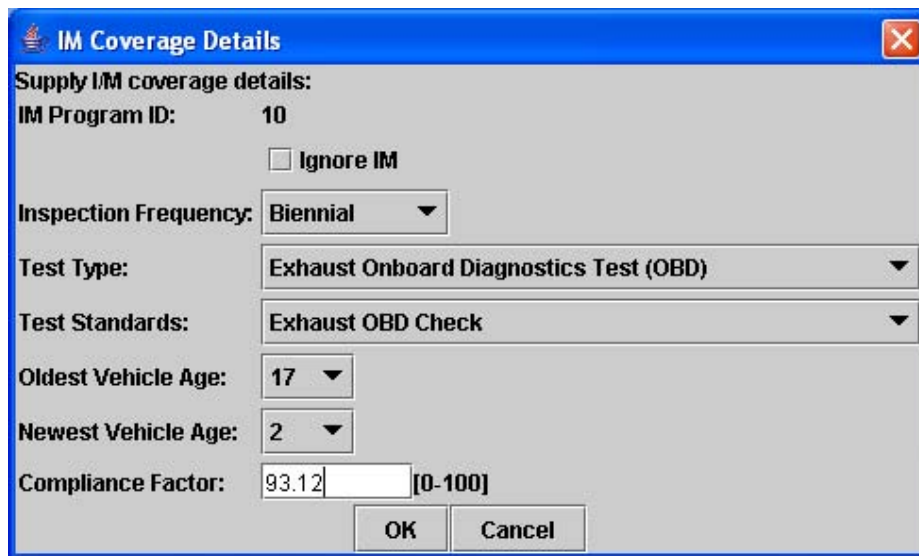
All Exhaust All Evap All All All All

OK Cancel

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The IM Program ID, Pollutant, and Reg Class fields required input/selections. Multiple selections can be highlighted by holding the control (multiple, unconnected selections) or shift keys (everything between selections is highlighted). The County, Year, and Fuel fields were already highlighted because there is only one option.

Don't forget the IM Program ID entry      enter 10

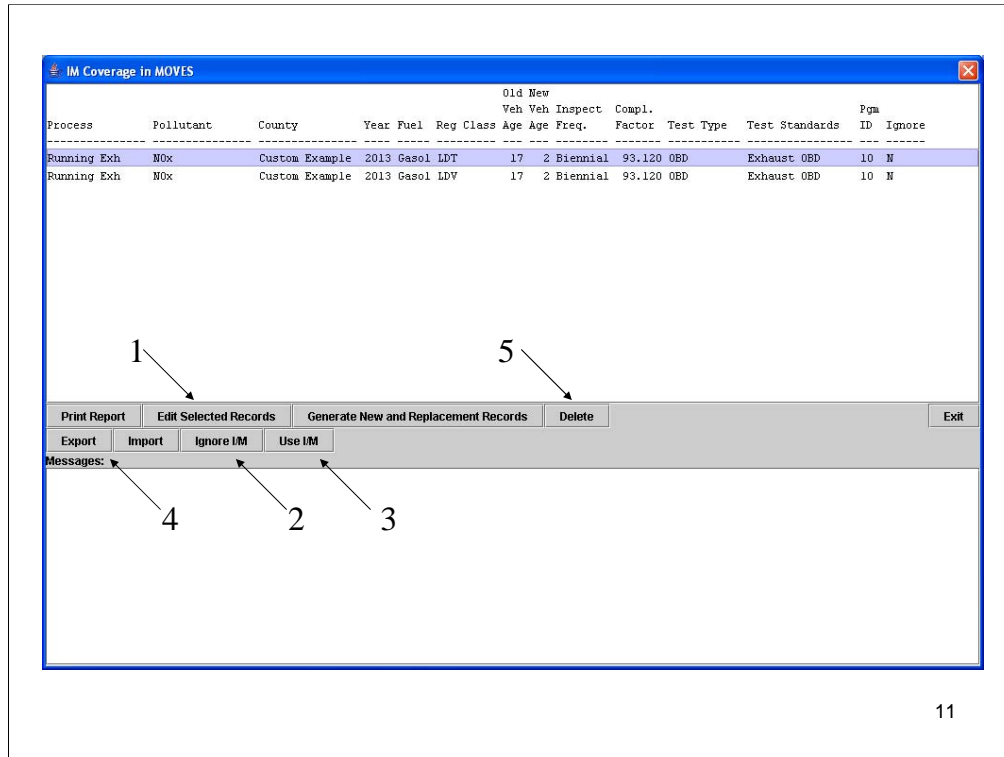


The image shows a Windows-style dialog box titled "IM Coverage Details". It contains the following fields and controls:

- Supply I/M coverage details:** (Section header)
- IM Program ID:** 10
- ☐ Ignore IM
- Inspection Frequency:** Biennial (dropdown menu)
- Test Type:** Exhaust Onboard Diagnostics Test (OBD) (dropdown menu)
- Test Standards:** Exhaust OBD Check (dropdown menu)
- Oldest Vehicle Age:** 17 (dropdown menu)
- Newest Vehicle Age:** 2 (dropdown menu)
- Compliance Factor:** 93.12 (text input) [0-100]
- Buttons:** OK, Cancel

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All drop down menus were blank. Select the following frequency, test type/standard, model years and provide value for compliance factor. Note that the user can make illogical selections (Exhaust OBD Test Type but Evap Cap Test Standard) and we plan on fixing this, but for now users must make correct selection themselves. Click OK.



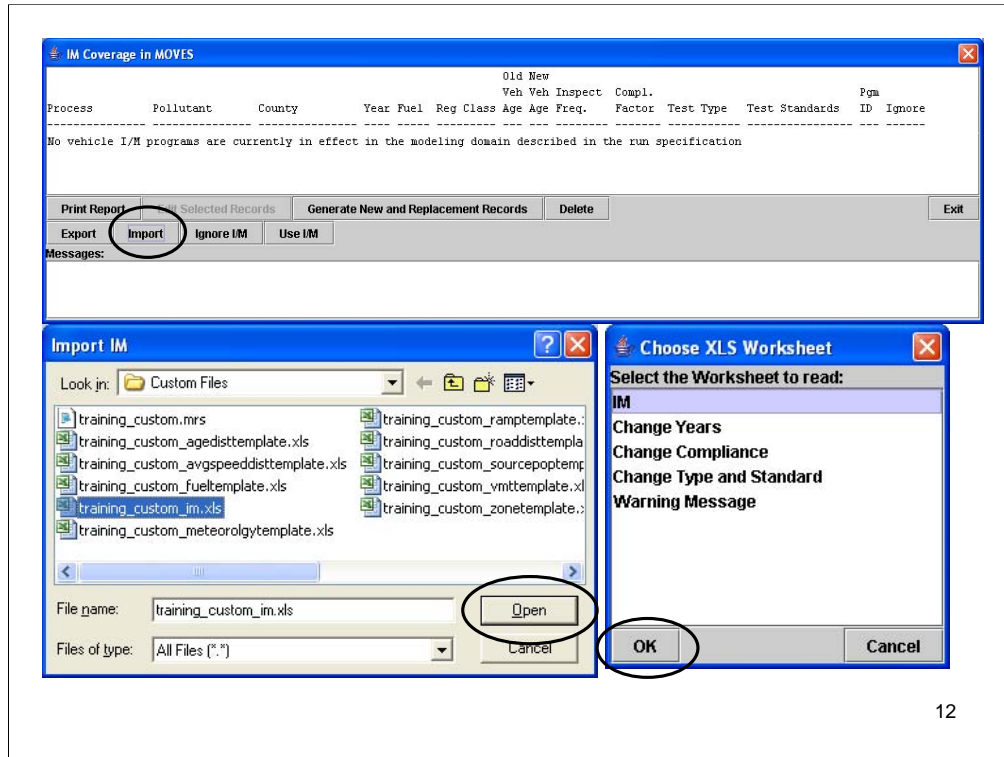
Highlight an IM program record to use the buttons numbered above.

1) “Edit Selected Records” button brings up the same screen as in previous slide which allows the user to change the model years, frequency, compliance factor, and test type/standard. Users should not select multiple IM programs to edit if any of these attributes are different as the changes made will be applied to all programs selected. For these reasons, the user generally should be instructed to edit just one record at a time.

2 and 3) Users can try the “Ignore I/M” and “Use I/M” to see that the “Ignore” column changes when you click the buttons.

4) Export button allows the user to save the selected record in an Excel file. There is no template button, so a user would need to generate a new IM program, select it, and export it to know what the table structure should look like to be able to import. **MAKE SURE USER GIVES EXPORT FILE NEW NAME AND DOES NOT OVERWRITE ANY OF THE IMPORT FILES.**

5) Delete button clears the selected records. **MAKE SURE DELETE IS DONE LAST SO THE USER DOESN'T HAVE TO RECREATE A PROGRAM TO TEST THE OTHER BUTTONS.**



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After records have been deleted, user can import a set of programs from the “training\_custom\_im.xls” file. They should select the IM tab. If desired/time allows, the users can import the other tabs to see how bulk changes can be made to multiple programs at once. The users should also be told that they should consult Appendix A of the user guide for more information about what should be entered in each field.

The general rule is that the “shortName” from the corresponding default database table is used, although that is not true for all attributes.

The warning message worksheet has different IM programs with all other attributes are the same, but one of the records is ignored.

The warning message can be turned into an error message by selecting the program being ignored (Program ID=11) and clicking the “Use I/M” button. The Editor will also allow the user to generate the error message if they use the “Generate New and Replacement Records” button, but the editor will not allow importation if both programs are active. This is an advantage to using the “Import” button instead of the “Generate New and Replacement Records” button.

IM Coverage in MOVES													
Process	Pollutant	County	Year	Fuel	Reg Class	Old New		Inspect	Compl.	Test Type	Test Standards	Pgm	
						Veh Age	Veh Age					ID	Ignore
Running Exh	NOx	Custom Example	2013	Gasol	LDT	17	2	Biennial	93.120	OBD	Exhaust OBD	10	N
Running Exh	NOx	Custom Example	2013	Gasol	LDT	32	18	Biennial	93.120	IM240/IM147	IM240 Final	6	N
Running Exh	NOx	Custom Example	2013	Gasol	LDV	17	2	Biennial	93.120	OBD	Exhaust OBD	10	N
Running Exh	NOx	Custom Example	2013	Gasol	LDV	32	18	Biennial	93.120	IM240/IM147	IM240 Final	6	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDT	37	33	Biennial	93.120	Idle Basic	Unloaded Idle	1	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDT	17	2	Biennial	93.120	OBD	Exhaust OBD	10	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDT	32	18	Biennial	93.120	IM240/IM147	IM240 Final	6	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDV	37	33	Biennial	93.120	Idle Basic	Unloaded Idle	1	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDV	17	2	Biennial	93.120	OBD	Exhaust OBD	10	N
Running Exh	Total Gas HC	Custom Example	2013	Gasol	LDV	32	18	Biennial	93.120	IM240/IM147	IM240 Final	6	N

Print Report

Edit Selected Records

Generate New and Replacement Records

Delete

Exit

Export

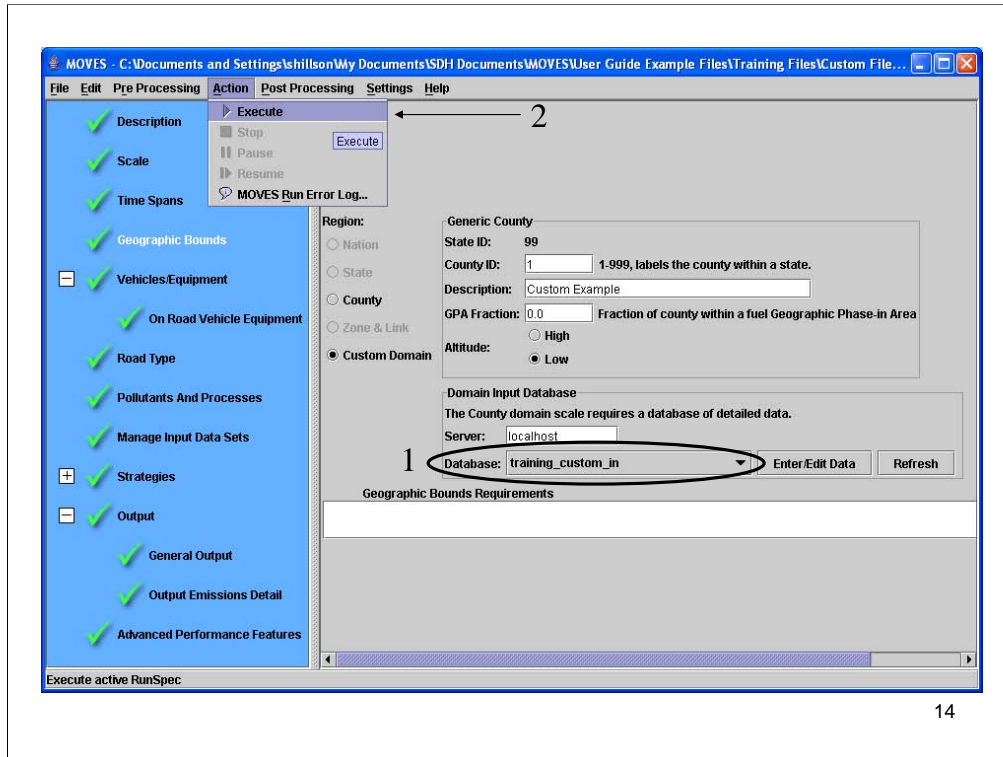
Import

Ignore I/M

Use I/M

Messages:

After importing the IM tab, this is what the screen will look like. Click Exit (at right of Editor) to return to the CDM, then Done (bottom right of the CDM) to return to the “Geographic Bounds” panel. No record of changes made to I/M programs will appear in the Log on the Database panel of the CDM.



After use of CDM/IM Editor is complete, make sure the correct database is entered in the “Domain Input Database” area of the “Geographic Bounds” panel and then you can execute the runspec.

## County Data Manager and I/M Editor – What does the future hold?

- Multiple Runspec Creator tool being developed to assist with conducting multiple County and Project runs
- Barometric Pressure can be entered for Custom Domain rather than using averages
- I/M was first pre-processing tool developed; it will be changed so that its operation is similar to the other CDM tabs