

# ABSTRACT

The Idaho Department of Environmental Quality (DEQ) has created a software program used to gather point source data for annual and periodic emissions inventories. This online graphic user interface (GUI) allows facilities to log into a DEQ server using a unique user ID and password provided by the agency. The GUI layout follows the requirements in the final Consolidated Emission Reporting Rule; therefore, providing the exact data, in the appropriate format, that the Environmental Protection Agency is looking to gather for the National Emissions Inventory (NEI). The program limits the amount of quality assurance (QA) needed on the data by controlling each submission field. Data, once submitted by the facility, is automatically placed into a SQL server database. These data tables can easily be moved into Access in order to make any necessary corrections and to run the EPA QC tool program.

Title:

Emissions Inventory Graphic User Interface for Point Sources

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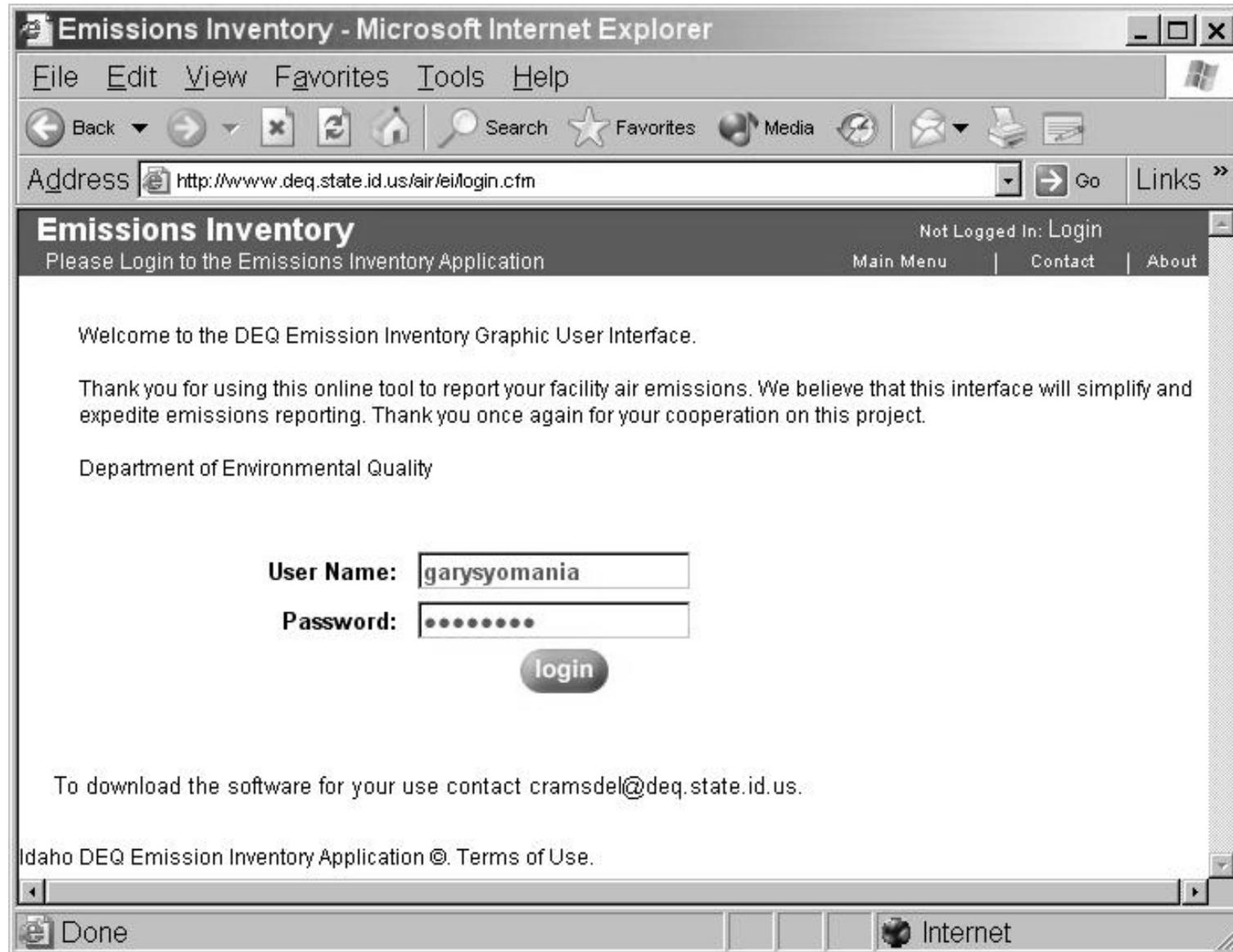
# GOALS

- Solve data collection problems experienced in the past
- Ensure point source data submittals match CERR requirements
- Automate placement of data into NIF3.0 eight-table format
- Provide a user-friendly method for facility data submissions
- Reduce QA needs by controlling data entry for each field
- Allow data received to be manipulated or corrected in Access format while storing the data in a SQL server database compatible with other in-house database systems

# APPLICATION SPECIFICS

- Written in HTML with Java Script used for the menu tree
- Runs on server using ColdFusion
- Will connect to a SQL server, Oracle, or Access database
- Is copyrighted with a General Public License and is currently available to other agencies for **free** (some code changes will be needed on your end)

# Login Screen



# Main Menu Screen

## Emissions Inventory

Main Menu

Logged in as GarysYomania | Logout

[Download PDF of My Data](#) | [Change Year](#) | [Contact](#) | [About](#)

### Emissions Inventory: 2002

-  Facility Info
-  Company Data 

submit

#### Links:

[Online Animated Tutorial](#)  
[Online Animated Tutorial Two: Adding/Deleting Stacks & Points](#)  
[Emission Inventory Graphic User Interface User's Manual](#)  
[A summary of the Consolidated Emissions Reporting Rule\(CERR\)](#)  
[The final CERR](#)  
[CERR activation of point source reporting requirements for PM2.5 and NH3](#)  
[Fugitive Emissions Source List](#)  
[EPA drop down list codes](#)  
[Source Classification Codes \(SCC\)](#)  
[Download the Emissions Inventory Application](#)

# Main Menu Screen - after Facility Data is entered

**Emissions Inventory** Logged in as GarysYomania | Logout

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**Emissions Inventory: 2002**

- ⊕ Folder Facility Info
- ⊖ Folder Stack Data
  - 📄 Dragonfly (010) ✕
  - 📄 Element X& (020) ✕
  - 📄 Freehand (030) ✕
  - 📄 Roadster (040) ✕
  - 📄 Samurai (050) ✕
  - 📄 add new stack
  - 📄 delete stack
- ⊖ Folder Point Data / Emission Data (Point - Stack)
  - 📄 DF 1 - Dragonfly (010) ✕
  - 📄 EX 2 - Element X& (020) ✕
  - 📄 FH 2 - Freehand (030) ✕
  - 📄 RD 1 - Roadster (040) ✕
  - 📄 SM 1 - Samurai (050) ✕
  - 📄 add new point
  - 📄 delete point

# Stack Entry Screen

Emissions Inventory		Logged in as GarysYomania   Logout
Please enter Stack Information		<a href="#">Back To Main Menu</a>   <a href="#">Contact</a>   <a href="#">About</a>
Current Stack: <b>Dragonfly</b>	Inventory Year: <b>2002</b>	
DEQ Facility ID: <b>06900666</b>	AIRS Stack ID: <b>010</b>	
Facility Stack ID: <input type="text" value="Dragonfly"/>		
Stack Description: <input type="text" value="Stack for the Dragonfly injection mold"/>		
UTM East: <input type="text" value="432.999"/>	UTM North: <input type="text" value="3223.333"/>	UTM Zone: <input type="text" value="12"/>
Horizontal Collection Method: <input type="text" value="The geographic coordinate determination method based on interpolation-map."/>		
Horizontal Accuracy Measure: <input type="text" value="10"/>		
Horizontal Reference Datum Code: <input type="text" value="North American Datum of 1927"/>		
Coordinate Data Source Code: <input type="text" value="An organization or individual that contracts to perform work."/>		
Source Map Scale Number: <input type="text" value="15"/>		
Emission Release Point Type: <input type="text" value="2 - VERTICAL"/>		
Stack Height (ft): <input type="text" value="69"/>	Effective Stack Diameter (ft): <input type="text" value="2"/>	
Exit Gas Temperature (F): <input type="text" value="80"/>	Exit Gas Velocity (ft/s): <input type="text" value="85"/>	
Stack Fenceline Distance (ft): <input type="text" value="125"/>	Volumetric Flow Rate (acfs): <input type="text" value="267.04"/>	
* If the "Emission Release Point Type" = 01 - Fugitives, please answer the following:		
Non-stack Horizontal Dimension (sq ft): <input type="text" value="0"/>		
Non-stack Vertical Dimension (ft): <input type="text" value="0.0"/>		
<input type="button" value="save"/> <input type="button" value="submit"/>		

# Point Entry Screen

## Emissions Inventory

Please enter Point Information

Logged in as GarysYomania | Logout

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Current Point: **DF 1**

DEQ Facility ID: **06900666**

Inventory Year: **2002**

AIRS Point ID: **010**

Facility Point ID:

Point Description:

Facility Stack ID:

Design Capacity:

Units:  /

Max Nameplate Capacity:  (in Million Watts)

### Processes:

Process ID

1 - Plastic Injection Mold - Natural Gas Fired

[add process](#)

[delete process](#)

Completed

×

[save](#)

[submit](#)

# Process Entry Screen

Emissions Inventory		Logged in as GansYomania   Logout	
Please enter Process Information		Back To Point   Main Menu   Contact   About	
Process ID: 1			
DEQ Facility ID: 06900666		Inventory Year: 2002	Facility Point ID: DF 1
SCC: 30290003			
Process Material: Natural Gas	Actual Annual Throughput: 138		
Material I/O: PROCESS MATERIAL USED (INPUT)	Units Per Year: MILLION CUBIC FEET		
Emission Process Description: Plastic Injection Mold - Natural Gas Fired			
<b>Operations</b>			
Weekday Operation %: 72	Operation Hours per Day: 12		
Winter Operation %: 25	Operation Days per Week: 6		
Spring Operation %: 25	Operation Weeks per Year: 48		
Summer Operation %: 25	Operation Hours per Year: 3456		
Fall Operation %: 25			
Total Operation %: 100%			
<b>Fuel</b>			
Heat Content: 1000	Sulfur Content: 0	Ash Content: 0	
<b>Process Emissions</b>			
Pollutant: primary pm2.5 (includes filterables + condensibles)	Completed: X		
add pollutant			
delete pollutant			
<b>save submit</b>			

# Pollutant Entry Screen

## Emissions Inventory

Please enter Pollutant Information

Logged in as GansYomania | Logout

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Process ID: **1**

Inventory Year: **2002**

Facility Point ID: **DF 1**

Current Pollutant: Primary PM2.5, Filterable Portion Only

Emissions: 2 TON/YR

Emission Factor: .095

Units: POUNDS / TONS

Emission Calculation Method: ENGINEERING JUDGEMENT

Emission Factor Reliability: AP-42 RATING E

Emission Factor Reference: Assume 50 percent of PM10=PM2.5

Complete Control System: Gas Washer

Description:

Primary Control %: 80

Primary Control Reference: Engineering Estimate

Primary Control Type: SCRUBBER

Secondary Control %: 0

Secondary Control Reference:

Secondary Control Type: UNCONTROLLED

save

submit

# Administrative Screen

**Emissions Inventory**
Logged in as Admin | [Logout](#)

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 [Export](#) | 
 [Users](#)

Facility: Garys Yomania	Facility List For <span style="border: 1px solid black; padding: 2px;">2002</span>
<p><b>Emissions Inventory: 2002</b></p> <ul style="list-style-type: none"> <li>[-] Folder Facility Info</li> <li>[-] Folder Stack Data           <ul style="list-style-type: none"> <li>[ ] Dragonfly (010) ✓</li> <li>[ ] Element X&amp; (020) ✓</li> <li>[ ] Freehand (030) ✓</li> <li>[ ] Roadster (040) ✓</li> <li>[ ] Samurai (050) ✓</li> <li>[ ] add new stack</li> <li>[ ] delete stack</li> </ul> </li> <li>[-] Folder Point Data / Emission Data (Point - Stack)           <ul style="list-style-type: none"> <li>[ ] DF 1 - Dragonfly (010) ✓</li> <li>[ ] EX 2 - Element X&amp; (020) ✓</li> <li>[ ] FH 2 - Freehand (030) ✓</li> <li>[ ] RD 1 - Roadster (040) ✓</li> <li>[ ] SM 1 - Samurai (050) ✓</li> <li>[ ] add new point</li> <li>[ ] delete point</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>2002 Argonne National Laboratory W INEEL ✓</li> <li>2002 Artco E</li> <li>2002 Ash Grove Cement ✓</li> <li>2002 Avista Corporation E</li> <li>2002 Basic American Foods ✗</li> <li>2002 Basic American Foods ✓</li> <li>2002 Basic American Foods Inc ✓</li> <li>2002 Bennett Lumber Products Inc E</li> <li>2002 Boise Cascade E</li> <li>2002 Charmac E</li> <li>2002 Chevron Pipe Line Company and NW Terminalling Co E</li> <li>2002 Crown Pacific Limited Partnership Coeur D Alene E</li> <li>2002 Dynamic Fabricators, LLC E</li> <li>2002 Evander Andrew Complex ✓</li> <li>2002 Evergreen Forests &amp; Tamarack Energy Partnership ✓</li> <li>2002 Fiberglass Systems E</li> <li>2002 flexcel ✓</li> <li>2002 Foam Molders E</li> <li>2002 Garys Yomania ✓</li> <li>2002 Idaho Fresh Pak, IdahoFalls ✓</li> <li>2002 Idaho Fresh Pak, Lewisville ✓</li> <li>2002 Idaho Supreme Potatoes ✓</li> <li>2002 Idaho Veneer Inc E</li> <li>2002 INEEL AMWTF ✓</li> <li>2002 INEEL Central Facilities Area (CFA) ✓</li> <li>2002 INEEL INTEC ✓</li> <li>2002 INEEL DREAMERS ✓</li> </ul>

# CONCLUSIONS

The DEQ Web-based application was used for the calendar year 2002 periodic emission inventory conducted between January 7 and March 31, 2004. At that time, the interface was attached to a SQL server database. An upgrade to Oracle is forthcoming. This change, as well as cosmetic upgrades to make the interface even more user-friendly, are planned for summer 2004 before use on the 2003 annual inventory.

The emissions inventory application is a practical, user-friendly system with numerous built-in quality assurance features. The on-line location of the interface allows all facilities to access the Web and enter their actual emissions with no worry of program format incompatibility. The Idaho Department of Environmental Quality met with great success using this new program and few fixes were needed on the fly during our 2002 project. Reaction from industry and EPA were favorable with few exceptions.