Transcript for Environmental and Compliance History Online (ECHO) Intro to ECHO Webinar

June 15th, 2021, 1:30 – 2:30 PM EST

Good afternoon and welcome to today's presentation. Before we get started, let's review a few housekeeping items.

Audio is available for this presentation through your computer's mic and speakers or by telephone. Your call-in number as well as your access code is in the control panel box on the right-hand side of your screen. All attendees have been muted to minimize background noise.

If you are interested in following along with the script for this webinar, please go to the "Handouts" tab on your toolbar. You will then be able to download and read the script.

A recording of the webinar will be available on the ECHO website in the next week. EPA will also post the presentation slides and a transcript.

If you have a question during the presentation, please type it in to the questions box on the upper right-hand side of your screen. We will have dedicated time to answer questions during the presentation. If you're experiencing any technical difficulties, please contact us and we'll try to troubleshoot the issues.

Lastly, a survey will appear on your web browser at the end of the webinar, so please make sure to provide your comments and feedback to us. And with that, I'll pass it on to our first speaker Tanvi Gambhir.

Hi everyone, my name is Tanvi Gambhir and I work for Eastern Research Group, supporting the ECHO website. I'd like to welcome you to the Introduction to ECHO series of webinars, which provide basic demonstrations of searching and navigating the ECHO website. Today we're going to demonstrate a collection of examples of the ECHO Facility Search, which address common questions from new and experienced users. Please feel free to submit any additional questions into the question box and we will leave some time to answer them at the end of the webinar.

First, I would like to introduce everyone to ECHO to make sure we are all beginning from the same starting point. The U.S. Environmental Protection Agency (EPA) provides public access to its regulatory compliance and enforcement data through the Enforcement and Compliance History Online website, which we call ECHO.

Data included in ECHO indicate how a facility is regulated, when an inspection occurred, whether violations were found and whether any enforcement actions were taken.

ECHO presents the compliance history for more than one million EPA-regulated facilities. This includes three-year compliance status history and five-year inspection and enforcement history for Clean Air Act stationary sources, Clean Water Act permitted dischargers, Safe Drinking Water Act public water systems, and Resource Conservation and Recovery Act hazardous waste handlers.

Data are reported by EPA and state and local environmental agencies. ECHO also includes EPA enforcement action data under other statutes.

ECHO itself is not a data system of record. ECHO pulls data weekly from several EPA program data systems, such as the Integrated Compliance Information System, the Resource Conservation and Recovery Act Information System, the Safe Drinking Water Information System, and the Facility Registry System. It also pulls select data from EPA's Envirofacts, including Toxics Release Inventory and Greenhouse Gas pollutant release data. The About the Data page on the ECHO website provides links to the data sources themselves, as well as specific information on when data are refreshed.

ECHO provides a number of features to help you access and understand environmental data, such as the Facility Search and Enforcement Case Search. You can use these tools to search for facilities that match specific characteristics of interest and then choose specific reports to view detailed environmental information.

We would like to remind you to enter any questions you have into the question box. We will have a question and answer session at the end of the presentation.

Okay, let's begin the live demonstration…

We will demonstrate how to use ECHO to answer common user questions. Let's start on the homepage…

How do I search for a specific facility?

The first way to search for information about a facility is by using the "Quick Search" on the ECHO homepage. Let's enter the facility name "Ray Operations" and run the search. This takes you directly to a map and table of matching results. The homepage Quick Search is a fast and easy way to run an ECHO search if you know the name or ID of a facility of interest.

Alternatively, you can perform a search by clicking on the "All Data" link to bring up the full search form.

Let's enter "Ray Operations" in Facility Name and run the search.

What if I cannot find a facility by name?

Facilities sometimes are known by different names, so it is helpful to try some search variations. There are some things you can try:

You can change the Active/Operating option from "Yes" to "Any"; The full search form automatically defaults to search only for facilities that are designated as Active, so removing this criterion will search all facilities in the ECHO system. This is a common reason why facilities do not show up in search results, so we always recommend trying this first.

Facilities may also go by different names or may be spelled differently than you expect. You can try to truncate the name to the first five or six letters.

If the facility has multiple words in the name, try searching by just one word.

You might also try searching by location only, for example, by ZIP code (or city and state) and see if the facility comes up in the results; or,

Type in the previous name of the company (if there has been a recent change).

How do I search by geographic location using Latitude and Longitude?

Let's start on the Hazardous Waste Search form.

In the Geographic Location section, select "View More". This allows us to see additional search options.

So, for this example, let's search for Hazardous Waste facilities near Atlanta, GA using latitude and longitude.

As a note, you can also allow the website to use your location (for example, by using the GPS on your mobile phone), and it will create a radius around that location.

The search results show a list of facilities and their locations on the map.

What is a Hazardous Waste Facility?

It is a facility regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C Hazardous Waste Program. It is a facility which handles solid waste materials known to be hazardous (meaning that it is dangerous or capable of having a harmful effect on human health or the environment). The facility may generate, transport, treat, recycle, store, or dispose of hazardous materials.

What do the symbols on the map represent?

Click on the Map Legend to learn what the symbols and colors represent.

The flags or map pins indicate four pieces of information using the stripe color, body color, icon numbering and icon size.

Can I modify the criteria to further focus on an area?

Yes. The map initially displays results based on the search criteria entered. You can use the "Zoom to" feature to zoom in further on an area of interest, e.g., North Decatur, GA.

Notice that the map is set to "Search as Map Moves", so as you move around or adjust the zoom on the map, the table will automatically update to display only the facilities currently visible on the map. You may deselect this button if you do not want the map to automatically update your search as you move the map.

How can I further filter my search on the map?

The sidebar to the right of the map provides variety of filters and map layers to visually analyze the facilities on the map.

Let's say we are interested in facilities that have on-site inspections completed.

Under the "Explore Enforcement and Compliance Criteria" section, ECHO provides additional criteria to filter the results, and displays a count indicating how many facilities would meet these criteria. Out of 16 facilities, 3 facilities have completed on-site inspections.

Let's see which facilities those are.

After selecting this filter, the map updates, and in this case zooms in to the map pins of these three facilities.

Now, let's look at the map layers panel. Adding a layer allows you to visually enhance your analysis by overlaying supplemental information.

Under EJSCREEN Maps, let's expand EJ Indexes and select particulate matter (PM) 2.5.

EJSCREEN is EPA's screening tool for Environmental Justice concerns. EPA uses these indexes to identify geographic areas that may warrant further consideration or analysis for potential EJ concerns. Note that use of these indexes does not designate an area as an "EJ community" or "EJ facility."

This layer shows the national percentiles for each Census block group for the Particulate Matter environmental index, which is a relative indication of the levels of fine particulate matter in the air in one area, compared to other areas across the US.

But, what do these colors represent?

If we click on the information "I" icon next to EJ indexes, a pop-up shows a legend of the color representation for EJ Index percentiles. For example, we can see that the map pin with the number 4 is in the 90-95 percentile, highlighting that it may be a good candidate for further review, analysis, or outreach as EPA develops programs, policies and other activities.

For our next example, let's search for a specific type of hazardous waste facility.

So, where are the Hazardous Waste Treatment, Storage, and Disposal Facilities or TSDFs in my state?

To answer this question, we need to specify the state and designation of the facilities we are interested in. Let's go back to the Hazardous Waste Search form and clear our previous search criteria.

Under the Geographic Location section, select State as MD and under Facility Characteristics section, select the Universe of Operating TSDFs.

The results show TSDF facilities in the state of MD.

Alright, let's return to the homepage for our next example.

How do I find facilities with recently identified violations near my community using the map?

We can start our facility search using the map by clicking on "Map Any Facilities with Enforcement and Compliance Data." This is a nationwide map of all the ECHO facilities. We can specify criteria directly on this page to refine these results. So, our question is, how do I find facilities with recently identified violations?

On the Current Search panel, check "Facilities with Significant Violations".

Data are clustered by state on the map, let's look at Arkansas.

Now we see pins for each facility. As indicated by the top stripe color on each pin, facilities may be regulated under one or more statutes. Let's use the some of the features in filter facilities panel on the right side. Let's look only at facilities with Air IDs (regulated under a CAA program).

When we use the Filter Facilities panel, the map and table dynamically update. You can choose whether to show only those facilities matching your criteria. If we uncheck “only show matches”, we also see those facilities that do not meet these criteria. They are “grayed out” or dimmed in the results table and map.

For our next example let’s go to the All Data Facility Search.

How would I use ECHO to determine the facilities in my state that have been inspected recently by the state environmental agency?

In Geographic Location section, choose State as Virginia.

Scroll to the Enforcement and Compliance section. Under Time Since Last Inspection choose “Within” 1 year and Agency as State.

On the right panel, select “view results as data table.” Note that selecting this option will return results only in a table and not display the map.

Now, let’s run the search.

On the results page, we see the number of facilities with any inspection in the last year conducted by the state. Under customize columns, we have two additional columns of interest – “Days Since Last Inspection” and “Date of Last Inspection.” We can check these to add them to the results table.

Let’s sort on “Days Since Last Inspection” by simply clicking on the column header. We can see the facilities most recently inspected in Virginia by the state environmental agency.

How do I learn more information about a facility that appears in the facility search results?

Once on this page, click on the table row associated with the facility. The “Facility Summary” panel on the right side of the screen will expand.

Click on the Facility Name or “C” report icon to open the Detailed Facility Report (DFR). This is the first report you should look at for more information about a facility. We’ll look at this report in a later example.

What do the icons under the “Reports” column mean?

These icons represent the reports available for a particular facility. To see the name of a report, you can hover your mouse over the icon or click on the “Reports Legend” button on the top right of the table to see an explanation for all types of ECHO reports.

Reports are specialized to display different environmental information. Generally, reports are specific to data from one environmental program, but some reports cover enforcement and compliance data across environmental statutes. Each report type is represented by an icon, so you may easily identify it throughout the ECHO website.

To learn more about the information in specific reports, we recommend viewing the recording of a webinar we gave earlier entitled, “Advanced ECHO Webinar: Reports.” You can find it on the ECHO Training page.

Alright, let's start from the homepage for our next example, and click on the Water Facility Search.

How can I search on a partial permit number?

On the Water Facility Search, go to the Facility Characteristics section. The Facility ID number allows entry of partial ID numbers with at least two characters. Type a partial ID to return facilities with ID numbers that begin with the search term.

This can be particularly helpful to search for facilities covered under a NPDES general permit, because the permit numbers often have a standard naming convention.

For example, we searched on "DCR12" to see all facilities covered under a general permit for construction-related discharges in Washington, DC. This is the 2017 Construction General Permit issued by EPA.

How can I search for wastewater treatment plants or POTWs?

The Water Facility Search looks for facilities that have a wastewater discharge, or NPDES permit. Any point source that discharges pollutants to a water of the US is required to have a pollutant discharge permit.

We often receive questions about how to search for wastewater treatment plants and wanted to share a few strategies, since users may define this universe of facilities differently.

One way to search for different types of facilities is to use industry classification codes. For the Water Facility Search, we recommend using SIC codes to search for particular industries. For example, SIC Code 4952 represents sewerage systems (establishments primarily engaged in the collection and disposal of wastes through a sewer system). Let's do a search for facilities in Maryland with SIC code 4952.

We can use Customize columns again to add some related fields - SIC Code, Facility Type, and Permit Components.

Facility Type gives you additional information about the sewerage system. It indicates the ownership type in EPA's source database. Facilities could be classified as publicly owned treatment works (POTWs), or non-POTW. POTWs are sewerage systems owned by state, tribal, or municipal governments. Non-POTWs that have SIC code 4952 are typically smaller, privately-owned systems, serving schools or campgrounds.

As a note, Permit Component is the third field that can identify POTWs.

Additionally, we offer two flow fields in Customize Columns.

Facility Design Flow and Actual Average Facility Flow. These are flows that were included on the facility's NPDES permit application.

Okay, since we just did a couple of examples about wastewater, we'll switch to Drinking Water for the next demonstration.

How do I search for drinking water systems with specific types of violations?

For this example, we'll use the Drinking Water System Search. Let's search for larger drinking water systems with reporting violations. Note that we can approximate the size of the system using the number of people served.

Select "Monitoring and Reporting Violations" from the Latest Violation status under Enforcement and Compliance criteria.

The results show a list of systems that either failed to conduct regular water quality monitoring or did not submit monitoring results in a timely fashion to the drinking water environmental agency.

Select the Facility Name to view the Detailed Facility Report (DFR). The DFR presents detailed enforcement and compliance information for a facility. It is organized into six sections, with the Facility Summary providing summary information for the main statutes available in ECHO. Generally, when reading the report from top to bottom, information will flow from overall summaries to more detailed information, split out by each environmental program.

In the Enforcement and Compliance section, the "SDWA Violations and Enforcement Actions (5 Years)" table may have more detailed information.

If you have questions about the data fields on the DFR, we recommend reading the DFR Data Dictionary, which you can access by clicking the Book icon within each section. The Data Dictionary provides definitions for the data and descriptions of each of the report sections. A link to the Data Dictionary will also be included in today's slides.

While we are looking at the DFR, we also want to point out the ability to report a data error using the button at the top of the report. If you suspect that there is an error in the data on the DFR, whether it's an incorrect date, wrong facility address, etc., you can use this button to submit a report to EPA where it will be reviewed and corrected if necessary.

After clicking this button, scroll down to the line of the report that contains the suspected data error and click on the yellow triangle at the right side of the row.

If the row doesn't have a triangle, scroll back up to the top of the report to submit a general error.

After making one of these selections, you will be asked to submit your contact information and an explanation about the error. Please include as much specific information as you can to help the responsible official review and correct the data as appropriate.

I will note that ECHO pulls all its compliance and enforcement data from EPA program databases, and the ECHO team does not make any corrections directly. Whenever a user reports an error, the report goes to someone who can make the correction in the applicable source database. After an error report is submitted, it can take some time for report to be researched and the correction to be made in the source database. A correction will then be visible on ECHO after its next data refresh.

Similarly, since ECHO pulls data from many different databases, ECHO helpdesk staff are unable to answer questions about the inspections, compliance issues, or enforcement actions for specific facilities. If you have a question about the compliance and enforcement activities shown on a DFR, we

recommend contacting the permitting agency for the facility, which is usually a State agency or EPA Region.

Let's return to the Water Facility search for our next example…

How do I search for facilities releasing a specific pollutant?

We can use the water facility search to find facilities in Alabama that report wastewater discharges with Chlorine.

Let's select our state as Alabama from the Geographic location section.

Now let's scroll to the Facility Characteristics section and select our Permit Type as NPDES Individual Permit.

In the Pollutant section, type "chlorine" into the pollutant search box. The dropdown will automatically show matching values as you type.

Note: You can also search for specific pollutants or contaminants on the Air facility search and Drinking Water Facility search.

Let's select "Data Table" results view and click Search.

The results show facilities matching our criteria. To learn more about the specific pollutant discharge data, select the Effluent Charts Report ("E" report icon).

The Effluent Charts page presents dynamic charts and tables of permitted limits, reported releases, and violations over time for Clean Water Act (CWA) wastewater dischargers.

On this page, select "Chlorine, total residual" from the summary grid.

On the chart, we can see the Chlorine concentrations reported over the last three years. The lines represent the numeric limits for chlorine in this facility's permit. The points represent discrete measurements of chlorine over time.

Let's go to the Air Facility Search for our next example.

How do I search for releases of air pollutants?

Let's set the State as Utah.

In the Pollutant section, let's select "Has EIS ID", Year as 2017, and NEI Emission Category as Primary Particulate Matter (PM)

What is the NEI?

The National Emissions Inventory is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from several sources. ECHO Facility Search includes data from stationary point sources, such as industrial or commercial facilities.

What is PM?

Particulate Matter is a mixture of small particles and liquid droplets in the air. PM can cause reduced visibility or haze in some parts of the country. Since they are small enough to inhale, exposure to PMs can lead to respiratory health issues.

On the results page, let's hide the table to see a larger map.

Let's add a layer to our map.

Under Air Maps, select Nonattainment Areas by Pollutant and then select the layer for PM 10.

We can see an area of nonattainment for PM 10 micrometers, which is blue.

What is nonattainment?

It is an area in the U.S. that does not meet one or more of the National Ambient Air Quality Standards for six commonly found air pollutants, designated in the Clean Air Act. You can learn more about nonattainment areas on EPA's website.

How do I find visual depictions of data that track both facility and regulatory agency performance?

Let's look at Drinking Water data in another way. In addition to the Facility Searches, ECHO offers several dashboards that visually depict enforcement and compliance data over time.

The Dashboards can be accessed from the ECHO homepage by clicking "Analyze Trends" from the navigation menu. The Dashboards are arranged by program and include Air, Drinking Water, Hazardous Waste, Pesticides, and Water. Let's take a closer look at the Drinking Water Dashboard.

The Drinking Water dashboard presents interactive charts describing Public Water Systems, Site Visits, Violations, Serious Violators, Enforcement Actions, and Return to Compliance. The charts allow metrics to be monitored and displayed at a summary level, while offering supporting data at a more granular level.

This dashboard has two different views. The Activity Dashboard presents statistics on inspections, violations, and enforcement actions. The Performance Dashboard presents rates of activity, state-level statistics, and comparisons to national averages.

For this example, we'll review the Violations chart on the Activity Dashboard. Let's also select the state of Alabama as our search criterion. We are interested in the Public Water Systems with Health-based Violations.

This chart tells us the number of systems over the past ten years with violations related to health criteria. Clicking on an individual bar displays underlying data. Let's click on the bar for federal fiscal year 2020.

By clicking on the bar for federal fiscal year 2020, we can drill down to review the list of facilities with health-based violations in this year.

You can click on the Facility Reports links to access the Detailed Facility Report for any of the facilities in this table.

Now, let's return to the Drinking Water Dashboard.

To further refine searches on the Drinking Water Dashboard, you can access additional criteria by changing “View Search Criteria” to “Advanced”. This provides the option to filter the charts on four additional criteria: EPA Region, Public Water Supply size, Water Source, and Public Water Supply type.

Let’s now look at the air dashboard.

State Air Dashboard

The Air Dashboard allows users to track both facility and environmental agency performance over time related to administration of and compliance with environmental standards established by the Clean Air Act. Data are refreshed on a weekly basis.

We can see that this dashboard is organized in a similar structure as the Drinking Water Dashboard but tailored to air compliance and enforcement data. The Air Dashboard includes interactive charts describing Facilities, Compliance Monitoring Activities, Violations, Enforcement Actions, and Penalties over the last ten federal fiscal years.

You may filter your search by geographic, agency, and facility characteristics.

One useful feature that the redesigned dashboards have is called “Tour Dashboard”. The tour shows, step-by-step, the location of and how to use the dynamic components within the page. You can go through the tour at your own pace to learn more about how to interact with the dashboard. For example, this step explains how to select and apply values from a filter dropdown menu.

If you have any questions about the dashboards, you may click on the “Help” button to view more detailed documentation. The help page goes into more detail (than we have) about data sources, using the dashboards, and chart types.

This concludes our demonstration.

I pointed out a couple of help pages during this webinar, and I’ll mention them again. ECHO has extensive help documentation. Look out for the help links here on the homepage and on each application page.

Furthermore, if you have a question that is not answered by the help pages, you can reach us using the Contact Us link, which is available at the top right of every ECHO page.

A recording of this webinar, as well as the presentation slides and transcript, will be posted to the ECHO Training page.

If you would like to learn more about ECHO data sources, refreshes, and corrections, we recommend viewing the “Behind the Scenes” webinar that we recorded earlier this year, which is available on the ECHO Training page. In addition, we recommend viewing our short video tutorials.

We have included links to these help pages and to various other guidance pages in today’s webinar slides.

Now let’s take your questions.

Q&A Session

Thank you Tanvi and thank you to all the audience members that have submitted questions thus far. The first question we have for today, someone asked, “Is ‘search by name’ case sensitive?”

The facility name search is not case sensitive, but you will notice on the results, the names are in all caps. I also wanted to note that the name search has several different logic options that you can adjust. So, you cannot just search by full name or partial name, but also adjust the logic. And in the help documentation we have examples that explain how each of those options work and examples of expected results.

Thank you, Eva, next question we have here, someone asked, “When in the dashboard, do you have to select the state?”

So, on any of the dashboards you do not have to select a state. The first view you will see when you navigate to a dashboard is the nationwide view. And then you have the option to use some of those dropdowns at the top to narrow down the metrics you would like to look at. Activities by state or by region or by the other criteria. And you can also select one or more states if you like.

Thank you, the next audience question we have, someone asked, “If you select chlorine in the water search, would that return all the unique chlorine codes, those are specific time periods, chlorine compounds etc.?”

That is a good question, could we go to the water search criteria page? When we are looking at discharges under the NPDES permit program, there are a few ways to search. Would you mind clicking view more? We have pollutant, pollutant category, CAS number, and parameter. Parameter is the most detailed value. This is the actual code that is on a NPDES permit. That is going to describe both the name of the substance and the form of that substance. In our example, we had showed that we searched by the pollutant chlorine, but when we looked at the facility with results, that parameter was chlorine total residual. For parameter you will get substance and form. And if you search on a pollutant, that is a bit of a higher level, and pollutants map to one or more parameters. So, if you select— when you are searching by name in the pollutant, you want to look at how many pollutants show up. Chlorine may cover most of the chlorine parameters, but you can look at the list of pollutants to make sure that you are searching and capturing all of the parameters that you intend to when you run the search. If you prefer to do something even higher level, you can search across a pollutant category. Most of these categories—we have a few high-level categories—most of these categories cover a few dozen or even a few hundred different parameters. The help documentation provides lists of what pollutants and parameters are covered under each of these categories.

Thank you, the next audience question, someone asked, “What is the best way to search for multiple sites for one organization? And a follow up to that, do you need an ECHO account to do this?”

No, you do not need an ECHO account. All this information is publicly available. In terms of an organization, ECHO does not have information about corporate entities per say, what we suggest if you are looking for several related facilities under one organization, is to search by a combination of facility names to find a list of facilities that match your criteria. Once you have found those facilities, for example if you put a few facility names in, you may get some false positives, but once you identify the true facilities within that organization, keep a list of the registry IDs that match your search, which you

can then maintain and come back here and search just on registry IDs… I am assuming you are doing a search or monitoring over time. If you have a list of registry IDs, those identifiers stay constant more than facility names, that's a better way to track facilities over time rather than facility names that may change with ownership or other reasons.

Thank you, another audience question, someone asked, "In water, if searching by program ID, can you use the individual permit number, and do you include the first two letters?"

Yes, so for NPDES program IDs, typically the permit number, the first two characters are the state or territory followed by for individual permits seven numbers. Do include the first two characters in your search and you can also search by partial ID. Like a begins with if you would like to.

Great thank you, another audience question, someone asked, "Can you search by impaired waterbodies or watersheds?"

Yes, if we scroll down on this page to environmental conditions, in this section, we have a few search criteria to identify facilities located near waters that have been identified as impaired and potential causes of impairment. So, you can take a look at association of facilities located nearby these conditions.

Great thank you, and with that I will turn things over to Madeline LaPatra for closing remarks.

Conclusion

This is Madeline LaPatra and I conduct training and outreach for ECHO at the EPA. On behalf of all of us involved with this training, we thank you for participating in this webinar. If you think of any additional questions about using ECHO, please feel free to contact us using the contact us link in the top right of any ECHO page. I also wanted to remind you that a brief survey will open up as soon as this webinar ends. We would really appreciate your feedback. Thank you again and I hope you have a great week.