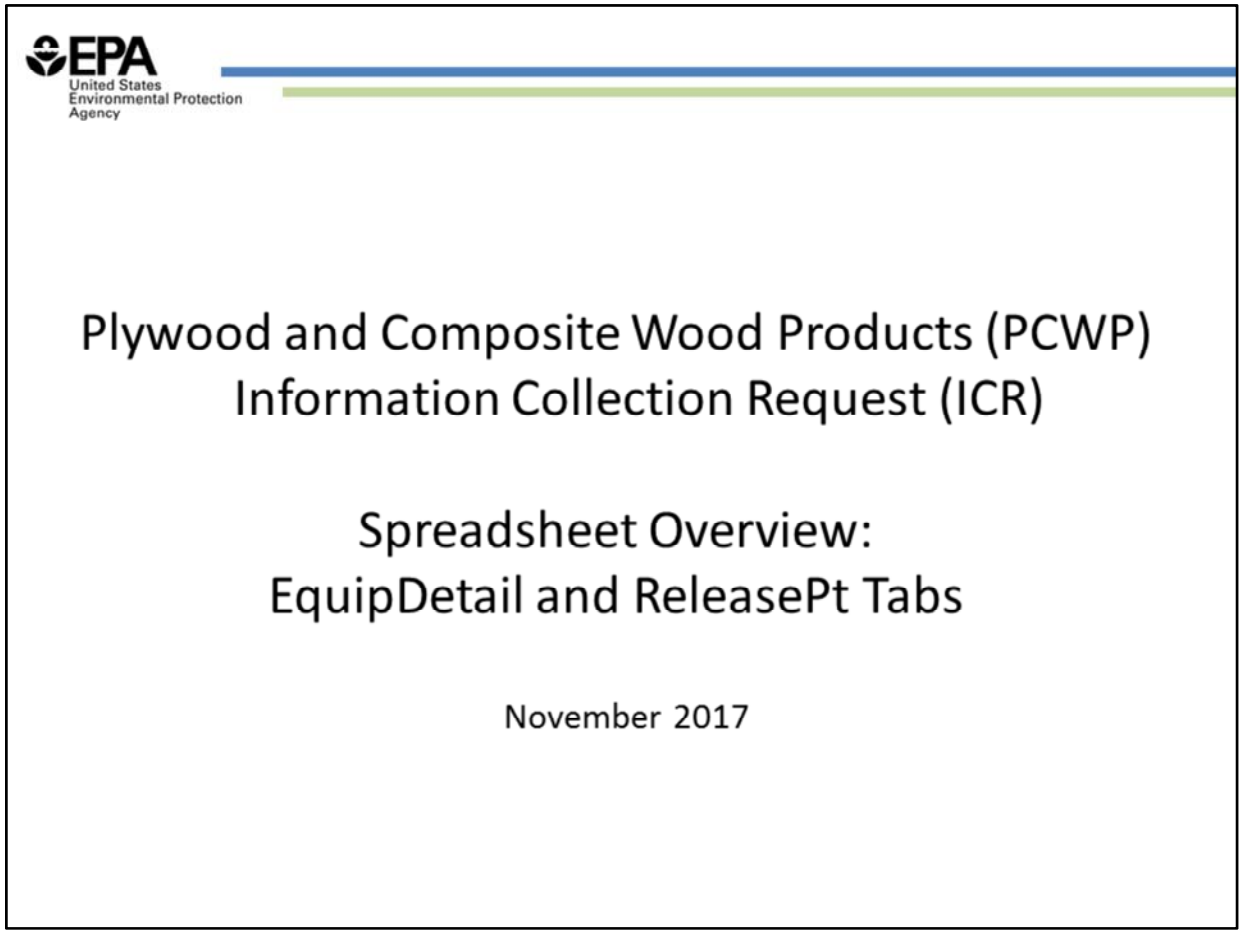


In this presentation we will discuss how to populate the EquipDetail and ReleasePt tabs of the Plywood and Composite Wood Products ICR spreadsheet.

This discussion is part of a series of recorded presentations that walk respondents through how to enter their facility information into the spreadsheet.

The EquipDetail and ReleasePt tabs are closely related. These two tabs are the source of prepopulated information in most of the other tabs so we thought it is worthwhile to have a presentation focused on these two tabs. Process unit information from the EquipDetial tab parses out into equipment-specific tabs. Both of these tabs feed the HAP Emissions tab which is where you will provide emissions for each HAP emitted to be included in the residual risk modeling.

It is important to get the EquipDetail and ReleasePt tabs set up correctly. Once you begin entering data into subsequent tabs in the spreadsheet, it gets a little harder to go back change the equipment and release point identifications.

Pages 20-36 of the ICR instructions document are available to guide you through identification of process units and release points. If you find that you need to make a change after completing other tabs of the spreadsheet, the text box on page 20 of the instructions provides tips on the easiest way to make changes.

SEE SPREADSHEET

EquipDetail tab:

The EquipDetail tab is where you list your PCWP process units. We have entered some examples for a facility making OSB, softwood plywood and lumber.

B-D. Columns B and C update once you enter a Process Unit ID in column D. The Process Unit IDs carry through the rest of the spreadsheet. You are prevented from entering duplicate Process Unit IDs.

E. Select the process unit type from the menu. You are only asked for provide information for process units in the PCWP source category. You do not need to include boilers or coating processes subject to other NESHAP. Appendix 2 lists the process units to include.

Appendix 7 provides definitions of the different process unit types. Many process units are defined in the PCWP NESHAP. Appendix 7 also provides supplemental definitions that went through notice and comment for inclusion in the former Appendix B of the PCWP NESHAP.

If your facility has a process unit that is not included in the list of process unit types, but is known to emit HAP and is, for example, included in your HAP emissions inventory or your permit, then you can select "other" to include the process unit in your ICR response. If you use the other option, please enter a description of the equipment in column F.

G. Select the product line associated with the process unit. The menu provides a list of the product lines you entered into the Prod tab. If the process unit serves multiple product lines, enter them separated by commas.

H. Select the product in column H from the products you listed in the Prod tab.

Columns I-P are where you enter the air pollution control device associated with each process unit. You enter the type of control device and an ID for the control device. For the types, use the codes in the instruction row. You can enter your own APCD ID. Use the same ID for each process unit the device controls. The OSB dryers in our example each have their own multiclone and WESP, but share an RTO.

Enter "none" if there is no APCD. List air pollution control equipment in place whether it is used to control HAP or not. Go ahead and list baghouses for dust control. You do not need to list mechanical collectors for product collection, for example, as material exits dryers unless the mechanical collector is the final emission point.

The APCD IDs listed carry forward through the spreadsheet into the APCD tab. Although you are asked to list dust control baghouses in the EquipDetail tab, when you get to the APCD tab you will see that the detailed questions for baghouses are only for baghouses that reduce HAP emissions (such as PM HAP metals from direct-fired process units). Further questions on cyclones are also minimal.

Column Q ask for the overall air pollution control system. Common groups of controls are included in the menu, or you can write in the control system type. *{notes in spreadsheet}*

Columns R through W are where the emission release points are associated with each process unit. Enter the number of release points in column R. This blacks out the release point columns you do not need. Assign each release point an ID in columns S through W.

Space is provided for 5 release points for each process unit. Most process units will not have this many release points. If you have a process unit with more than 5 release points, consider grouping them if, for example, there are multiple uncontrolled vents located close to one-another. Lumber kiln vents can be grouped into one (or a few) release points. Reviewing the release point types in the ICR instructions can give you some ideas on how to group vents, if needed.

There is a counter at the very top of the release point rows that you should be aware of. It is unlikely, but if you identify more than 100 emission release points for your facility then you will need an expanded version of the HAP Emissions tab for your spreadsheet. The ICR Helpdesk can assist you with this.

Every Emission Release Point ID specified in the *EquipDetail* tab will carry through to the ReleasePt and HAP Emissions tabs. The ReleasePt tab asks for release parameters and coordinates. The HAP Emissions tab asks for HAP-specific emissions estimates for each release point. You should balance the number of Emission Release Point IDs specified in the *EquipDetail tab* with the level of detail you can feasibly provide in later tabs, particularly for uncontrolled miscellaneous process units. For example, if you have a relatively low-emitting process unit venting into a building, you could pick the closest building vent as the release point instead of listing 5 vents that get 1/5 of an emission-factor based emission estimate.

Pages 23-27 of the ICR instructions document go into detail on how to assign release points for various configurations.

If you have processes with release points that you are not quite sure how to characterize, you may want to put these towards the bottom of the EquipDetail tab to prevent or reduce any ripple effect through the spreadsheet if you decide to change the number of release points later. Adding or removing release points in the EquipDetail tab after you complete the ReleasePt and HAP Emissions tabs can cause misalignment of information in those tabs, so it is important to get the release point IDs in the EquipDetail tab set up correctly.

To add/remove release points after filling out the the ReleasePt tab, you can flag rows for removal and reenter them at the end. (See p. 27 for details) *Example: S39*

Columns X asks for process unit operating hours. The operating hours will be used in emissions estimates and regulatory impact calculations.

Columns Y through AB ask for more details on how uncontrolled process units are vented. Uncontrolled process units are those with “None” entered back in the APCD columns. These columns will help EPA characterize process units in terms of whether they are currently configured for emissions capture, and if emissions are isolated from emissions from other process units. Select the most representative answer in column Z.

Column AD is a yes/no question to indicate if the process unit processes material containing resin.

Column AE asks if a continuous opacity monitoring system is used on the process unit or combustion control device.

Columns AF through AK ask about the compliance options used to show compliance under the PCWP MACT.

- In AF, select the compliance option from your most recent compliance demonstration. Choose “NA” if no compliance option applies. *{20 ppm for PINC}*

- In AG, select applicable PCWP work practices, or choose "NA" if no work practice applies.
- AH and AI ask about emissions averaging if you are using that compliance approach. If you are using emissions averaging, you are asked for a copy of the emissions averaging plan.
- For facilities using a production-based compliance option, column AJ asks about pollution prevention measures.
- Finally, column AK asks for controlling process parameters for facilities meeting the PBCO or generating emissions averaging debits without using a control device.

ReleasePt tab:

The release point tab is where you identify emission release parameters for each release point included in the EquipDetail tab. These release parameters will be used as inputs to the EPA's residual risk modeling.

The gray columns contain prepopulated information from prior tabs.

F. Each emission release point entered in the EquipDetail tab appears in the ReleasePt tab. If a release point shows up in bold purple, it is because multiple process units feed the release point. For these you enter the release parameters once and, because the same emission point has the same release parameters, just copy them and paste values to fill in the additional rows where the same release point appears.

Column H is optional.

I. You are asked for an SCC code. Appendix 8 lists the SCC codes by PCWP product type and crosswalks the PCWP process unit types with each SCC. If you plan to use the provisional calculations, be aware that the provisional emission factors provided for the calculations are triggered based on SCC. The pollutants with available emission factors are listed in Appendix 8. Select the most representative SCC available.

A few of the SCC codes apply for certain zones of a process unit (such OSB conveyor dryer heated zones and unheated zones; or veneer dryer heated zones and cooling sections).

The PCWP SCC codes were updated a few years ago. There are now many more SCC codes for the PCWP industry than were previously available, so you are asked to use the codes in Appendix 8 of the ICR instructions. Once you select or key in the SCC code, its description appears as a cross-check that you have the right one.

If NA appears, the you have likely pasted in from an outside source an SCC that is not in Appendix 8. You should go ahead and update your SCC codes to those in Appendix 8 for the PCWP ICR. If you cannot find an SCC code that matches your process, the use the "Other not classified" SCC for your product type.

G. There are multiple Emission Release Point Types that can be selected. Codes 02-06 are stack or point source release point types, while 08-10 are fugitive release point types.

Different parameters are needed for the different release point types. Table 5 of the ICR Instructions lists parameters to be specified for each release point type. Conditional formatting blacks out columns you do not need to fill based on the Emission Release Point Type selected.

The green highlights show up for fugitive vent release types to get you to look at the instructions and see that a specific default value needs to be entered. The defaults essentially reflect that the emissions occur over an area with essentially no flow rate.

Columns K and L are required for most release point types except where you see the black formatting. In column L, for ground level releases, enter 1 foot to satisfy the model input file QA criteria that there be a positive release height.

Columns M-Q ask for stack parameters. Enter the stack diameter, or equivalent diameter.

N. You are asked for the basis for the gas flow rate in the next column: "measured," "estimated," or "not measured/estimated" if the flow cannot be feasibly determined.

Column P asks for stack gas moisture. You can leave column P blank if the moisture has not been measured.

Column Q asks for the exit gas velocity which is available in emissions test reports, or can be calculated from the acfm and stack diameter provided in columns O and M.

Column R calculates the exit gas flow rate in cu ft/sec.

The next block of columns is for fugitive parameters. Length is needed for fugitive 3D release point types. Width is not requested for fugitive 3D releases because it is set equal to length. Both length and width are requested for fugitive 2D releases.

The last set of columns is for coordinates. The EPA requires longitude and latitude coordinates in 6-digit decimal form for residual risk modeling, not UTM coordinates or degrees/minutes/seconds. You can use a GPS, Google Earth, ArcGIS, or other mapping software to obtain the coordinates. The coordinates are critical input parameters for residual risk modeling because they define the distance to receptors that may be exposed to hazardous air pollutant emissions.

All of the emission release point types require one coordinate pair, except for the fugitive 2D which requires 2 coordinate pairs.

In North America longitude is negative and latitude is positive. We have built in validation criteria to help ensure your coordinates are within the expected range.

Maine. We have been made aware that the validation criteria for longitude is a little too tight for a few facilities in the eastern half of the state of Maine. If you have one of these facilities, you can enter your longitude values in the comments column or contact the HelpDesk if you would like for us to fix the validation in your copy of the spreadsheet.

Identifying Emission Release Points

- Identify Emission Release Point ID(s) for each Process Unit in the EquipDetail tab
- Provide detailed emissions release parameters and coordinates in the ReleasePt tab
- The release parameters required depend on the Emission Release Point Type you choose in the ReleasePt tab. Release Point Types include:

Stack Releases	Fugitive Releases
02 – Vertical	08 - Fugitive Vent
03 – Horizontal	09 - Fugitive Two-dimensional
04 - Goose Neck	10 - Fugitive Three-dimensional
05 - Vertical with Rain Cap	
06 - Downward-facing Vent	

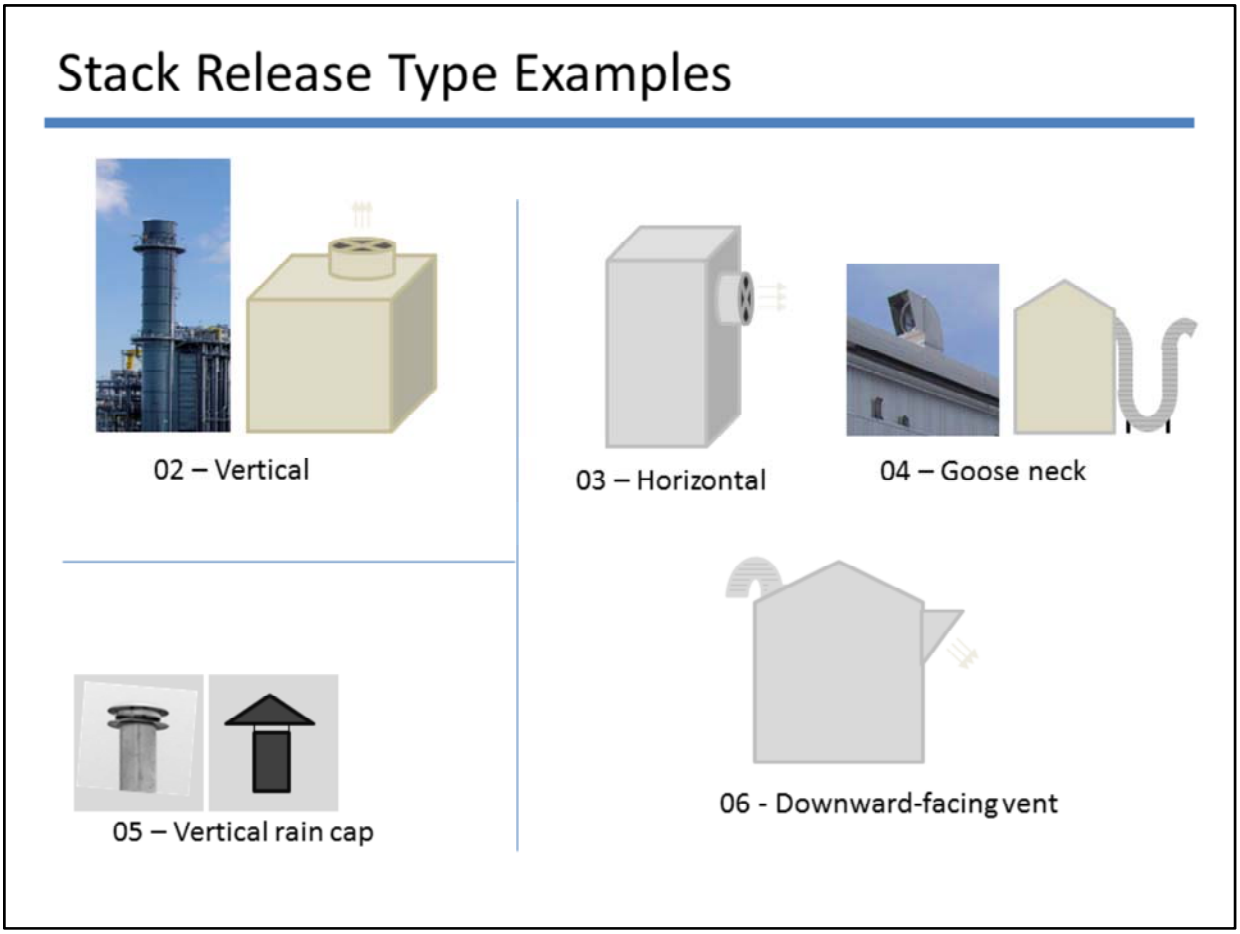
Table 5 of the ICR Instructions lists parameters to be specified for each release point type.

See slide for text

To recap what we saw in the spreadsheet, the EPA characterizes emission release point types for risk modeling.

There are multiple release point types to choose from. Five release point types are for stacks, and three are for fugitive sources. Different emissions release parameters are required for the different emission release point type codes. Table 5 of the ICR instructions document explains what is required.

Page 31 and Figures 3 and 4 of the instructions explain and provide a diagram for the different fugitive release point types. We will provide some additional visuals here.



Examples of stack or point source release types are shown here.

Most PCWP process units can be characterized as stack releases, whether the emissions exit from a control device stack or a powered roof or wall vent.

As mentioned previously, Table 5 in the ICR instructions lists the parameters that need to be provided for each vent type. With so many different configurations of equipment, the EPA expects that facilities will use their engineering judgement to pick the best fit release point type. Some of the types may overlap {*gooseneck*}, so just pick the one you think is the best fit.

Fugitive Vent Example

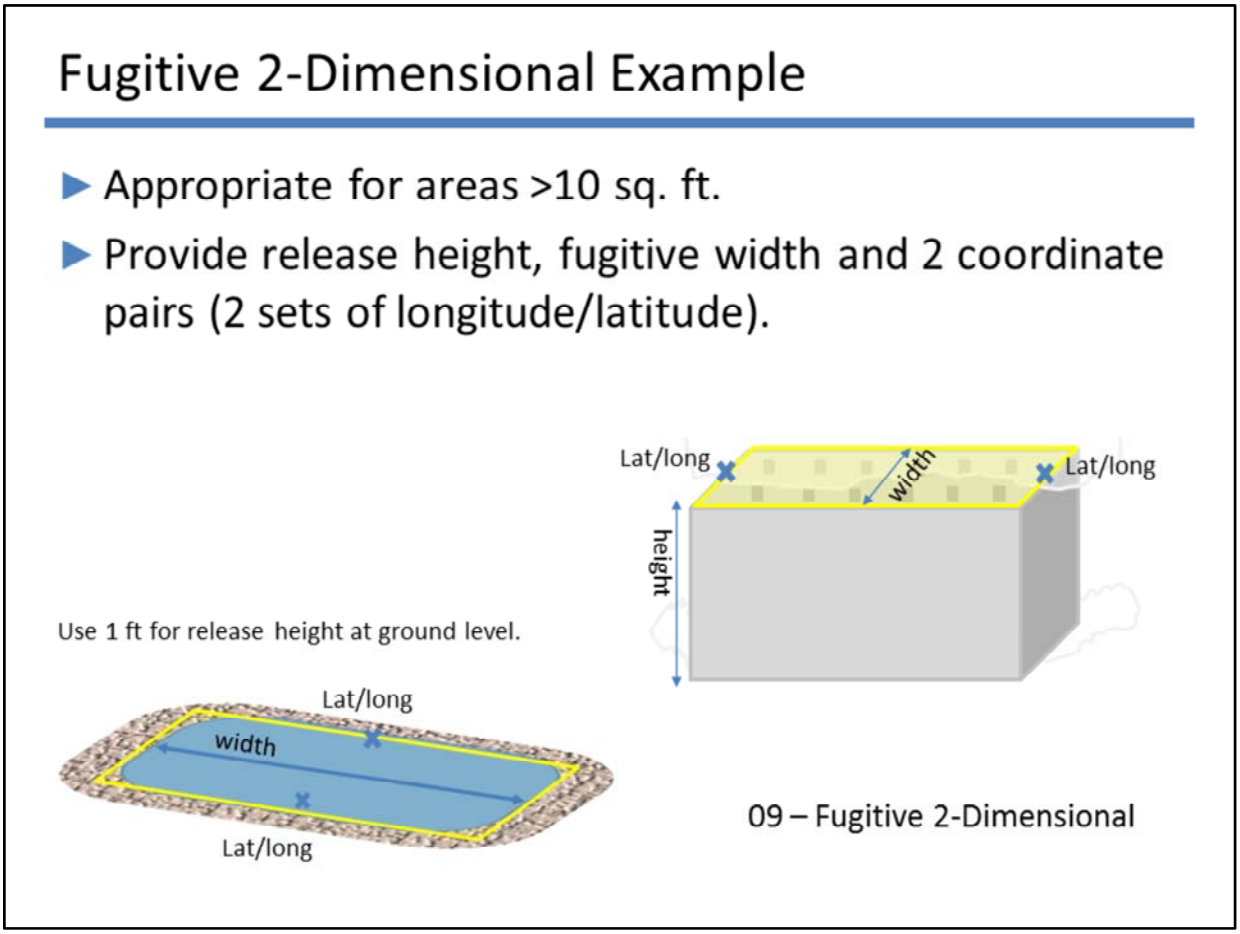
- Appropriate for vents with area <10 sq. ft.
- Passive vents
  - "No flow" defaults for diameter, velocity and flow
- Provide exit gas temperature and height

08 – Fugitive vent

This is an example of a fugitive vent (08 release point type code).

The 08-fugitive vent is applicable for unpowered vents with less than 10 square feet of area. One distinction to consider when choosing between stack and fugitive types is whether the vent is fan-driven with a significant velocity and ductwork, or if it is a passive vent. If the vent is passive with limited or no stack gas velocity then it can be characterized as a fugitive vent. If there is significant velocity from the vent then one of the point/stack release types would be more appropriate.

Default parameters reflecting the "no flow rate" nature of fugitive vents are assigned for diameter, exit gas velocity and exit gas flow. (You may recall that these "no flow" defaults are what gets entered into the green shaded cells in the ReleasePt tab.)

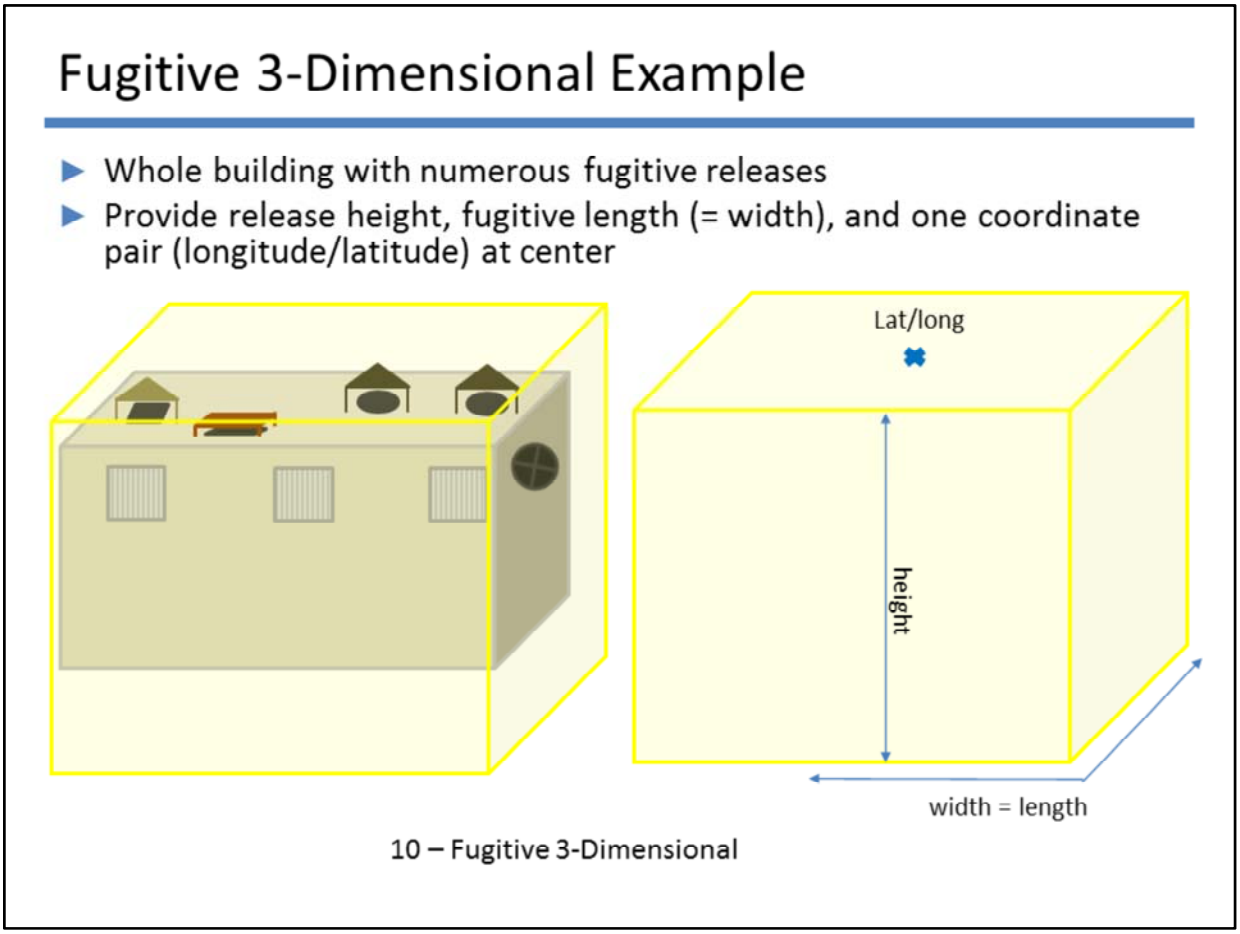


Here is an example of a fugitive 2-dimensional release (09 release point type code).

These figures depict a batch lumber kiln, and a control device wastewater settling pond that we will assume has quantified HAP emissions.

There are numerous vents across the top of the batch kiln with flow that changes direction. Given the number of small vents, the kiln can be modeled as fugitive emission source. Rather than treat every small vent as an emission point, all of the vents can be grouped into one fugitive 2-dimensional release that occurs over an area. The yellow rectangle is the area of the fugitive 2-D release point. You are asked to provide the height, the fugitive width, and 2 coordinate pairs. The coordinate pairs and width tell the model the precise location and area of the fugitive 2-dimensional release.

Similarly, for the settling pond, with HAP emissions occurring over an area 2 coordinate pairs and a width needs to be specified to provide the precise location of the fugitive release. A positive release height is required. 1 foot can be used for ground level sources.

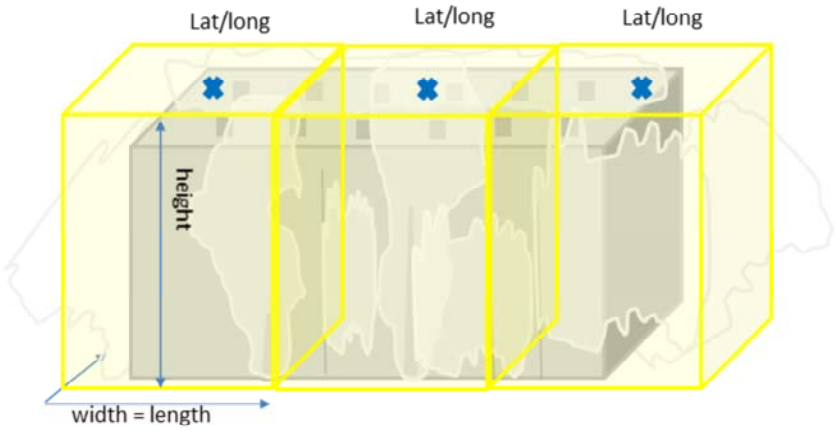


This is one example of how to use the fugitive 3-dimensional release point type for a building (or portion of a building) with numerous releases. Suppose there are various processes inside that generate low levels of HAP emissions within the building that escape from multiple vents. Rather than associate low amounts of fugitive emissions with each vent, the total emissions can be associated with the entire structure by drawing one fugitive 3-dimensional prism over it.

See slide for text

Fugitive 3-Dimensional Example

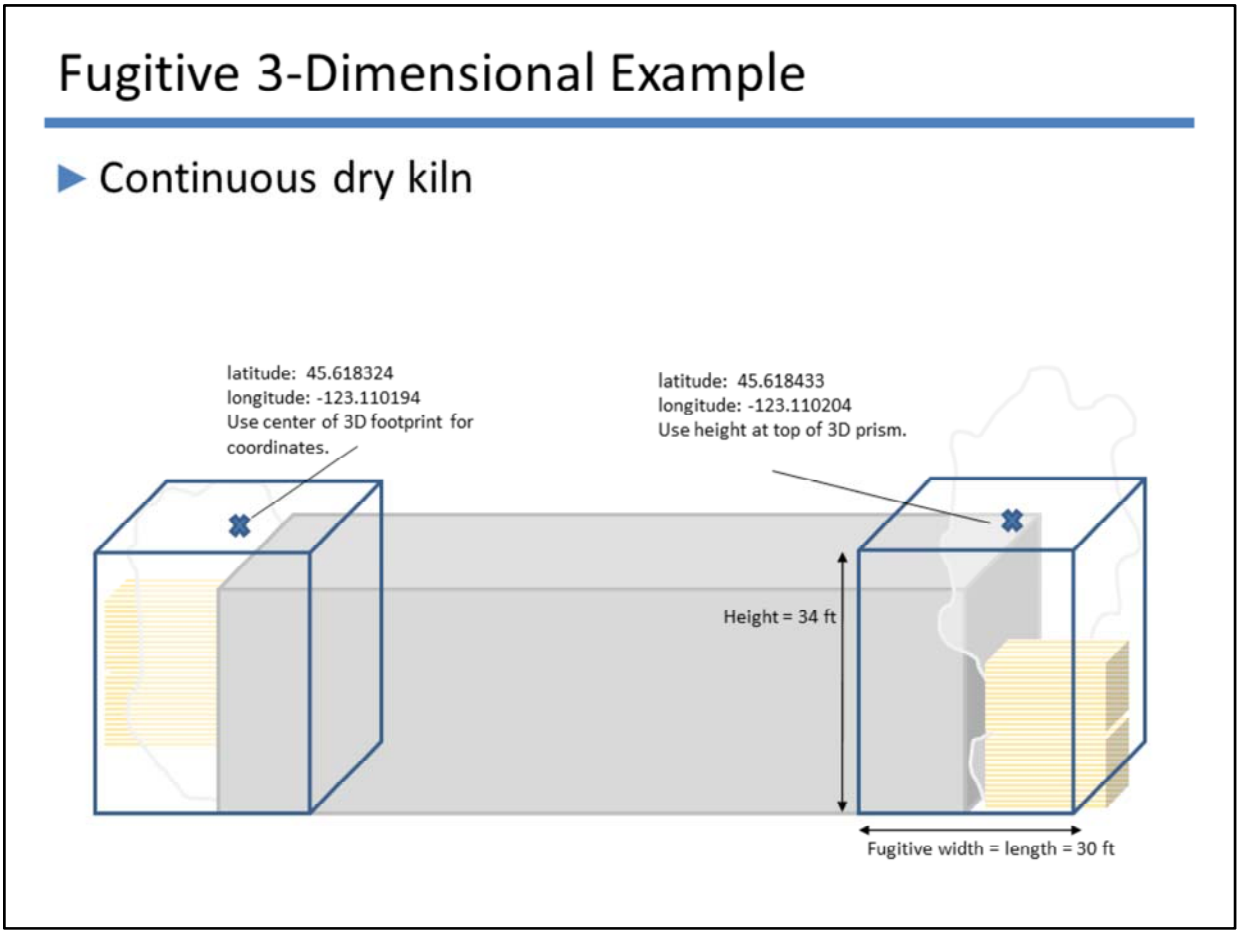
- Extremely leaky kilns can be modeled as multiple "fugitive 3-dimensional" prisms



10 – Fugitive 3-Dimensional

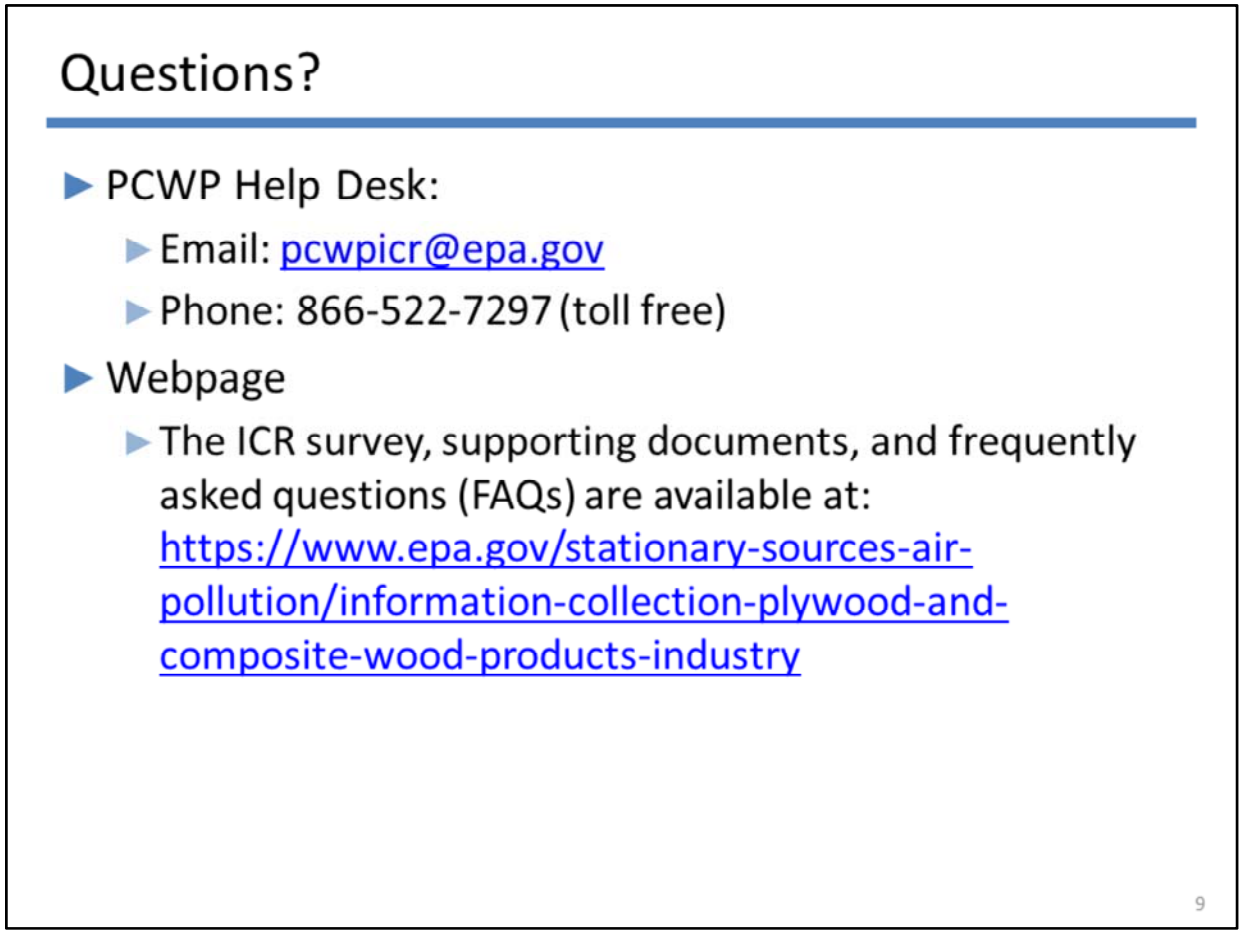
This is another example of a process that could be characterized as a fugitive 3D source – a leaky lumber kiln with significant amounts of emissions exiting from the doors and walls in addition to the roof vents.

Because the kiln is rectangular, we need to use multiple 3D prisms of with an equal width-length footprint. Longitude/latitude coordinates are specified for the center of the prism.
The height is also specified at the top of the prism. The length, width, and height parameters – along with the longitude/latitude coordinates – specify the exact location and dimensions of the fugitive release.



This is one final example of a fugitive 3-dimensional release point type – a continuous dry kiln with emissions coming from the ends.

See slide for labeled diagram



If you have questions, please contact us at the PCWP ICR Helpdesk, or visit our website where we are posting answers to frequently asked questions, as needed.

Thank you for listening to this discussion on the EquipDetail and ReleasePt tabs of the PCWP ICR.

Our next discussion in this series will be on how to populate the HAP Emissions tab and use of the provisional calculations.