From: Hays, David C Jr CIV USARMY CENWK (USA)
To: Dolislager, Fred; Walker, Stuart
Subject: RE: ACE review of CPM
Date: Thursday, May 15, 2025 9:36:37 AM
Attachments: image001.png
image002.png

Fred, all others look good to me. I think may be best to just delete the red text below. They are model assumptions thus "accounted" for. I apologize for any confusion, was thinking stating model assumption such as these may help, but the sentence is ok without the red text.

Thank you
Dave

From: Dolislager, Fred <8fd@ornl.gov>
Sent: Thursday, May 15, 2025 8:28 AM
To: Walker, Stuart <Walker.Stuart@epa.gov>; Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Subject: [Non-DoD Source] RE: ACE review of CPM

Dave,

Are my other recommendations for text changes acceptable?

Regarding comment 4 for section 4.3, I don't see how to best address your comment. I could change the section name to be "4.3 Detector Details and Model Assumptions" and not change any text. Or I could change the name and add a sentence to go to 2.2 to explore the limitations.
I could also edit that one sentence as I suggested. "It is important to note that only the distribution of energy deposition pulses in the detector crystals are simulated; therefore, other factors that comprise the true detector response such as detector resolution, 100% efficient detector count to instrument count, zero dead time, background, and pulse pile-up are unaccounted for."

Or I could leave 4.3 as it is. I like it as it is.

If you had something else in mind, you may have to spell it out for me. Sorry.

Fred Dolislager
(865) 576-5451 w
[redacted]

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Wednesday, May 14, 2025 9:37 AM
To: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Cc: Dolislager, Fred <8fd@ornl.gov>; Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>
Subject: [EXTERNAL] RE: ACE review of CPM

Thanks Dave

Stuart Walker
Superfund Remedial Program's
National Radiation Expert
Office of Superfund Remediation and
Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

From: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Sent: Wednesday, May 14, 2025 8:45 AM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Cc: Dolislager, Fred <8fd@ornl.gov>; Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>
Subject: RE: ACE review of CPM

Stuart, Good morning, Comment 4 was a different approach to previous comments. Suggest rather than state model limitations here, state the model assumptions. I like the stated limitations elsewhere in the guide but think good to have all model assumptions presented so users can note differences if needed.

Thank you
Dave

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Tuesday, May 13, 2025 12:31 PM
To: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Cc: Dolislager, Fred <8fd@ornl.gov>; Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>

Subject: [Non-DoD Source] FW: ACE review of CPM

Hi Dave, see attached Fred's response to your comments on the CPM calculator. On your comment 4 he was seeking some clarification.

Stuart Walker
Superfund Remedial Program's
National Radiation Expert
Office of Superfund Remediation and
Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

From: Dolislager, Fred <8fd@ornl.gov>
Sent: Tuesday, May 13, 2025 11:45 AM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Cc: Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>
Subject: RE: ACE review of CPM

Stuart,

Here are my proposed actions. One of the first ones, I'm not sure what the comment is all about. Feel free to share my proposals with the corps.

Fred Dolislager
(865) 576-5451 w
[redacted]

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Thursday, April 24, 2025 10:16 AM
To: Dolislager, Fred <8fd@ornl.gov>
Cc: Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>
Subject: [EXTERNAL] RE: ACE review of CPM

Thanks

Stuart Walker
Superfund Remedial Program's
National Radiation Expert
Office of Superfund Remediation and
Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

From: Dolislager, Fred <8fd@ornl.gov>
Sent: Thursday, April 24, 2025 10:04 AM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Cc: Manning, Karessa <manningkl@ornl.gov>; Noto, Katie <boluska@ornl.gov>
Subject: RE: ACE review of CPM

Stuart,

The comments seem reasonable at first blush. When RSLs are done, we can make the redline user guide version.

Fred Dolislager
(865) 576-5451 w
[redacted]

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Wednesday, April 23, 2025 4:58 PM
To: Dolislager, Fred <8fd@ornl.gov>; Kappelman, David <Kappelman.David@epa.gov>; Griggs, John <Griggs.John@epa.gov>
Cc: Mahler, Tom <mahler.tom@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Manning, Karessa <manningkl@ornl.gov>
Subject: [EXTERNAL] ACE review of CPM

Attached are comments from the Army Corps of Engineers on a peer review I requested on the CPM calculator. I did not have any issues with their comments.

Fred, when ORNL is able to address, please make redline/~~strikeout~~ edits in the CPM User Guide so we can review.

Dave and John, if you have any comments or suggested language regarding the ACE's comments, please let us know. Ccing Tom and Chuck to see if they have any thoughts.

After incorporation of these comments that we can agree on I will try and move the draft CPM calculator through my management chain for finalization.

Stuart Walker
Superfund Remedial Program's
National Radiation Expert
Office of Superfund Remediation and
Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

From: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Sent: Wednesday, April 23, 2025 3:11 PM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Cc: Sleboda, Jena <sleboda.jena@epa.gov>
Subject: RE: Radiation support request

Stuart, please see my comments in the attached. Model worked fine and results seem reasonable. Most comments are to language in user guide or considerations in general.

Thank you
Dave

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Friday, April 18, 2025 9:26 AM
To: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Cc: Sleboda, Jena <sleboda.jena@epa.gov>
Subject: [Non-DoD Source] FW: Radiation support request

Hi Dave, did this radiation support request work its way down to you? Jena, the new Josh, hasn't heard anything.

Stuart Walker
Superfund Remedial Program's
National Radiation Expert
Office of Superfund Remediation and
Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

From: Sleboda, Jena <sleboda.jena@epa.gov>
Sent: Wednesday, March 26, 2025 11:43 AM
To: Filips, Michael R CIV USARMY CEHNC (USA) <Michael.R.Filips@usace.army.mil>
Cc: Walker, Stuart <Walker.Stuart@epa.gov>; Mahmud, Shahid <Mahmud.Shahid@epa.gov>
Subject: Radiation support request

Good morning,

Please see below for a request for radiation support under the EPA HQ IA.

Thank you,

Jena Sleboda Braun
Environmental Engineer
Construction and Post Construction Management Branch
Office of Superfund Remediation and Technology Innovation, U.S. EPA
Email: sleboda.jena@epa.gov
Phone: (202) 566-0853

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Tuesday, March 25, 2025 3:52 PM
To: Sleboda, Jena <sleboda.jena@epa.gov>
Subject: request for ACE review of draft CPM calculator

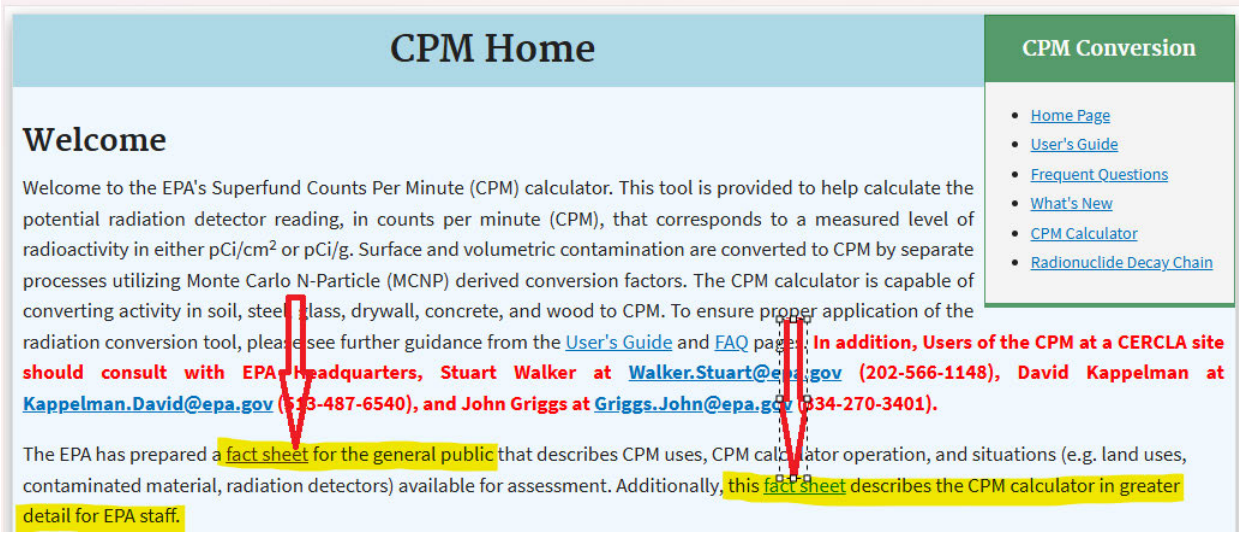
Hi Jena, I am requesting an ACE review of the draft Counts Per Minute (CPM) calculator. I would like the review to be completed within 3 weeks.

The CPM calculator has undergone an independent external peer review, an electronic validation, and a physical validation. In response to these reviews, a number of changes were made to the CPM calculator. I would like a peer review to ensure readability of the User Guide and other aspects of the CPM calculator before it goes to management for approval.

The draft CPM calculator may be found here:
https://epa-cpm.ornl.gov/

These are password protected and can be accessed using:
User name [redacted]
Password [redacted]

On the Welcome page, there are two versions (8th grade and college level) 1 page fact sheets that provide a quick summary of the CPM calculator.



Stuart Walker
Superfund Remedial Program's
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Technology Innovation
Phone: 202-566-1148
Email: Walker.Stuart@epa.gov

Comments to beta version of CPM Calculator 23 April 2025

1. Multiple combinations of inputs were ran and the model worked as expected. Did not run all input options so may be odd nuances that appear when used more but none found thus far.

2. With regard to the screen option narratives, specifically “requires TAC”: recommend this be deleted as required for all options. Additionally, consider adding statement of when FAC is required. Specifically for mixtures and when selecting options that “Does not require equilibrium…”.

3. Most model limitations are discussed in section 2.2, however a few are not. As an example. Recommend adding the statement following (from section 4.3) to section 2.2. It is important to note that only the distribution of energy deposition pulses in the detector crystals are simulated; therefore, other factors that comprise the true detector response such as detector resolution, dead time, background, and pulse pile-up are unaccounted for. Other potential limitations to consider adding to section 2.2 are dependent on answers to below comments.

4. I recognize that it is stated in section 4.3 that “….other factors that comprise the true detector response… are unaccounted for.” Recommend stating the resulting assumptions: 100% efficient detector count to instrument count, zero dead time, etc.. Think this will help users better understand limitations.

5. Does the model assume the detector is stationary, if so for how long? Some instrument’s 90% response time may be up to a few seconds although typically minimal with NaI. Recommend stating the assumption to better define how readings should be collected in the field. If not stationary, e.g. scanning, what is assumed observation window, etc..

6. My experience is FAC in soils is very heterogenic and often changes significantly from pre remediation to final status survey conditions, where I see this most likely being used (FSS) due to other limitations like grass shielding. Recommend users be cautioned that use of FAC requires homogenic conditions in section 2.2.

7. Many CPM results, for typical PRG values used on sites, are very low when considering counting uncertainty and detector critical levels. Recognize user guide has caveats in it regarding background and correction factors. Recommend a section or discussion be added to discuss that depending on TAC values the CPM results may be less than instrument detection limits, critical values, or within instrument counting uncertainty, and what corrective actions the user could take, if any?

8. Does the model account for soil moisture content? If so, recommend the value assumed be discussed. If not recommend discussing or state that it is not considered.