<u>Appendix E</u> to the Supporting Statement for
PCBs, Consolidated Reporting and Recordkeeping Requirements
EPA ICR No. 1446.12; OMB Control No. 2070-0112

Record of 2018 PCB ICR Consultations and Responses

1. Summary of Consultation Outreach, Comments and EPA Response to Comments
2. EPA request for consultation comments
    a. EPA email to Lacey, AGA
    b. EPA email to Pennell, RCS
    c. EPA email to Wawer, CPMA
    d. EPA email to Roewer, USWAG
    e. EPA email to Ronning, Xcel
3. Comments received by EPA in response
    a. Pennell phone message Memorandum
    b. CPMA email to Gimlin, EPA
    c. USWAG email to Gimlin, EPA, with attachment

Summary of Consultation Outreach, Comments and EPA Response to Comments

Consultation Outreach

In proposing to renew this ICR, EPA provided a 60-day public notice and comment period that ended on October 26, 2018 (83 FR 43675, August 27, 2018). No public comments were submitted to the docket at regulations.gov in response to this notice.

During the public comment period, EPA conducted a consultative outreach effort, submitting questions to five potential respondents via e-mail to solicit their opinion on the PCB recordkeeping and recording requirements. A copy of EPA's consultation e-mails to each of the potential respondents is attached to this summary. The individuals contacted were:

Jim Roewer, Executive Director
Utility Solid Waste Activities Group
c/o Edison Electric Institute
701 Pennsylvania Avenue, NW
Washington, DC 20004-2696
Jim.Roewer@USWAG.org
(202) 508-5645

Mark Pennell
RCS, INC.
Ozark, MO 65721
RCSINC@aol.com
(417) 886-4580

Pam Lacey
American Gas Association
400 N. Capital St., NW
Washington, DC 20001
placey@aga.org
(202) 824-7000

David J. Wawer, Executive Director
Color Pigments Manufacturers Association
1850 M Street NW, Suite 730
Washington, DC 20036
cpma@cpma.com
(202) 465-4901

Tedd Ronning, P.G.
Xcel Energy Environmental Services
414 Nicollett Mall – 02
Minneapolis, MN 55401
Theodore.A.Ronning@xcelenergy.com
(612) 330-7764

In response to these requests, EPA received three substantive replies. EPA received two sets of written responses from: (1) the Color Pigments Manufacturers Association, Inc. (CPMA); and (2) the Utility Solid Waste Activity Group (USWAG). Additionally, EPA also received one verbal response by telephone from Mark Pennell of RCS, Inc. Copies of these responses are attached to this summary.

CPMA Comments and EPA Response

CPMA commented on the burden associated with maintaining records of monitoring and analysis, as well as compliance certification, for persons who inadvertently generate PCBs and/or import products inadvertently containing PCBs, as per §761.185 and .193 (Item # 100 in the Supporting

Statement). CPMA commented that, based on an informal survey of color pigment manufacturing companies conducted in response to EPA's solicitation, domestic manufacturers take from 12 up to 24 hours annually to comply with these recordkeeping requirements. In follow-up correspondence, CPMA clarified that 4 to 5 domestic manufacturers maintain files, and perhaps 15 distributors import pigments [some whom presumably also maintain records]. Using this information, EPA has adjusted the time estimate for individual respondents upward from the previous 4.5 to 8 hours. EPA is using a figure less than that proposed by CPMA, because it is averaged between domestic manufacturers and importers, who EPA believes to have appreciably less burden. EPA also used information provided by CPMA to refine its estimate of the number of respondents.

USWAG Comments and EPA Response

In response to EPA's inquiry, USWAG commented to confirm that the estimates of the PCB Large Capacitor inventory that it provided to EPA in 2010 was still fundamentally accurate. In particular, the 2010 estimation that almost all remaining large PCB capacitors should be retired by 2013. However, USWAG also noted in its comments that current information from some of its members indicates that some PCB Large Capacitors still do remain in service. Based on USWAG's comments, as well as those from Mark Pennell, and EPA's disposal data, EPA has significantly lowered its previous estimate of the remaining PCB Large Capacitor inventory from 100,000 units to 10,000 (of which 10% remain unmarked and subject to recordkeeping). (Item #78)

USWAG also commented that many members continue to use the storage for reuse provision to maintain PCB equipment, but did not provide any updated inventory information. EPA has updated its estimates of PCB equipment in storage for reuse based on the most current estimates provided by USWAG in 2010. (Item #77)

Pennell Comments and EPA Response

Additionally, EPA received a verbal response from Mark Pennell of RCS, based on informal feedback from RCS members, some 250-300 mainly municipal and rural electric utilities. Mr. Pennell commented that he believes in general that large utilities have already removed and disposed of their inventories of PCB Large Capacitors. However, they always find 'stragglers" of residual remaining units. This comment is consistent with USWAG's comment noted previously. EPA took Mr Pennell's confirmatory comments into account in adjusting its estimate of the inventory of remaining PCB Large Capacitors significantly downward to reflect a residual inventory.

Gimlin, Peter

From: Gimlin, Peter
Sent: Thursday, October 18, 2018 10:06 AM
To: 'Lacey, Pam'
Cc: Swetland-Johnson, Karen; Winchester, Erik; Gimlin, Peter
Subject: two pipeline questions and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

To: Pam Lacey
American Gas Association
400 N. Capital St., NW
Washington, DC 20001
placey@aga.org
(202) 824-7000

Dear Pam,

It has been a long time since we have talked about PCB in pipeline issues, but I am updating the current PCB ICR for renewal and looking for your input on two particular questions, as well as any other comments you may have on the regulatory burden.

1) Regarding §761.60(b)(5)(i)(A)(1) -- Include abandoned natural gas pipes that contain PCBs in public service notification programs. (Item #56 in the ICR Supporting Statement). The ICR currently estimates 50 pipes annually are subject to this requirement, based on an estimate you provided in 2003 to the contractor, Caroll Wendell of ERG. **Do you think this estimate is still accurate, or is there a better number to use?**

2) Regarding §§761.30(i)(1)(iii)(B) and (C) -- Keep records on certain natural gas pipeline systems with ≥50 ppm PCBs and records of actions taken to reduce PCB contamination for three years after PCBs reduced to <50 ppm. (Item #76). The ICR currently estimates 100 companies are subject, that is, still have or recently had ≥50ppm PCBs. **Do you think this estimate is reasonably accurate, or is there a better number to use?**

If you could call or reply this week or next, that would be very helpful; note the comment period closes officially on October 26, 2018.

Here are details on accessing the ICR supporting statement and general information the Agency seek:

On August 27, 2018, EPA published a Notice in the Federal Register (79 FR 61302) titled "Agency Information Collection Activities; Proposed Renewal of an Existing Collection (EPA ICR No. 1446.12); Comment Request."
(See https://www.regulations.gov/docket?D=EPA-HQ-OPPT-2017-0647)
This Notice refers to EPA's intention to request renewed Office of Management and Budget (OMB) clearance of an information collection related to reporting and/or recordkeeping requirements for individuals, establishments or organizations that currently possess PCB items, PCB-contaminated equipment, or other PCB waste.

In addition to public notice and comment requirement that the above Notice initiates, OMB regulations at 5 CFR 1320.8(d)(1)) require agencies to consult with potential respondents and data users about specific aspects

of an information collection request (ICR) before submitting it to OMB for review and approval, regardless, in the case of ICR renewals, of whether changes have or have not been made to the collection activity.

Please note that if you take this opportunity to provide input, your name, affiliation, e-mail address, phone number and any information you provide (e.g., copies of e-mails) will be incorporated and attached to the ICR supporting statement, which will be a public document. In addition, the OMB Desk Examiner for the ICR in question may contact you to verify the accuracy of any comments EPA identifies in the ICR.

EPA solicits your input on the following questions:

- Are the data that EPA seeks under this ICR available from any public source, or already collected by another EPA office or by another agency? If so, where can the data be found?

- Is it clear what is required for data submission? If not, are there any suggestions for clarifying instructions?

- Would you be interested in an electronic/data submission option? What type of alternative would you be most likely to utilize – web form, USB flash drive, CD-ROM?

- For electronic submission, how should signature requirements be handled – Private Key Infrastructure, PINS and passwords, signed paper cover sheet?
- How does TSCA CBI affect your choice or use of an electronic medium? Would you be more inclined to submit TSCA CBI on CD-ROM or a USB flash drive than on paper and what benefits would you realize (e.g., burden reduction, greater efficiency in compiling information, etc).

- Do you agree with EPA's estimated burden and costs (the ICR addresses only the costs associated with paperwork)? Are the Bureau of Labor Statistics (BLS) labor rates accurate? If you have any reason to consider the BLS labor rates as used by EPA inaccurate or inappropriate, explain your rationale.

To access the Federal Register Notice, the ICR supporting document, and any public comments received to date, go to:

- www.regulations.gov/
- enter EPA-HQ-OPPT-2017-0647 in the Enter Keyword or ID field
- click on "Search"
- click on “Open Docket Folder”
- then click on any of the documents listed within the docket to read the document; you will be most interested in the Supporting Statement, identified by its title "PCBs, Consolidated Reporting and Record Keeping Requirements”

Your response will be greatly appreciated. If you have any comments in response to the above questions, or with respect to any other part of the information collection, please respond by return e-mail by October 26, 2018. EPA will consider those responses, as well as any public comment received in response to the Federal Register Notice identified above, in preparing a final document for OMB review.

Thanks for your consideration; please call me if any questions, 202-566-0515.

Peter

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT

U.S. Environmental Protection Agency
tel. 202-566-0515, email: *gimlin.peter@epa.gov*

Gimlin, Peter

From: Gimlin, Peter
Sent: Thursday, October 18, 2018 11:10 AM
To: 'RCSINC@aol.com'
Cc: Winchester, Erik; Gimlin, Peter
Subject: large capacitor question and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

To: Mark Pennell
RCS, INC.
Ozark, MO 65721
RCSINC@aol.com
(417) 886-4580

Dear Mark,

It has been a long time since we have talked about PCB use issues, but I am updating the current PCB ICR for renewal and looking for your input on a particular question, as well as any other comments you may have on the regulatory burden.

In 2010, USWAG submitted comments on the PCB Use Reassessment ANPRM and provided as an attachment a study by ENVIRON estimating an inventory of PCB equipment. That study concluded that "At the assumed rate of retirement, almost all of the remaining large PCB capacitors should be retired by 2013." **In updating our estimate of the number of large PCB capacitors for the current ICR, I am wondering if this conclusion that all large PCB capacitors would be gone by now is a reasonable conclusion? If you think an appreciable inventory of large PCB capacitors will remain in the next three years (2019-2022), how many do you think that might be? If you could call or reply this week that would be very helpful; note the comment period closes officially on October 26, 2018.**

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Please note that if you take this opportunity to provide input, your name, affiliation, e-mail address, phone number and any information you provide (e.g., copies of e-mails) will be incorporated and attached to the ICR

supporting statement, which will be a public document. In addition, the OMB Desk Examiner for the ICR in question may contact you to verify the accuracy of any comments EPA identifies in the ICR.

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Your response will be greatly appreciated. If you have any comments in response to the above questions, or with respect to any other part of the information collection, please respond by return e-mail by October 26, 2018. EPA will consider those responses, as well as any public comment received in response to the Federal Register Notice identified above, in preparing a final document for OMB review.

Thanks for your consideration; please call me if any questions, 202-566-0515.

Peter

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT
U.S. Environmental Protection Agency
tel. 202-566-0515, email: *gimlin.peter@epa.gov*

Gimlin, Peter

From: Gimlin, Peter
Sent: Wednesday, October 17, 2018 4:43 PM
To: 'David Wawer'
Cc: Gimlin, Peter
Subject: PCB Recordkeeping question and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

To: ***David Wawer, Executive Director***
Color Pigments Manufacturers Association, Inc.
1400 Crystal Drive, Suite 630
Arlington,VA 22202
(571) 348-5106

David,

In follow up to my phone message, I am updating the current PCB ICR for renewal and looking for your input on changes to address some comments you made in response to the last PCB ICR renewal in your letter to Toiya Goodlow dated November 14, 2014 (attached). In that letter, you noted:

> However, the costs of generating the monitoring records described above are not adequately reflected in the Supporting Statement, Annual Respondent Hourly Burden and Cost Estimate, which states that only .5 hours of management time and 4.5 hours of technical time are needed toward each reporting submission. The 5 hours allotted to recordkeeping for excluded manufacturing processes is too low.

I would like to discuss with you what might be a more accurate figure(s) to capture this recordkeeping burden. Or let me know your thought in response to this email. Also, your thought on what might be the number of manufacturers/importers who still retain these records. If you could call or reply this week that would be very helpful; note the comment period closes officially on October 26, 2018.

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In addition to public notice and comment requirement that the above Notice initiates, OMB regulations at 5 CFR 1320.8(d)(1)) require agencies to consult with potential respondents and data users about specific aspects of an information collection request (ICR) before submitting it to OMB for review and approval, regardless, in the case of ICR renewals, of whether changes have or have not been made to the collection activity.

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Your response will be greatly appreciated. If you have any comments in response to the above questions, or with respect to any other part of the information collection, please respond by return e-mail by October 26, 2018. EPA will consider those responses, as well as any public comment received in response to the Federal Register Notice identified above, in preparing a final document for OMB review.

Thanks for your consideration; please call me if any questions, 202-566-0515.

Peter

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT
U.S. Environmental Protection Agency
tel. 202-566-0515, email: *gimlin.peter@epa.gov*

Gimlin, Peter

From: Gimlin, Peter
Sent: Wednesday, October 17, 2018 5:21 PM
To: 'Jim.Roewer@USWAG.org'
Cc: Gimlin, Peter; Winchester, Erik
Subject: Large PCB Capacitor estimate and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR
Attachments: USWAG-ENVIRON inventory 2010.pdf

To: Jim Roewer, Executive Director
Utility Solid Waste Activities Group
c/o Edison Electric Institute
701 Pennsylvania Avenue, NW
Washington, DC 20004-2696

Dear Mr. Roewer,

It has been a long time since we have talked about PCB use issues, but I am updating the current PCB ICR for renewal and looking for your input on a particular question, as well as any other comments you may have on the regulatory burden.

In 2010, USWAG submitted comments on the PCB Use Reassessment ANPRM and provided as an attachment a study by ENVIRON estimating an inventory of PCB equipment. That study concluded that "At the assumed rate of retirement, almost all of the remaining large PCB capacitors should be retired by 2013." (page 13) In updating our estimate of the number of large PCB capacitors for the current ICR, I am wondering if USWAG believes that to be a reasonable conclusion for the 2019-2022 period, or if an appreciable inventory of large PCB capacitors remains, what a more accurate estimate might be. If you could call or reply this week that would be very helpful; note the comment period closes officially on October 26, 2018.

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supporting statement, which will be a public document. In addition, the OMB Desk Examiner for the ICR in question may contact you to verify the accuracy of any comments EPA identifies in the ICR.

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Your response will be greatly appreciated. If you have any comments in response to the above questions, or with respect to any other part of the information collection, please respond by return e-mail by October 26, 2018. EPA will consider those responses, as well as any public comment received in response to the Federal Register Notice identified above, in preparing a final document for OMB review.

Thanks for your consideration; **please call me if any questions, 202-566-0515**.

Peter

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT
U.S. Environmental Protection Agency
tel. 202-566-0515, email: *gimlin.peter@epa.gov*

Gimlin, Peter

From: Gimlin, Peter
Sent: Thursday, October 18, 2018 11:34 AM
To: 'Theodore.A.Ronning@xcelenergy.com'
Subject: FW: Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

From: Gimlin, Peter
Sent: Thursday, October 18, 2018 11:31 AM
To: 'Theodore.A.Ronning@xcelenergy.com' <Theodore.A.Ronning@xcelenergy.com>
Cc: Winchester, Erik <Winchester.Erik@epa.gov>; Gimlin, Peter <Gimlin.Peter@epa.gov>
Subject: Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

To: Tedd Ronning, P.G.
Xcel Energy Environmental Services
414 Nicollett Mall – 02
Minneapolis, MN 55401
(612) 330-7764
Theodore.A.Ronning@xcelenergy.com

Dear Mr. Ronning,

I am updating the EPA's current estimates of the reporting and recordkeeping burden imposed by the PCB regulations at 40 CFR Part 761, and I am looking for your input on a particular question, as well as any other comments you may have on the regulatory burden.

On April 12, 2018, you submitted to EPA a PCB Transformer Registration form for 3 transformers. Currently we estimate that it requires one hour of managerial time to register a newly discovered transformer with the EPA. Do you think this is a reasonable estimate? If not, what do you believe to be a more accurate assessment of the time required to prepare and submit the notification to EPA, in terms of time required for: managers; technical staff, and clerical staff?

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Thanks for your consideration; please call me if any questions, 202-566-0515.

Peter Gimlin

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT
U.S. Environmental Protection Agency
tel. 202-566-0515, email: gimlin.peter@epa.gov

MEMORANDUM

Subject: Record of Phone Message from Mark Pennell, RCS Inc., in Response to Consultation Outreach on PCB ICR 1446.12

From: Peter Gimlin, Environmental Protection Specialist
National Program Chemicals Division
Office of Pollution Prevention and Toxics, EPA

To: File (Docket EPA-OPPT-HQ-2017-0647)

Date: November 5, 2017

In response to my October 18, 2018, email inquiry for the PCB ICR, regarding the PCB Large Capacitor inventory in particular, Mark Pennell of RCS called my work telephone (202-566-0515) on October 24, 2018 at 2:17 pm EDT and left a voicemail message on the topic.

Regarding the large PCB capacitor issue, Mr. Pennell stated that of the 250-300 utilities that are member/clients of RCS, these capacitors are very rare, whether in use, stored for reuse, or appearing in the annual logs. He notes that most of their utilities are municipal utilities or rural electrical cooperatives, but with some larger investor owned utilities. Most of them, including the larger utilities, have "worked through them." While noting that his data is obviously just anecdotal, he believes in general that the "vast, vast majority" of large PCB capacitors are gone, although there are always those that "hide behind doors and cabinets," especially in power plants and they will be finding "stragglers" for the next ten years.

Gimlin, Peter

From: David Wawer <DavidWawer@CPMA.Com>
Sent: Monday, October 29, 2018 1:28 PM
To: Gimlin, Peter
Cc: Tatiana Letcheva
Subject: RE: PCB Recordkeeping question and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

Hello Peter,

Glad you and Eric could join us Friday (electronically) for the Region 10 Administrator meeting in Seattle.

Tatiana has been surveying color pigments manufacturing companies for information related to your recent request. I've summarized company feedback that has been received to date.

1. Does your company still file PCB reporting and recordkeeping at USA manufacturing sites? Yes- it had been filed
2. How frequent are reports compiled and submitted? Products are spot tested. No updates to the initial report has been submitted
3. How many hours does it take annually to comply with this recordkeeping requirement? 1-2 hours/month ~ 12-24 hr/yr
4. Is this reporting requirement management internally, or by outside contractor? Report in prepared internally; testing is done externally. Testing is expensive ($500/sample) with 3-4 week turnaround time.

Call me Wednesday or Thursday with any follow-up questions (tied up balance of today and traveling for business on Tuesday).

Dave

From: Gimlin, Peter <Gimlin.Peter@epa.gov>
Sent: Thursday, October 18, 2018 9:32 AM
To: David Wawer <DavidWawer@CPMA.Com>
Subject: RE: PCB Recordkeeping question and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

Thanks Dave!

Gimlin, Peter

From: Foley, Allison D. <ADFoley@Venable.com>
Sent: Friday, October 26, 2018 9:35 PM
To: Gimlin, Peter
Cc: Winchester, Erik; 'jim.roewer@uswag.org'; Green, Douglas H.
Subject: Utility Solid Waste Activities Group (USWAG) Feedback on EPA Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR
Attachments: USWAG-ENVIRON inventory 2010.pdf

Peter:

Thank you for reaching out to USWAG in connection with the PCB ICR.

In conducting the ICR, it is important that EPA not misinterpret or misapply USWAG's comments on the 2010 Advanced Notice of Proposed Rulemaking, including the report prepared by Environ that was submitted therewith (the "Environ Report"). As explained in USWAG's 2010 comments, that report was intended to update the numbers provided to EPA in 1982 estimating the universe of PCB-containing equipment in use by electric utilities, as well as the costs that would be incurred by electric utilities in identifying and removing this equipment from service.

The Environ Report looked to several sources of data (including 1981 and 1988 studies performed by Resource Planning Corporation ("RPC")) and was based on certain assumptions spelled out in the Environ Report. In light of the limited timeframe provided for responding to the ANPRM, the analysis of inventories in 2010 necessarily relied on extrapolation of pre-existing data, as opposed to the undertaking of a detailed survey of all USWAG members. Environ's conclusions regarding the 2010 inventories of PCB-containing equipment and corresponding projections regarding future inventories were estimates, not precise calculations or predictions. This extrapolated data and the corresponding projections are important as they demonstrate clear and striking trends which we believe hold true today, eight years after the Environ Report was prepared. Of particular relevance in the context of the ICR, the Environ Report demonstrated that the number of pieces of PCB-containing equipment in service had, as of 2010, declined significantly since TSCA was enacted; those inventories are expected to steadily decline through a combination of voluntary PCB phase-down programs and normal attrition.

Inventories of PCB Large Capacitors: Based on information from USWAG members, these trends also hold true with respect to PCB Large Capacitors. Environ based its conclusions in the 2010 ANPRM on the following assumptions: (1) no new PCB units were added after the 1981 RPC inventory; (2) most PCB Large Capacitors identified in the 1981 RPC inventory were removed from the electric utility distribution system by 1988; (3) on average, 51,755 units are retired from non-distribution systems each year; and (4) the ratio of PCB Large Capacitors to the number of mineral oil transformers in use by electric utilities has remained flat since the 1981 RPC inventory. Based on these assumptions, Environ extrapolated information from prior studies to project that approximately 120,000 PCB Large Capacitors remained in use by electric utilities in 2010 (down 95% from the 1981 figure of approximately 2.8 million), and estimated that, "[a]t the assumed rate of retirement, almost all of the remaining large PCB capacitors should be retired by 2013."

Based on information from USWAG members, Environ's assumptions appear to remain valid in 2018, as does the approach used to determine future inventory levels. While USWAG has not undertaken an update to the 2010 Environ study, information from our members indicates that some PCB Large Capacitors do remain in service, but that utility inventories of PCB Large Capacitors (as with other types of PCB-containing equipment) continue to diminish at a steady rate. Nonetheless, given the value of this equipment to ensure consistent and reliable utility operations, it is critical that the use authorization for the equipment remain in place. As discussed in detail in USWAG's 2010 ANPRM comments, EPA has determined that such use represents to unreasonable risk to health or the environment.

Storage for Reuse: While USWAG has not undertaken a formal survey of member storage for reuse activities since the 2010 ANPRM, feedback from USWAG members indicates that many members continue to use the storage for reuse authorization to maintain equipment that can serve a critical role in utility operations, including in storm response and/or other scenarios to ensure consistent, safe, and reliable electric service for customers. If EPA would like more information regarding current storage for use practices and inventories, USWAG would be happy to work with its members to compile more detailed information.

Thank you again for the opportunity to provide feedback as EPA conducts this ICR. Please do not hesitate to reach out with questions about these comments or any other aspects of the PCB regulations EPA is currently evaluating.

Best,

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600 Massachusetts Avenue, NW, Washington, DC 20001

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From: Gimlin, Peter <Gimlin.Peter@epa.gov>
Sent: Wednesday, October 17, 2018 5:21 PM
To: Roewer, James <JRoewer@eei.org>
Cc: Gimlin, Peter <Gimlin.Peter@epa.gov>; Winchester, Erik <Winchester.Erik@epa.gov>
Subject: Large PCB Capacitor estimate and Request for Comments; Renewal of "PCBs, Consolidated Reporting and Record Keeping Requirements" ICR

To: Jim Roewer, Executive Director
Utility Solid Waste Activities Group
c/o Edison Electric Institute
701 Pennsylvania Avenue, NW
Washington, DC 20004-2696

Dear Mr. Roewer,

It has been a long time since we have talked about PCB use issues, but I am updating the current PCB ICR for renewal and looking for your input on a particular question, as well as any other comments you may have on the regulatory burden.

In 2010, USWAG submitted comments on the PCB Use Reassessment ANPRM and provided as an attachment a study by ENVIRON estimating an inventory of PCB equipment. That study concluded that "At the assumed rate of retirement, almost all of the remaining large PCB capacitors should be retired by 2013." (page 13) In updating our estimate of the number of large PCB capacitors for the current ICR, I am wondering if USWAG believes that to be a reasonable conclusion for the 2019-2022 period, or if an appreciable inventory of large PCB capacitors remains, what a more accurate estimate might be. If you could call or reply this week that would be very helpful; note the comment period closes officially on October 26, 2018.

Here are details on accessing the ICR supporting statement and general information the Agency seek:

On August 27, 2018, EPA published a Notice in the Federal Register (79 FR 61302) titled "Agency Information Collection Activities; Proposed Renewal of an Existing Collection (EPA ICR No. 1446.12); Comment Request."

(See https://www.regulations.gov/docket?D=EPA-HQ-OPPT-2017-0647)

This Notice refers to EPA's intention to request renewed Office of Management and Budget (OMB) clearance of an information collection related to reporting and/or recordkeeping requirements for individuals, establishments or organizations that currently possess PCB items, PCB-contaminated equipment, or other PCB waste.

In addition to public notice and comment requirement that the above Notice initiates, OMB regulations at 5 CFR 1320.8(d)(1)) require agencies to consult with potential respondents and data users about specific aspects of an information collection request (ICR) before submitting it to OMB for review and approval, regardless, in the case of ICR renewals, of whether changes have or have not been made to the collection activity.

Please note that if you take this opportunity to provide input, your name, affiliation, e-mail address, phone number and any information you provide (e.g., copies of e-mails) will be incorporated and attached to the ICR supporting statement, which will be a public document. In addition, the OMB Desk Examiner for the ICR in question may contact you to verify the accuracy of any comments EPA identifies in the ICR.

EPA solicits your input on the following questions:

- Are the data that EPA seeks under this ICR available from any public source, or already collected by another EPA office or by another agency? If so, where can the data be found?

- Is it clear what is required for data submission? If not, are there any suggestions for clarifying instructions?

- Would you be interested in an electronic/data submission option? What type of alternative would you be most likely to utilize – web form, USB flash drive, CD-ROM?

- For electronic submission, how should signature requirements be handled – Private Key Infrastructure, PINS and passwords, signed paper cover sheet?
- How does TSCA CBI affect your choice or use of an electronic medium? Would you be more inclined to submit TSCA CBI on CD-ROM or a USB flash drive than on paper and what benefits would you realize (e.g., burden reduction, greater efficiency in compiling information, etc).

- Do you agree with EPA's estimated burden and costs (the ICR addresses only the costs associated with paperwork)? Are the Bureau of Labor Statistics (BLS) labor rates accurate? If you have any reason to consider the BLS labor rates as used by EPA inaccurate or inappropriate, explain your rationale.

To access the Federal Register Notice, the ICR supporting document, and any public comments received to date, go to:

- www.regulations.gov/
- enter EPA-HQ-OPPT-2017-0647 in the Enter Keyword or ID field
- click on "Search"
- click on "Open Docket Folder"
- then click on any of the documents listed within the docket to read the document; you will be most interested in the Supporting Statement, identified by its title "PCBs, Consolidated Reporting and Record Keeping Requirements"

Your response will be greatly appreciated. If you have any comments in response to the above questions, or with respect to any other part of the information collection, please respond by return e-mail by October 26, 2018. EPA will consider those responses, as well as any public comment received in response to the Federal Register Notice identified above, in preparing a final document for OMB review.

Thanks for your consideration; **please call me if any questions, 202-566-0515**.

Peter

Peter Gimlin
Environmental Protection Specialist
Fibers and Organics Branch/NPCD/OPPT
U.S. Environmental Protection Agency
tel. 202-566-0515, email: *gimlin.peter@epa.gov*

Attachment 1

Inventory and Cost Estimates for PCB-Containing Electrical Equipment Owned/Operated by U.S. Electric Utilities

Prepared on behalf of the
Utility Solid Waste Activities Group

Prepared by
ENVIRON International Corporation
Arlington, Virginia

August 18, 2010

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TABLE

Inventory and Cost Estimates for PCB-Containing Electrical Equipment Owned/Operated by U.S. Electric Utilities

1.0 INTRODUCTION

ENVIRON International Corporation (ENVIRON) was retained by Venable LLP (Venable) in April 2010 to provide technical support for the Utility Solid Waste Activities Group (USWAG) in responding to a recent Advanced Notice of Proposed Rule-Making (ANPRM) published by the U.S. Environmental Protection Agency (EPA). The ANPRM (published on April 7, 2010 at 75 Fed. Reg. 17645) is titled "Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations." The specific tasks USWAG asked ENVIRON to address include:

1. Updating earlier estimates of the inventory (number of units) of PCB-containing equipment in use by electric utilities in the U.S.

2. Updating earlier estimates of the cost of identifying all PCB-containing electrical equipment currently in use by electric utilities in the U.S.

This report describes ENVIRON's work on these tasks. Previous studies and data resources are discussed in Section 2; the methods used in developing the current estimates are described in Section 3; and the resulting estimates are discussed in Section 4. Section 5 provides a summary of the report and our conclusions.

2.0 PREVIOUS STUDIES AND DATA RESOURCES

ENVIRON reviewed previous studies related to estimation of the inventory of electrical equipment in use by U.S. electric utilities and the cost to identify the PCB-containing portion of this inventory. The phrase "PCB-containing" as used in this report means having a PCB concentration of 50 parts per million (ppm) PCB or greater. The most useful and relevant studies are discussed in the following subsections.

2.1 Previous Inventory Estimates

2.1.1 RPC Inventory Estimates (1981)

The most detailed of the previous inventory documents reviewed by ENVIRON was prepared by Resource Planning Corporation (RPC) for USWAG, the Edison Electric Institute (EEI), and the National Rural Electric Cooperative Association (NRECA). The RPC report was submitted to EPA in February 1982.

RPC conducted a survey of the 100 largest electric utilities in the U.S. and received responses from 98 of the 100 subjects. The results of the survey were projected to the entire industry; the RPC report indicates that the responding subjects accounted for approximately 70 percent of the total inventory for all U.S. electric utilities. The questionnaire used in the survey was developed to collect information on a number of topics, including the following:

- A "census count" of various types of PCB and oil-filled equipment
- The frequency of leaks and releases from such equipment
- The feasibility of inspection and maintenance programs
- The feasibility and likely costs of mandatory phase-out programs for transformers and capacitors

The RPC report provides separate inventory estimates for the number of units of each of the following types of equipment owned by U.S. electric utilities in 1981:

- askarel transformers
- mineral oil transformers
- large PCB capacitors
- oil-filled voltage regulators
- oil-filled circuit breakers
- oil-filled reclosers
- oil-filled switches
- oil-filled/askarel electromagnets

The 1982 RPC report also classifies the total number of units of each type of equipment by PCB content in three concentration ranges: less than 50 ppm, greater or equal to 50 ppm but less than 500 ppm, and 500 ppm or greater. Under regulations established by EPA, equipment containing PCBs at greater or equal to 50 ppm but less than 500 ppm is referred to as "PCB-contaminated" equipment, and equipment containing PCBs at 500 ppm or greater is referred to as "PCB" equipment. The RPC inventory estimates for 1981 are reproduced in Table 1 of this ENVIRON report. One of the reports included in the reference list (EPRI 1989) states "The data contained in Table 1 were specifically cited by EPA, along with other study findings, as the basis for the final 1982 PCB regulations."

2.1.2 EPRI Inventory Estimates (1989)

The 1981 RPC inventory estimates were updated in 1989 on behalf of the Electric Power Research Institute (EPRI). The updated inventory estimates were prepared for EPRI by RPC as a subcontractor to General Electric (GE) and presented in an EPRI report published in 1989. The updated estimates were derived by adjusting the 1981 RPC estimates to account for the addition and retirement of the following types of equipment:

- askarel transformers
- mineral oil transformers
- large PCB capacitors

As in the 1982 RPC report, the 1988 inventory classifies these types of equipment according to three ranges of PCB content. Unlike the 1982 RPC report, the 1988 inventory includes estimates for just three types of equipment (askarel transformers, mineral oil transformers, and large PCB capacitors). The 1988 inventory estimates for the electric utilities industry are used to derive estimates for non-utility US industries in the 1989 EPRI report.

RPC's 1988 estimates for the electric utility industry were developed using average annual rates of addition and retirement based on data obtained primarily from forms submitted annually to the Federal Energy Regulatory Commission (FERC) by 49 large electric utilities from 1982-1987. The data from the FERC forms suggest that while transformers were retired from service at an average rate of approximately 2.1 percent per year, the number of transformers added by the electric utility industry was approximately four percent per year over this period. These rates suggest that the total number of transformers used in the electric utility industry increased at an average rate of 1.9% per year from 1982 to 1987.

2.1.3 Other Inventory Estimates and Related Data Resources

Additional information related to the inventory of equipment owned by U.S. electric utilities was found in a number of sources. A 1985 EPRI publication notes and explains some adjustments to the 1981 RPC estimates. The EPA publications listed as references in this ENVIRON report provide inventory estimates for some types of equipment in use in all or selected parts of US industry in 1982, 1988, 1994, and 2007. Additional information was obtained from EPA's PCB Transformer registration database and PCB activity database. In addition, recent inventory information for some individual electric utilities was obtained from USWAG members.

2.2 Previous Cost Estimates

Previous estimates of the cost of identifying all PCB-containing equipment used by U.S. electric utilities for purposes of a phase-out were obtained from the 1982 RPC report. As summarized in Table 7 of that report, RPC's estimate of the cost to identify all mineral oil transformers with PCB levels of 500 ppm or greater is $6.1 billion, and the cost to identify all mineral oil equipment with PCB levels greater than 50 ppm is $6.4 billion. Details provided in Appendix A of the 1982 RPC report indicate that the second estimate ($6.4 billion) includes the first estimate ($6.1 billion), and that these estimates are based on average costs for inspecting and testing distribution system, substation, and generating equipment.

3.0 METHODOLOGY

3.1 Estimating the Current Inventory of PCB-Containing Equipment

The current inventory of PCB-containing equipment used by electric utilities in the U.S. was estimated by extrapolating from the earlier studies performed by RPC. The 1981 RPC inventory took nearly a year to complete and required the commitment of substantial resources by many utilities and organizations. Preparation of a similar survey-based inventory in response to the 2010 ANPRM was not feasible given the time constraints associated with responding to the ANPRM in a timely manner. The methods used to develop current inventory estimates for various types of PCB-containing equipment in use by U.S. electric utilities are described below.

3.1.1 Mineral Oil Transformers

To extrapolate from the 1981 and 1988 RPC estimates for mineral oil transformers to the current time, ENVIRON used the following assumptions:

- No new PCB-containing units were added to the inventory after 1981.
- All pre-1982 units are retired at a constant annual rate of 424,772 units per year (this rate is equal to 2.1 percent of the 1981 inventory).
- All pre-1982 units are retired at the same relative rate regardless of PCB content; the 1981 inventory estimates indicate that 10.7% of pre-1982 units are PCB-contaminated (*i.e.*, containing ≥ 50 ppm PCBs but < 500 ppm PCBs) and 1.09% of pre-1982 units are PCB (*i.e.*, containing ≥ 500 ppm PCBs).
- The total number of mineral oil transformers in service has grown by 1.9% each year.
- The total retirement rate for all units (pre-1982 and post-1982 combined) is 2.1% of inventory each year.

In addition to estimating the number of mineral oil transformers classified as PCB and PCB-contaminated, ENVIRON estimated the total number of these units in the U.S. electric utility industry to provide a basis for estimating the percentages of PCB-containing mineral oil transformers relative to all mineral oil transformers in service. To do this, we used the 1.9% average annual growth rate for the total number of mineral oil transformers suggested by the RPC studies reported in the 1989 EPRI report. This resulted in an inventory estimate of approximately 34.3 million mineral oil transformers currently in service in the U.S. electric utility industry. This estimate is believed to be very conservative given the significant increase in the size of utility transmission and distribution systems since the 1980s due to accelerated industry growth and greater emphasis on service reliability.

3.1.2 Askarel Transformers

ENVIRON used the following assumptions for estimating the current inventory of askarel transformers:

- No new askarel units were added after the 1981 inventory.
- The high rate of retirement of askarel units from distribution systems suggested by figures in the 1989 EPRI report (2,163 units or 9.6% of 1981 inventory per year on average) continued until all virtually all readily-identified askarel transformers had been removed from these systems in the 1990s.
- On average, 357 pre-1982 units are retired from other (non-distribution[1]) systems each year (this number is 2.1% of the askarel units in non-distribution systems inventory in 1981).

The 1989 EPRI report indicates that askarel transformers were removed from distribution systems on an accelerated basis in the 1980s and 1990s, and that some utilities also removed askarel equipment from other systems on an accelerated basis during this period. USWAG publications listed in the references section of this ENVIRON report document efforts by members to reduce the amount of PCB-containing equipment in their systems.

3.1.3 Large PCB Capacitors

ENVIRON used the following assumptions to estimate the current inventory of large PCB capacitors from the earlier inventory estimates:

- No new PCB units were added after the 1981 inventory.
- Most identified large PCB capacitors were removed from electric utility distribution systems by 1988.
- On average, 51,755 units (3.3% of the units in the 1981 inventory) are retired from non-distribution systems each year.

To estimate the total current inventory of large capacitors, ENVIRON assumed that the ratio of the number of large capacitors to the number of mineral oil transformers in use by electric utilities has not changed significantly since the 1981 inventory.

3.1.4 Other Types of Equipment That May Contain PCBs

Figures provided in the 1982 RPC report indicate that some oil-filled voltage regulators, circuit breakers, and switches may contain PCBs at levels of ≥ 50 ppm. Oil-filled reclosers and electromagnets are also addressed in the 1982 RPC report but PCB-containing units were not identified for these types of equipment. According to the 1981

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[1] As used in Appendix A of the 1989 EPRI report, the term "non-distribution" appears to mean all equipment used by electric utilities except the distribution system equipment. This would consist primarily of equipment used in generation and transmission systems.

inventory, the total number of units of other types of equipment that may contain PCBs is less than four percent of the total inventory of mineral oil transformers. The 1989 EPRI report does not provide inventory data or retirement rates for these types of equipment.

ENVIRON estimated the current inventory of PCB-containing oil-filled voltage regulators, circuit breakers, and switches using the following assumptions:

- No new PCB-containing units were added after the 1981 inventory.
- All pre-1982 units are retired at a constant annual rate equal to 2.1% of the 1981 inventory.
- All pre-1982 units are retired at the same relative rate regardless of PCB content.
- The total number of each type of equipment in service has grown by 1.9% each year.
- The total retirement rate for all units (pre-1982 and post-1982 combined) is 2.1% of inventory each year.

The assumed rates of inventory growth and retirement match those used to develop the current inventory estimate for mineral oil transformers, so current inventory estimates for voltage regulators, circuit breakers, and switches were derived by applying the ratios observed in the 1981 inventory to the current estimate for mineral oil transformers.

3.2 Estimating the Cost to Identify Remaining PCB-Containing Equipment

The current cost to identify the remaining PCB-containing equipment in use by U.S. electric utilities is estimated from data provided by USWAG members. Thirty four USWAG members provided an estimate of the total cost to identify all PCB-containing equipment in their respective systems. Collectively, these 34 members account for

approximately 59% of total retail sales of electricity in the U.S. The sum of the cost estimates provided by these members was divided by this percentage to obtain a cost estimate for the entire U.S. utility industry.

4.0 RESULTS

4.1 Estimates of the Current Inventory of PCB-Containing Equipment

ENVIRON's estimates of the current inventory of PCB-containing equipment in use by U.S. electric utilities are provided in Table 1 and discussed below. Changes since 1981 in the total inventory of the types of oil-filled equipment addressed in this report and in the percentages of PCB and PCB-containing equipment in use by the U.S. electric utility industry are illustrated in Figure 1.

4.1.1 Mineral Oil Transformers

One of ENVIRON's primary tasks was to update the earlier inventories for PCB-containing equipment. The estimates in Table 1 indicate that the number of mineral oil transformers with PCB levels of ≥ 500 ppm was reduced from approximately 220,000 in 1981 to about 90,000 by 2010. The number of mineral oil transformers containing ≥ 50 ppm PCBs but < 500 ppm PCBs was reduced from almost 2.2 million in 1981 to less than 900,000 by 2010. In both cases, the current estimate is only 41% of the 1981 estimate; this reflects the retirement of almost 59 percent of the PCB-containing transformers that were in use in 1981.

All of the current inventory estimates for PCB-containing equipment are based on the assumption that no PCB-containing transformers were added to service after 1981, so there should be no PCB-containing mineral oil transformers still in service when the remaining pre-1982 PCB-containing equipment is retired. At the assumed rate of retirement, all of the remaining PCB-containing mineral oil transformers should be retired from service in approximately twenty years, or by 2030.

ENVIRON also estimated the current inventory for the total number of all mineral oil transformers (both PCB-containing and other) currently in use by the U.S. electric utility

industry. The estimates in Table 1 indicate that the total number of such transformers has grown from approximately 20.2 million in 1981 to approximately 34.3 million in 2010. The annual rates of addition and retirement used in this estimate are based on values reported in the 1989 EPRI report, including an average net growth rate of 1.9% per year.

Relevant data obtained from other sources were used to evaluate the current estimates in Table 1. EPA data indicate that the total number of PCB Transformers (*i.e.*, units containing ≥ 500 ppm PCBs) disposed of from 1991 to 2007 is 232,647. This total includes both askarel and mineral oil PCB Transformers from all U.S. industry (not just utilities). The current estimates in Table 1 are based on retirement rates that suggest that approximately 78,500 mineral oil PCB Transformers and 11,400 askarel PCB Transformers were retired from 1991 to 2007. These figures cannot be compared to the EPA figure without adjusting for the portion of the total U.S. inventory owned by the electric utility industry. According to the 1989 EPRI report, electric utilities owned approximately 72% of mineral oil transformers and approximately 30% of askarel transformers in the 1980s. Adjusting the assumed electric utility retirement rates for these percentages results in estimates of approximately 109,000 mineral oil PCB Transformers and 38,000 askarel PCB Transformers retired by all U.S. industries from 1991 to 2007. The sum of these estimates is approximately 147,000 units, which is only about 63% of EPA's disposal figures. This comparison suggests that the actual rate of retirement of PCB Transformers from 1991 to 2007 was substantially higher than the rates used to generate the current inventory estimates in Table 1. Therefore, the current inventory estimates in Table 1 for PCB Transformers (both mineral oil and askarel units) may be substantially greater than the actual numbers of such units still in service.

4.1.2 Askarel Transformers

The estimates in Table 1 indicate that the number of askarel transformers in use by electric utilities has been reduced from almost 40,000 units in 1981 to about 7,000 units in 2010. These figures indicate that less than 18 percent of the askarel transformers in

use in 1981 are still in service. At the rate of retirement assumed for other electric utility transformers, all of the remaining askarel transformers will be retired by 2030.

4.1.3 Large PCB Capacitors

The 1989 EPRI report indicates that approximately 44% of the large PCB capacitors owned by electric utilities in 1981 were used in distribution systems, and that the average service life of these capacitors was 30 years. The estimates in Table 1, which were derived from these numbers, indicate that the number of large PCB capacitors used by electric utilities has been reduced by more than 95% (from approximately 2.8 million in 1981 to about 120,000 in 2010). At the assumed rate of retirement, almost all of the remaining large PCB capacitors should be retired by 2013. The EPA disposal data suggest that the actual rate of retirement of these units from 1991-2007 was substantially less than suggested by the model used to derive the current estimate in Table 1. This difference may be due to aggressive industry efforts to remove PCB equipment prior to the 1991-2007 time period; some utilities that removed all or nearly all large PCB capacitors from their distribution systems in the 1980s may have also substantially reduced their use of such units in other systems by 1991. Aggressive efforts to remove PCB-containing equipment have been undertaken by a number of large utilities, as documented by USWAG publications.

4.1.4 Other Types of Equipment That May Contain PCBs

Table 1 includes current inventory estimates for oil-filled voltage regulators, circuit breakers, and switches because the 1981 RPC inventory indicated that some of these units contained PCBs at 500 ppm or greater. Estimates are not provided for oil-filled reclosers or electromagnets because PCB-containing units of these types were not reported in the earlier inventory. In addition to the types addressed in the 1981 RPC inventory, some units of other types of equipment may contain PCBs (*e.g.*, bushings, oil-filled cable, potential transformers, current transformers, coupling capacitors and other types of metering equipment). These types of potential PCB-containing equipment are not considered in ENVIRON's inventory estimates because we have not found

information that would allow us to estimate or characterize the inventory of PCB-containing units of these types.

The current estimates in Table 1 were generated using a constant annual retirement rate equal to 2.1% of the 1981 inventory, regardless of PCB level. The resulting estimates indicate that the inventory of PCB-containing units of each type was reduced by approximately 59% from 1981 to 2010. At the assumed rate of retirement, nearly all of the remaining PCB-containing equipment of these types will be retired by 2030.

4.2 Estimates of the Cost to Identify Remaining PCB-Containing Equipment

As explained in Section 3.2 of this report, the cost to identify all remaining PCB-containing equipment in use by U.S. electric utilities was estimated from data provided by USWAG members. Each of 34 members provided an estimate of the cost to identify the PCB-containing equipment remaining in their own system. The total cost for these 34 estimates is more than $12.3 billion. The 34 members account for almost 59% of total U.S. retail electricity sales. Thus, when the $12.3 billion in costs for this 59% is extrapolated to the entire U.S. electric utility industry, the industry-wide cost for identifying all remaining PCB-containing equipment in service is nearly $21 billion.

Additional estimates provided by the 34 members indicate that approximately 12.6 million units would be tested in this effort, which suggests that the average cost to identify a PCB-containing unit by testing is approximately $980. This average can be compared to the average of $303 per unit reported by RPC in 1982. Over 29 years (from 1981 to 2010), inflation at 3% per year would raise the 1981 estimate from $303 to about $714. The additional difference between the 1981 average and the 2010 average is likely due to increases in the cost of service interruptions and more stringent environmental, health and safety measures.

5.0 SUMMARY AND CONCLUSIONS

This report provides ENVIRON's estimates of the current inventory of PCB-containing equipment in use by U.S. electric utilities and explains the methods used to generate these estimates. Estimation of the cost of identifying the remaining PCB equipment is also addressed. ENVIRON used information obtained from a number of earlier studies and other sources to derive the estimates. The current inventory estimates were derived by extrapolating from earlier estimates developed by RPC for 1981 and 1988. The cost of identifying the remaining PCB-containing equipment was estimated from 2010 values provided by 34 USWAG members that account for approximately 59% of retail electricity sales in the U.S.

The primary findings of this report are as follows:

- The amount of PCB-containing equipment in use by U.S. electric utilities has been reduced by approximately 78% since the last comprehensive inventory estimates were compiled in 1981.
- The PCB-containing equipment that is still in use constitutes a very small proportion (less than three percent) of all oil-filled electrical equipment in use by these utilities.
- The retirement rates used to derive the current inventory estimates suggest that virtually all of the remaining PCB-containing equipment will be removed from service within the next 20 years (by 2030).
- Identification of the remaining PCB-containing equipment is expected to cost at least $20 billion.

REFERENCES

Electric Power Research Institute (EPRI) 1985. *PCB Disposal Manual,* CS-4098. Palo Alto, CA. June.

Electric Power Research Institute (EPRI) 1989. *PCB Residues in Transformer Carcasses,* EL-6237. Palo Alto, CA. August.

Electric Power Research Institute (EPRI) 2000. *The PCB Information Manual, Volume 2: PCB Releases and Regulatory Issues*. Palo Alto, CA. September.

Resource Planning Corporation (RPC) 1982. *Comments and Studies on the Use of Polychlorinated Biphenyls in Response to an Order of the United States Court of Appeals for the District of Columbia Circuit,* volume III. Washington, DC. February 12.

U.S. Environmental Protection Agency (EPA) 1976. *PCBs in the United States Industrial Use and Environmental Distribution,* EPA 560/6-76-005. Office of Toxic Substances, Washington, DC. February 25.

U.S. Environmental Protection Agency (EPA) 1977. *Microeconomic Impacts of the Proposed "PCB Ban Regulation"*, EPA 560/6-77-035. Office of Pesticide and Toxic Substances, Washington, DC.

U.S. Environmental Protection Agency (EPA) 1985. *Project Summary: Assessment of PCDDs and PCDFs from PCB Transformer and Capacitor Fires*, EPA/600/S2-85/036. Hazardous Waste Engineering Research Laboratory, Cincinnati, OH. May.

U.S. Environmental Protection Agency (EPA) 1987. *Locating and Estimating Air Emissions from Sources of Polychlorinated Biphenyls (PCB)*, EPA-450/4-84-007n. Office of Air and Radiation, Research Triangle Park, NC. May.

U.S. Environmental Protection Agency (EPA) 1998. *Draft Paper on PCBs in the United States*, Great Lakes Binational Toxics Strategy Stakeholder Forum. Chicago, IL. March 23. http://www.epa.gov/glnpo/bnsdocs/stakeholder98/pcbinus.htm

U.S. Environmental Protection Agency (EPA) 2009. *Great Lakes Binational Toxics Strategy 2008-2009 Biennial Progress Report*. December.

U.S. Environmental Protection Agency (EPA) 2010. *Polychlorinated Biphenyls (PCBs); Reassessment of Use Authorizations*, ANPRM. Federal Register (75 Fed. Reg. 17645). April 7.

U.S. Environmental Protection Agency (EPA) undated. PCB Transformer Registration Database (January 2008) and PCB Activity Reports. Accessed at http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/data.htm

U.S. Environmental Protection Agency (EPA) undated. *Compilation of Total Annual PCB Large Capacitors and Total PCB Transformers Disposed in the United States From Annual Reports from Commercial PCB Disposal Companies from 1991-2007.*

Utility Solid Waste Activities Group (USWAG) 2005. *Promoting the Voluntary Phase-Down of PCB-Containing Equipment*. Washington, DC. October.

Utility Solid Waste Activities Group (USWAG) 2006. *Member Company PCB Reduction Efforts, 2006 Update*. Washington, DC.

TABLE

TABLE 1
Inventory Estimates for PCB-Containing Electrical Equipment Owned/Operated by U.S. Electric Utilities

equipment category	1981-1982 inventory	2009-2010 inventory
total mineral oil-filled transformers	20,227,248	34,262,098
units with 50-500 ppm PCBs	2,166,159	892,458
units with >500 ppm PCBs	219,918	90,606
percentage of total with 50-500 ppm PCBs	10.7%	2.6%
percentage of total with >500 ppm PCBs	1.09%	0.26%
total askarel transformers (all >500 ppm PCBs)	39,640	7,004
total large PCB capacitors (all >500 ppm PCBs)	2,800,619	119,207
total oil-filled voltage regulators	145,159	245,879
units with 50-500 ppm PCBs	17,854	7,357
units with >500 ppm PCBs	2,468	1,017
total oil-filled circuit breakers	180,939	306,485
units with 50-500 ppm PCBs	3,256	1,341
units with >500 ppm PCBs	0	0
total oil-filled switches	385,768	653,436
units with 50-500 ppm PCBs	54,007	22,251
units with >500 ppm PCBs	0	0
totals for all transformers (mineral oil and askarel)	20,266,888	34,269,102
units with 50-500 ppm PCBs	2,166,159	892,458
units with >500 ppm PCBs	259,558	97,610
percentage of total with 50-500 ppm PCBs	10.7%	2.6%
percentage of total with >500 ppm PCBs	1.28%	0.28%
totals for all listed types of equipment*		
total units, all types, regardless of PCB content**	23,779,373	40,251,391
total units with >50 ppm PCBs	5,303,921	1,141,241
total units with 50-500 ppm PCBs	2,241,276	923,407
total units with >500 ppm PCBs	3,062,645	217,834
percentage of total with >50 ppm PCBs	22.3%	2.8%
percentage of total with 50-500 ppm PCBs	9.43%	2.3%
percentage of total with >500 ppm PCBs	12.9%	0.54%

* This table lists only the types of equipment for which PCB-containing units were identified in the 1981 RPC inventory. The total number of oil-filled units of all types in use by the U.S. electric utility industry is substantially higher than the total for the equipment types listed in this table.

** The numbers of large capacitors (4,743,853), voltage regulators (245,879), circuit breakers (306,485), and switches (653,436) included in the 2009-2010 total units estimate were calculated to maintain a constant ratio for each type of equipment to the number of mineral oil transformers. The 2009-2010 total also includes 39,640 transformers representing the pre-1982 askarel units still in use and their replacements.

FIGURE

FIGURE 1: CHANGES IN EQUIPMENT INVENTORIES SINCE 1981