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**TITLE 326 AIR POLLUTION CONTROL BOARD**

**Proposed Rule**  
LSA Document #05-116

**DIGEST**

Adds [326 IAC 24-4](#) concerning mercury emissions from coal-fired power plants to implement the federal Clean Air Mercury Rule (CAMR). Effective 30 days after filing with the Publisher.

**HISTORY**

First Notice of Comment Period: June 1, 2005, Indiana Register (28 IR 2815).

Second Notice of Comment Period: January 17, 2007, Indiana Register (DIN: [20070117-IR-326050116SNA](#)).

Notice of First Hearing: January 17, 2007, Indiana Register (DIN: [20070117-IR-326050116PHA](#)).

Date of First Hearing: May 2, 2007.

**PUBLIC COMMENTS UNDER [IC 13-14-9-4.5](#)**

[IC 13-14-9-4.5](#) states that a board may not adopt a rule under [IC 13-14-9](#) that is substantively different from the draft rule published under [IC 13-14-9-4](#) until the board has conducted a third comment period that is at least 21 days long.

**REQUEST FOR PUBLIC COMMENTS**

Portions of this proposed rule are substantively different from the draft rule published on January 17, 2007, at [20070117-IR-326050116SNA](#). The Indiana Department of Environmental Management (IDEM) is requesting comment on the following portions of the proposed (preliminarily adopted) rule that are substantively different from the language contained in the draft rule.

The following provisions are those that are substantively different from the draft rule:

(1) Addition of a clean coal technology unit incentive, at [326 IAC 24-4-2](#)(18) and [326 IAC 24-4-8](#) in the proposed (preliminarily adopted) rule.

(2) Exemption for coal-derived fuel that is part of the general distribution fuel pipeline prior to combustion, at [326 IAC 24-4-2](#)(16) in the proposed (preliminarily adopted) rule.

This notice requests the submission of comments on the sections of the rule listed above, including suggestions for specific amendments to those sections. These comments and the department's responses thereto will be presented to the board for its consideration at final adoption under [IC 13-14-9-6](#). Comments on additional sections of the proposed rule that the commenter believes are substantively different from the draft rule may also be submitted for the consideration of the board. Mailed comments should be addressed to:

#05-116 Mercury Rule  
Susan Bem Mail Code 61-50  
c/o Administrative Assistant  
Rule Development Section  
Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, Indiana 46204.

Hand delivered comments will be accepted by the receptionist on duty at the Office of Air Quality, Tenth Floor East, 100 North Senate Avenue, Indianapolis, Indiana. Comments may also be submitted by facsimile to (317) 233-2342, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rule Development Section at (317) 233-0426.

**COMMENT PERIOD DEADLINE**

Comments must be postmarked, faxed, or hand delivered by July 18, 2007.

**SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD**

IDEM requested public comment from January 17, 2007, through February 16, 2007, on IDEM's draft rule language. IDEM received comments from the following parties:

American Electric Power (AEP)  
American Academy of Pediatrics - Indiana Chapter (AAP)  
Anne Holahan (AH)  
Bradley Totten (BT)  
Bravadawn Nagel (BN)  
Bryant Mitol (BM)

Carly A.C. Watson (CAW)  
Chelsie Hopkins (CH)  
Chuck Brinkman (CB)  
Cynthia Breitinger (CYB)  
David F. Catlin (DFC)  
Deborah Galvin (DG)  
Dominion (DM)  
Drew Schrader (DS)  
Duke Energy (DE)  
Felicia Hez (FH)  
Gene Rowe (GR)  
Hoosier Energy (HE)  
Hoosier Environmental Council (HEC)  
Improving Kids' Environment (IKE)  
Indiana Wildlife Federation (IWF)  
Indiana Smallmouth Conservation (ISC)  
Indiana Utility Group (submitted by Indiana Energy Association) (IEA)  
Indiana Public Health Association (IPHA)  
Indianapolis Power & Light (IPL)  
Interfaith Alliance Indianapolis (IAI)  
James C. Flowers (JCF)  
Jean McGoff (JM)  
Jerry Wheeler (JYW)  
Jim Walts (JW)  
Johanna Kicherer (JK)  
Jon Creek (JC)  
Kathleen M. Brinkman (KMB)  
Kevin Breiteke (KB)  
L. Voors, R. Toulouse, M. Broch, K. Lee, T. Rife, P. Keefer, D. Kramer, S. Zelonis (VTBLRKKZ)  
League of Women Voters of Indiana (LWVI)  
Lina Gordy (LG)  
Louise Karwowski (LK)  
Lu Dayment (LD)  
Lucinda Rarick (LR)  
Marcia L. Stahl (MLS)  
Margie G. Schrader (MGS)  
Mark Zimmer (MZ)  
Mary Annette Rose (MAR)  
Nirmal Joshi, M.D. and Elizabeth Joshi, J.D. (NJEJ)  
NiSource (NS)  
Rachel Salute (RS)  
Richard G. Herr (RGH)  
Robert J. C. (RJC)  
Ruth Boyle (RB)  
Save the Dunes Council (SDC)  
Sierra Club Hoosier Chapter - Dunesland Group (SCDG)  
Sierra Club Hoosier Chapter (SC)  
Sr. Teresa M. Boersig (TSM)  
Todd Hutson (TH)  
Tom Probasco (TP)  
Tom B. (TB)  
Travis J. Hutson (TJH)  
Valley Watch, Inc. (VW)  
Vicky L. Perry (VLP)  
Walt Breitinger (WB)  
Warren Webb (WW)

**Comments Collected and Submitted by the Hoosier Environmental Council (HEC) to IDEM:**

A. Crainten  
A. Jean Snyder  
A. Joyce  
A. M. Lagaler

A. McDonald  
A. R. Hicks  
A.L. Terrh  
Aaron Delong  
Aaron L. Adams  
Aaron Lerch  
Aaron R. Hause  
Abbie Fields  
Abby Schenck  
Adam Baker  
Adam Fickle  
Adam Kruse  
Adam Moore  
Adam Swenson  
Adreinne Morford  
Adrian Rutledge  
Adrian Thomas  
Adrienne Miller  
Aidan Dean  
Ainsley James  
Al Halligan  
Alan K. Foushty-Killion  
Alan Waelbroech  
Alanzo Perry  
Albert Monroe  
Albert Nunery  
Aletha Hollenkamp  
Alex Diaz  
Alex Ramos  
Alexandra DeValeria  
Alexandra Thompson  
Alexandria D. Geesey  
Ali Pippen  
Alice Cash  
Alice Morgan  
Alice Victor  
Alicia Dotson  
Alicia Haley  
Alie Mary Magnante  
Alisha Burman  
Alison Chestaich  
Alison Seraci  
Allen Bueehler  
Allen D. Bailard  
Allen Leytham  
Allen M. McBride  
Allen Segrist  
Allen Sickafoose  
Allie Gammans  
Allison Green  
Allison Wootan  
Amalin Nudnazi  
Amanda Barker  
Amanda Clause  
Amanda Cunningham-Rud  
Amanda Deaton  
Amanda Fetzer  
Amanda Flores  
Amanda Heathman  
Amanda Jones  
Amanda March

Amanda Swenson  
Amber Drerup  
Amber Keene  
Amber M. Gross  
Amelia Stewart  
Amenda Scherle  
Amey Lupinsky  
Amie McCarty  
Amy Auschenman  
Amy E. Retey  
Amy Geoll  
Amy Good  
Amy Hon  
Amy Luellen  
Amy Mallen  
Amy Morgan  
Amy Reeves  
Amy Sloan  
Amy Smallman  
Amy Smith  
Ananel Harshuarelhon  
Andrea Denwrich  
Andrea Vanoy  
Andrea Vasquez  
Andreos Milentis  
Andrew & Patricia Snyder  
Andrew Barth  
Andrew Buchser  
Andrew Dean  
Andrew Jansen  
Andrew Krier  
Andrew Meiring  
Andrew Shilts  
Andy Breluye  
Andy Deators  
Andy Jest  
Andy L. Williams  
Andy Whitthurst  
Angel Stevenson  
Angela Doody  
Angela K. Mitchell  
Angela L. Perry  
Angela Michele Kares  
Angela Pfapps  
Angela White  
Angie Rimmert  
Angie Scott  
Angie Staples  
Anita Saunders  
Anitra L. Horese  
Anitra Potts  
Ann Benson  
Ann D. Hurls  
Ann Dillon  
Ann Marie Gotthil  
Ann O'Connar-Bruhn  
Ann Townsend  
Anna M. Byrum  
Anna Miller  
Anna Sebree  
Annabelle Weddle

Anne Branham  
Anne Hostetter  
Anne L Mercho  
Anne L. Spudic  
Anne Murray  
Anne Simulis  
Anne Thompson  
Anne Wissel  
Annette Bastin  
Annette Mullins  
Annette Walling  
Anthony Cox  
Anthony Lillig  
Anthony Rubeo  
Anthony Yafanaro  
Antunia Hueping  
April Hall  
April Lambert  
Arika Starks  
Arlene Walls  
Arnold Goziales  
Arnold R. Farrough  
Arshdeep Gill  
Arthur Childres  
Asako Iikubo  
Ashley Long  
Ashley Rutledge  
Ashley Sexson  
Aunja Sutton  
Austin Madden  
Authur T. White  
Autry Meeyhboro  
Autumn Sultan  
Ava Wilson  
B. Clare  
B. Jeanene Boyce  
B. Lesehe  
B. Oustoiny  
B. Wray  
B.H. Newton  
Barb Dean  
Barbara Cook  
Barbara Davis  
Barbara Dillon  
Barbara Edwards  
Barbara Emmett  
Barbara Gooden  
Barbara Hager  
Barbara Henn  
Barbara L. Harris  
Barbara L. Young  
Barbara S. Glaze  
Barbara Smitty  
Barbara Sullivan  
Barbara Wolf  
Barbara Woodson  
Barry Galloway  
Bart Higginbotham  
Becky Collins  
Becky Dunker  
Becky Goode

Becky Henderson  
Becky Keller  
Becky Merrick  
Bee Morone  
Ben Simmons  
Ben Warner  
Benjamin Mallett  
Bernice Frets  
Bernice Ross  
Beth Barrett  
Beth Bennett  
Beth D. Jackson  
Beth Imel  
Beth Preth  
Bethany Hansen  
Betheny Moslier  
Betty Baker  
Betty Seymour  
Beverly Bloce  
Beverly Burnett  
Beverly Carter  
Beverly DeLuide  
Beverly Greenwood  
Beverly Rolts  
Beverly Wroblewski  
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Braden Julian  
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Bradley W. Masley  
Brady Pardue  
Brandley Molsen  
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Brandon Keiper  
Brandon Leese

Brandon Perry  
Brandy Cook  
Brandy Kickapoo  
Brandy Williams  
Brandyn Holland  
Branon Henry  
Brenda Kornmann  
Brenda L. Mohuna  
Brenda Owens  
Brenda Rairdon  
Brenda Sutton  
Brenda Worrell  
Brendon Pinniger  
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Brenton Rettig  
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Brian Lindbeth  
Brian Ludlow  
Brian McDensed  
Brian Morron  
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Brian Parker  
Brian Proctor  
Brian Scheidler  
Brian Shive  
Brian Stiegler  
Brian Walsh  
Briana LaFollette  
Brionna Hutcherson  
Britian Jenkins  
Brittany Byson  
Brook Watson  
Brooke Detamore  
Bruce Anglin  
Bruce Borders  
Bruce Sher  
Bryan & Annie Goeller  
Bryan Horsley  
Bryanna Wilson  
Budy Rehme  
Burce Lilly  
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C. Lanie Bertram  
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C.T. Duncan  
Cade Stewart  
Caitlin Fitzpatrick

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Cameron Carter  
Candis Flores  
Cara Putt  
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Carmilia Ballerville  
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Casey Schaefer  
Catherine Ann Farrough  
Catherine G.  
Catherine Horn  
Catherine Mahler  
Catherine Roy  
Catherine Theresa Cangang  
Cathi Goode  
Cathleen Broderson  
Cathy Weinmann  
Cathy Wright Eger  
Cathy Zader  
Celeste Shive  
Celina Dean  
Cerilia M Shepley  
Chad Barker  
Chad Barnett  
Chad D. Starr  
Chad Frye  
Chad Peters  
Chad Schults  
Chad Smith  
Chad Witson  
Charity Freeman  
Charles A. Freeman



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Cheryl Lackey  
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Cheryl Thomas  
Chloe Ann Miller  
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Chris Burton  
Chris Cook  
Chris Ele  
Chris Heldman  
Chris Huff  
Chris Johnson  
Chris Johnson  
Chris Lindsey  
Chris Lock  
Chris Manelo  
Chris McCroy  
Chris Perantoni  
Chris Prile  
Chris Sinclair  
Chris Srawcn  
Chris Stay  
Chris Vosiker  
Chris Wickman  
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Chrish Collins  
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Christie Malasto  
Christie Thomnard  
Christin Wilkerson  
Christina Dean  
Christina N. Guthne  
Christina Nelson  
Christine Alarco  
Christine Bratchen  
Christine Dysm  
Christine Joyce  
Christine Kung  
Christine M. Newton  
Christine Smith  
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Christopher Collins  
Christopher Corry

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Christy Basham  
Christy Machaler  
Christy Miller  
Chrystal Foster  
Chuck Byers  
Cindy Bridgewater  
Cindy Olsten  
Cindy Schouts  
Cindy Seidensticker  
Cindy Wirth  
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Cleo V.Scott  
Cliff Robinson  
Clifford Peterson  
Clotilde Lillig  
Cody Bennett  
Cody Metz  
Colby C. Miller  
Colin Reynolds  
Colin Tully  
Collette Chinyerer  
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Connie Grace  
Connie Kersey  
Connie McGath  
Connie Soukup  
Connie Wilson  
Connor Kozlowski  
Constance Cook Glen  
Constance R. Smith  
Cori Kell  
Courtney Andreone  
Courtney L. Moss  
Courtney M. Purvis  
Courtney Payne  
Courtney Rose Horst  
Coy Harris  
Craig Nichols  
Crystal Parker  
Crystal Vesley  
Curtis Ault  
Curtis Stout  
Cynthia Campbell  
Cynthia Harter  
Cynthia Kennedy  
Cynthia Mondale  
Cynthia Pierce  
Cynthia Tomovic  
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Cyselle M. Knudsen, Ph.D.  
D. Bott  
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D. Russick  
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Dale R. Taylor  
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Dalton Moody  
Dan Burch  
Dan Carpenter  
Dan Orr  
Dan Stephens  
Dan Stevens  
Dan Sun  
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Danielle Eher  
Danielle Posch  
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Danny Ratliff  
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Daren Alber  
Darla Wells  
Darlene Swicegood  
Darrel Reese  
Darrell Chandler  
Darrell Grable  
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Darry Griffin  
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David Magnante

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Davon Whitsit  
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Davonna Guthrie  
Dawn Cope  
Dawn Creasey  
Dawn Dinwiddie  
Dawn Duncan  
Dawn Simpson  
Dawn Walker  
Dean Whetcheads  
Deandud Melocli Hershie  
Deanna Uland  
Deb Cheppell  
Deb Hoffman  
Deb Johns  
Deb Lawson  
Debbie Baylor  
Debbie Brozzoski  
Debbie Edwards  
Debbie Molloy  
Debbie Schmidt  
Debbie White  
Debera E. Hyatt  
Deborah A. Gremim  
Deborah Anthony  
Deborah Kyler  
Deborah L. Kitchin  
Deborah Shaw  
Deborah Wader  
Debra Dannell  
Debra K. Echard  
Debra L. Stinson  
Debra Nelson  
Debra Schinckel  
Debra Simpson  
Dee Arnold  
Dee Baxter  
Deena L. Gore  
Deletta Briles  
Denise Seiter  
Dennis DeMay  
Dennis Howell  
Dennis Johnson  
Dennis Newman  
Derek Bryant

Derek Fisher  
Derek Snell  
Derel Anderson  
Derian Reuss  
Derk Mueller, MD  
Deryl Bolander  
Devon Shive  
DeVonne Richburg-Pollard  
Dewayne Smith  
Diana L Aspen  
Diana L. Oberbriz  
Diana Petty  
Diana Williams  
Diane Anderson  
Diane Cox  
Diane Farkas  
Diane Flanner  
Diane Goudy  
Diane Grunderson  
Diane Meyer  
Diane Packitt  
Diane Stiles  
Dianne Thompson  
Dion Phillips  
Dionne Stewart  
Dixie Armstrong  
Dixie Ault  
Doanald Clark  
Doanald E. Kwanyh  
Don & Be Mounts  
Don Comado  
Don Guthrie  
Don Kindall  
Don Leonard  
Don Thomas  
Don Woods  
Donald A. Withey  
Donald Barnett  
Donald Hart  
Donald Hohlt  
Donald Johnson  
Donald Jones  
Donald Sager  
Donna DeNorpraski  
Donna E. Shipley  
Donna Jones Saied  
Donna Metallic  
Donna Musick  
Donna Perkins  
Donna Price  
Donna Segrist  
Doreen Frame  
Dorothy Brown  
Dorothy Brown  
Dorothy Dryden  
Dorothy J. Johnson  
Dorothy Mack  
Doug Shup  
Douglas Curry  
Douglas M. Delong  
Douglas Miller

Douglas Sandes  
Doyle Coomer  
Dr. H. F. Brown  
Dr. Paul K. Owens  
Dr. Steve Moore  
Drane Das  
Drew Berman  
Drew Detto  
Duane Abney  
Duane Bere  
Dunn L. McFall  
Dustin Oberton  
Dusty Gault  
Dwand Gelbat  
Dwayne  
Dylan Zeigler  
E. Cole  
E. O'Neel  
E. Petriasovic  
E.C. Cassell  
Earline McCormick  
Edd Don Watts  
Edna Boerger  
Edna Tully  
Edward Bennett  
Edward G. Pollock  
Edward Gross  
Edward Neel  
Edward Slover  
Eileen Marilath  
Eileen McGinley  
Eileen O'Donnell  
Eileen Shorr  
Eilen Maribeth  
Elaine M. Conly  
Elaine Molin  
Elaine Mountgomery  
Elaine Sholty  
Eleanor Hansen  
Elena Alvarado-Dobie  
Elena Harrison  
Eliot Smith  
Elise Hannemann  
Elise Julian  
Elizabeth Baratz  
Elizabeth Cory  
Elizabeth E. Nicholson  
Elizabeth H. Delgass  
Elizabeth Holmes  
Elizabeth L. Johnson  
Elizabeth Lion  
Elizabeth Lizzo  
Elizabeth O'Connor  
Elizabeth Rearick  
Elizabeth VanMeter  
Elizabeth Williams  
Elizabeth Wollfert  
Elsie McNulty  
Elsie Smith  
Elwy Reynolds  
Emery Flynn

Emily Baker  
Emily Hamman  
Emilie Cl Kraus  
Emma Prevschl  
Emma Young  
Emmanuel Greene  
Enkle Fall  
Eran Raizman  
Eric Andrews  
Eric Burton  
Eric C. Anderson  
Eric Hunter  
Erica Borreson  
Erica Mohr  
Erica Warren  
Ericka Eberg  
Erika Woods  
Erin Deddens  
Erin Falk Milosevich  
Erin Gasser  
Erin Mitchell  
Ethan Flores  
Etter Callas  
Eugenia Kleinhnecht  
Eva Malaspino  
Evelyn Wallace  
Faith Sadtler  
Fayette Beecher  
Feena Maynard  
Fiona McMunn  
Forrest Dean  
Fran Jenkins  
Frances Bingarum  
Frances Sexton  
Frances Sexton  
Franchesca Alvarado-Dobie  
Francis Hager  
Frank Greene  
Frank Messer  
Frank P Litz  
Frank Wilson  
Fred Duggeworm  
Fred Jones  
Fred Robinson  
Fred Simic  
Fred Stadtmiller  
Fred Watkins  
Fredrick Loaf  
G. Watts  
G.R. Hawthorne  
Gabriella DeValeria  
Gage Moody  
Gail H. Shiel  
Gail Hendricks  
Garrett Crawford  
Garry Toney  
Gary Boone  
Gary Conner  
Gary D. Varvel  
Gary Fowl  
Gary Halleburto

Gary Maynard  
Gary Moore  
Gary R. Plaford  
Gary Stewart  
Gene Leaster  
Geneva Frantz  
Genna Garnedic  
Gentile Daly  
Geoff  
Geoffrey Beck  
George Gaffney  
George Gary  
George Irwin  
George Johnson  
George Manning  
George Pippen  
George W. Morris  
George Walling  
Georgiann Corneluis  
Gerald N. Enlenbaryh  
Gerald Sampson  
Gerald Schenfer  
Gerald Thompson  
Geraldine M. Guard  
Gerard Robert  
Gilbert Downton  
Gina Foster  
Glen Blackweu  
Glen Rend Jr.  
Glenn Renn  
Gloria Austin  
Gloria Linville  
Goldie Franks  
Gordon Clark  
Gordon McNulty  
Gordon R. Huffman  
Goulden L. Ponter  
Grace E. Nunery  
Grace Harding  
Grace Hayes-Barnett  
Grace Roth  
Grace Taddeo  
Grace Wagner  
Gracy A Eads  
Grano Bullock  
Grant Dobson  
Greg Abney  
Greg Blausey  
Greg Mallon  
Greg Marchant  
Greg Pitt  
Greg S. Minnich  
Greg Taylor  
Greg Vicardc  
Gregg Stump  
Gregory Essy  
Gregory Moore  
Gregory Nell  
Gretchen Gentry  
Grey McWey  
Gruen Weher



Gwen English  
Gwen Richardson  
Gwendolyn W. Welch  
Gylith J. Cooper  
H. N. Smith  
Hannah Brewer  
Hannah Flores  
Harley Orndorff  
Harold Brady  
Harold R. Moelle  
Harriet J. Crum  
Harry Oconnor  
Harry Wade  
Heather Bowman  
Heather Hayden  
Heather Johnston Nickelson  
Heather Martin  
Heather Mills  
Heather Patterson  
Heather Stout  
Heather Tuttle  
Heather VanBuskirk  
Heather Wilcox  
Heidi Russo  
Helary Glen  
Helda Renshaw  
Helen Rath  
Helen Russick  
Helen Spieler  
Helen Stadtmiller  
Helen Studebaker  
Helene C. Evans  
Hilg Woodon  
Hillary Seversen  
Hisar Natden  
Holly A. Paauwe  
Holly Mayo  
Holly Spiece  
Holly Vanderpool  
Howard R. Taylor  
Howard Weiss  
Howard Zalkin  
I. MacLarie  
Ian Osbourn  
Ida Catella  
Ida Philpat  
Ingrid Clever  
Irene Xraver  
Irin Correa  
Isaac Flores  
Isoko Kitaguwa  
Ivy Heczehine  
J. A. Bartlett  
J. Batley  
J. Bryant  
J. Forbes  
J. Gaudan  
J. Hall  
J. Patrenes  
J. Plattner  
J. Sterrett

J. Treat  
J. W. Johnson  
J.C. Gazton  
J.C. Monroe  
J.D. Slaighten  
Jack Dickerson  
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S. Musick  
Sabrina Martin  
Sabrina Stiegler  
Salinna Thrall  
Sallie Giesbecht  
Sally A. Searight  
Sally L. Sahm  
Sally Parker  
Sally Turner  
Sam Falk Milosevich  
Samantha Bowling  
Samim Hirtovl Hodatti  
Sammel Obeng  
Samual Flanner  
Sandi Smith  
Sandra Bolt  
Sandra Burck  
Sandra C. Keselieh  
Sandra J. Gapp  
Sandra Taylor  
Sandra Thompson  
Sandy Bartley  
Sandy Royce  
Sandy Seward  
Sara B. Name  
Sara Barkley  
Sarah Bales  
Sarah Cline-Ross  
Sarah Fickle  
Sarah G. Fields  
Sarah Johanson  
Sarah Kopliku  
Sarah L. Ross  
Sarah L. Selton

Sarah Letter  
Sarah Sandberg  
Sarah Stephens  
Sarah Wassgren  
Saraj Musick  
Saundra Geiger  
Savannah Hale  
Scott Aeschliman  
Scott Bois  
Scott Christy  
Scott Cole  
Scott Cooper  
Scott D. Monroe  
Scott Hansen  
Scott Henson  
Scott Holloway  
Scott Joyce  
Scott Komski  
Scott Lamping  
Scott Medjesley  
Scott Randel  
Scott Suells  
Scott Summel  
Scott Swanger  
Scott W. Watson  
Sean Gassen  
Sean Marcum  
Sean McCluskey  
Sera Heid  
Seth Bauer  
Seth Taylor  
Shae Warmock  
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Shane Duncan  
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Sharon Baumis  
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Sharon M. Walker  
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Sharon R. Yanasak  
Sharon Schilling-Reed  
Sharon Stiegler  
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Shawn Pearson  
Shawn Thetheuld  
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Sheila Devon  
Sheila Giannini  
Sheila Wolfe  
Shelby Simpson

Shelley Ross  
Shelley Zar  
Shelly Manger  
Shelly Martine  
Shelly Spangler  
Sheri L. Jordan  
Sherial Winter  
Sheridan W. Brown  
Sherri Boeding  
Sherrie Harris  
Sherry G. Traylor  
Sherry Walder  
Sheryl Glants  
Shianner Manyus  
Shirley Blackwell  
Shirley Smith  
Shirly Murphy  
Shondene Lynn Yazzie  
Shyanne Spangler  
Silvia Sue Preice  
Sojourner Manns  
Sonia Domine  
Sonja Paul  
Sonya Etter  
Sonya Margerum  
Spencer Sutton  
Spenser Roth  
Sridevi Vedantam  
Stacey Bussberg  
Stacey C. Smith  
Stacia McKinney  
Stacy Bosly  
Stacy Wasmuth  
Stan Miller  
Stanton Lambert  
Stari Robinson  
Stephan Dawson  
Stephanie Lynn Crume  
Stephanie Selke  
Stephanie Thomas  
Stephanie White  
Stephanie Wiegand  
Stephen Roth  
Steve Hodgsun  
Steve Pfoer  
Steve Simonsen  
Steve South  
Steve Watson  
Steve Wildmen  
Steve Wilson  
Steven C. Borchers  
Steven E. Kuhnlein  
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Sue Berry  
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Susan Witty  
Susan Wolfgeng  
Suzanne Kelley  
Suzanne Baker  
Suzanne M. Baker  
Suzanne M. Raskie Magnante  
Suzette Sears  
Sylvia Babcock  
T. Durbin  
T. Hughes  
T.M. Bell  
Tabithe Kimble  
Tadd Colver  
Tamara Hazbun  
Tamara Tudor  
Tamare Peters  
Tami Finke  
Tami Kay  
Tamika Barnaby  
Tammi Barnett  
Tammie L. Burton  
Tammy Smith  
Tammy Talbot  
Tammy Taylor  
Tamra White  
Tara Lane  
Tara Mann  
Taylor Staples



Ted M. Sowders  
Tenley Kahl  
Terecia J. Brown  
Teresa Cole  
Teresa Combs  
Teresa L. Moody  
Teresa Lake  
Teresa Vincent  
Terri Holdne  
Terry Andreone  
Terry Anne Pipp  
Terry Daley  
Terry Desell  
Terry England Jr.  
Terry Ferguson  
Terry Gerdt  
Terry Johnson  
Terry Keihby  
Terry Lear  
Tessa Mayer  
Tessa Weinstein  
The Dickey Family  
The Moss Family  
The Pennee Family  
The Smith Family  
Theodore Wassman  
Theresa Anglin  
Theresa L. Knoll  
Theresa Marthing  
Theresa Moffett  
Theresa Trenyie  
Theresa Wagner  
Theresa Warner  
Thom Gillespie  
Thomas A. Upton  
Thomas B. Breinda  
Thomas Cook  
Thomas Decker  
Thomas Grandberry  
Thomas J. O'Gara  
Thomas J. Winn  
Thomas Lee  
Thomas Moore  
Thomas P. Wagner, Jr.  
Thomas P. Wagner, Sr.  
Thomas Prendergast  
Thomas Spurlock  
Tiese Rocillo  
Tillie L. Turner  
Tim Clark  
Tim Layman  
Tim Rittenhouse  
Tim Waterfield  
Tim White  
Tina Aaron  
Tina Hansford  
Tina Lowe  
Tina M. Gant  
Tina Magyar  
Tina McNulty  
Todd Vensle

Tom Burdich  
Tom Escher  
Tom Jannings  
Tom Kenmore  
Tom Morris  
Tomma L. Jones  
Tommy Austin  
Ton Heldt  
Ton Tentbell  
Tonda Neal  
Toni Poppbwell  
Tonia Sawyer  
Tony Alvarado-Dobie  
Tony Montgomery  
Tony Pacheco  
Tony Rogers  
Tonya L. Bower  
Tonya Minth  
Tori Marley  
Tosha Leman  
Traci McEldonney  
Tracie R. Matrin  
Tracy Potts  
Travis Boddie  
Travis Kahl  
Travis Parrott  
Travis Puetz  
Trevor White  
Trey Seiter  
Tricia Tollene  
Trish Corcoran  
Trisha Trusty  
Troy Guthie  
Troy Spear  
Trudie Bernerd  
Trudy Nantmic  
Truly Fair  
Tuesday Cooper  
Tyler Pearson  
Tyler Sutton  
Ursula Arnett  
Va Sullivan  
Val Luntx  
Valerie K. Oustoiny  
Vance B. Foster  
Vanessa Kantz  
Vanessa S. Stiles  
Vanessa Smith  
Vanessa Wilson  
Veda Albertson  
Veronica Guilfry  
Vic Whitmore  
Vicki Lambert  
Vickie D. Boggs  
Vickie Ebbert  
Victor Blackett  
Victoria Edmond  
Victoria King  
Victoria Woodard  
Vincent Dugree  
Vincent Martin

Viola J. Durham  
Viola N. Perry  
Virginia A Dawes  
Virginia A. Gibson  
Virginia Dozzo  
Virginia E. Reichard  
Virginia Frank  
Virginia Reca  
Virginia Snell  
Vivian J. Milter  
W. Jean Holtz  
W.J. Baker  
W.M. Griggs  
Walter Scott  
Wanda Goehel  
Wayne N. Millar  
Wei Hovg  
Wendy Baxter  
Wendy Brown  
Wendy Rader  
Wendy Reed  
Wesley White  
Whitney Barker  
William & Laura Phillips  
William Camrhoul  
William Chupick  
William Cole  
William East  
William H. Quick  
William Head  
William Heltzich  
William Horn  
William Hungerford  
William J. Miller  
William L. Fischer  
William Miller  
William Nelson  
William Norley  
William O. Merrill  
William Pipp  
William Saxton  
William Thumbull  
William W. Orbbit  
William Watson  
Williams Steward  
Willis Mills  
Wilma Simmons  
Windy Wooper  
Winter Bottum  
Wm J Mathews  
Wm. Scott Patterson  
Yolanda McCracken  
Zach Fickle  
Zach Reedel  
Zachary  
Zachary R. Harper  
Zachery T. Decker  
Zad Dart  
Zaki Oustoiny  
Zenell White  
Zoe Ward

435 unidentifiable commenters (either last name or full name was illegible)

Following is a summary of the comments received and IDEM's responses thereto:

**Support the Draft Rule based on CAMR**

*Comment:* The Indiana Energy Association (IEA) submitted comments on behalf of the Indiana Utility Group (IUG). Indiana utilities are willing to do their part in reducing mercury emissions. The commenter opposes any other requirement than a cap and trade program, including the Hoosier Environmental Council (HEC) petition that electric generating units (EGUs) be required to reduce mercury by 90%, for a number of reasons, including the following:

- A 90% reduction in mercury emissions will result in only insignificant additional reductions in mercury deposition in Indiana as compared to the reductions in deposition that will occur under the Clean Air Mercury Rule (CAMR).
- According to available evidence, any such additional reduction in deposition in Indiana will not lead to discernable reductions in the amounts of mercury in fish or to improved health of Indiana residents.
- Contrary to HEC's assertions, current pollution control technology, including controls specifically for mercury emissions, has not been demonstrated to consistently, continually, and reliably reduce mercury emissions by 90% and has not been shown to be commercially available.
- The monitoring system that U.S. EPA developed for CAMR is intended to apply to a cap and trade program and would be misapplied to a 90% command and control program.
- The additional costs of any program more stringent than CAMR, for example, the HEC petition for a 90% mercury removal rule, are not justified by any benefits that may be achieved by a more stringent program, as any benefits would be extremely small while the costs would be exorbitant.
- Based upon the use of the Integrated Planning Model (IPM), IUG predicts that under CAIR and CAMR, mercury emissions in Indiana will be below the 2010 CAMR cap in 2010: 4,036 pounds versus the budget of 4,196. By 2014, IUG projects utility emissions to be at 2,367 pounds, significantly lower than the Phase I cap. In 2018, IUG projects that utility emissions will be slightly above the Phase II cap: 2,012 pounds versus the cap of 1,656 pounds. However, by 2020, only two years later, IUG projects utility emissions to be at 1,492 pounds. The CAMR cap in Indiana is projected to be met within two years of the Phase II date. (IEA)

*Comment:* The commenter supports the comments submitted by the Indiana Utility Group. (IUG) (HE) (DUKE) (AEP) (NS)

*Comment:* The commenter supports the second notice proposal to reduce mercury emissions from electric generating units (EGUs). (HE) (DUKE) (AEP) (NS) (DM) (IEA) (IPL)

*Comment:* Adopting a rule with modifications from the federal rule would require valuable resources by IDEM and interested stakeholders. (IPL)

*Comment:* The Air Pollution Control Board (APCB) should preliminarily adopt the rule proposed by IDEM without any adjustments to the timing or stringency of controls. CAMR will provide a significant reduction of mercury emissions from coal-fired EGUs and will build on the reductions achieved as a co-benefit from the emission control strategies employed by utilities to meet the requirements of the Clean Air Interstate Rule (CAIR), recently promulgated by the APCB. The CAMR-based rule is protective of human health because it considers that the form of mercury that is a concern for human health is not directly emitted by Indiana coal-fired utilities, but results from the biological transformation of the mercury deposited from the various sources into water bodies. The CAMR-based rule will allow the mercury specific emission control technologies to be developed and tested. (NS)

*Comment:* IPL is committed to reducing mercury emissions. Mercury emissions have been reduced by about 40% at the Petersburg Generating Units 2 and 3 as a result of having both a scrubber and SCR. At the Harding Street Generating Unit 7 selective catalytic reduction (SCR) was installed in spring 2007 and a scrubber will be installed in fall 2007. (IPL)

*Comment:* The commenter supports the proposed mercury rule as Indiana is 4<sup>th</sup> in the nation for mercury emissions. (LD)

*Comment:* The commenter supports the proposed mercury rule because without more restrictive regulations our waterways will continue to be poisoned by mercury and other toxic materials. Indiana must join other states and the federal government in lowering the amount of mercury emissions allowed for the health and well being of our environment, the animals, and the people. (JW)

*Response:* IDEM agrees with the commenters and is proposing a rule based on the draft rule in the Second Notice.

*Comment:* U.S. EPA promulgated CAMR after lengthy consideration of the extent of global, national, and local mercury emissions and the relationship between mercury emissions, deposition, and fish tissue methylmercury concentrations. U.S. EPA also considered the level of emission reductions that are economically reasonable and technologically feasible. U.S. EPA under Section 111(d) of the Clean Air Act considered all of these factors and promulgated CAMR. Under [IC 13-14-8-4](#), the APCB must consider a number of factors in adopting an environmental regulation, including technical feasibility of control and the economic reasonableness of a proposed regulation. These factors and goals implicate questions concerning the extent to which emission

reduction beyond CAMR would yield any measurable benefit and if so, to what extent and at what cost to jobs, electricity rates, and industry. In addition to these statutory factors for rulemaking, the APCB should take into account the policy of Indiana that no Indiana environmental regulation should exceed federal standards unless there is clear justification for exceeding those standards, including a "positive cost-benefit analysis and demonstrated benefits to the health of Hoosiers." (Representative David Wolkins 4/25/00 memo) (IEA)

*Response:* IDEM has considered all of the above-referenced factors in this rulemaking, and is proposing a rule that follows the federal CAMR model rule.

*Comment:* Emissions from coal-fired EGUs account for approximately 44% of the anthropogenic mercury emitted in the U.S., but only 1% of the total global emissions. About 75% of mercury emissions attributable to utilities in the U.S. do not deposit in the U.S., even after a portion of those emissions may travel the globe one or more times. There are three species of mercury emitted by EGUs: elemental mercury, divalent or reactive gaseous mercury (RGM), and particulate mercury. Elemental mercury is the most prevalent in the atmosphere. It is the most predominant form emitted when an EGU burns Powder River Basin (PRB) coal, which is subbituminous coal. Elemental mercury is removed from the atmosphere slowly and contributes little, if any, to local deposition. EGUs burning bituminous coal emit more RGM which is more easily removed from the atmosphere and also easier to control. The form of mercury that bioaccumulates and is a public health concern is methylmercury. (IEA)

*Comment:* Mercury is a global pollutant and U.S. coal-fired power plants are estimated to account for only about 1% or 48 tons to the global mercury pool. (IPL)

*Response:* IDEM has not independently verified these statistics, but believes that the federal CAMR rule is an appropriate response to utility mercury emissions.

*Comment:* Based on current information from the National Health and Nutrition Examination Survey (NHANES), mercury blood levels of women of childbearing age in the U.S. are dropping, even among women in coastal counties, and even during the short period of time since data has been collected. According to some studies, IQ in the U.S. continues to rise, despite human exposure to mercury in the environment for thousands of years. Ocean fish make up the predominant share of the fish Americans eat, and the ocean is impacted by global and national emissions of mercury. By safely complying with fish advisories, the public may obtain the benefit of fish consumption while staying within the safe risk levels as determined by federal and state government. NHANES determined that, based upon the sum of both fresh water and marine exposures, less than 6% of Indiana women in the sensitive population exceed U.S. EPA's reference dose (RfD). (IEA)

*Response:* IDEM acknowledges these studies, and believes that the federal CAMR rule is an appropriate approach to addressing human health impacts from mercury emissions.

*Comment:* U.S. EPA has established a conservative reference dose (RfD) of 0.1 micrograms of methylmercury per kilogram of body weight per day. In setting its RfD, U.S. EPA determined a benchmark level of mercury present in bodies that had been associated with deficits relating to the ability to learn and process information, then applied an uncertainty factor of 10 (that is, one-tenth of the benchmark level). In light of the Seychelles study, which showed no adverse impacts, and the confounding impacts of PCBs in the Faroe Islands study, the U.S. EPA set the RfD at a very conservative level. Other agencies have calculated an RfD equivalent and have set a higher threshold, often placing more significance on the Seychelles study. U.S. EPA has stated, the "likelihood that factors will converge such that a person would eat both at a high consumption rate and eat solely freshwater fish with high utility-attributable MeHg [methylmercury] concentrations is small." Also, while methylmercury exposure below the RfD is not likely to pose a risk, it is not correct to conclude that exposure above the RfD will have a deleterious effect. (IEA)

*Comment:* The U.S. EPA reference dose (RfD) for methylmercury is very conservative as it sets a level that is ten times lower than the level found to cause adverse effects in the most sensitive portion of the population. (NS)

*Response:* IDEM believes that the federal CAMR rule is an appropriate approach to address human health impacts from mercury emissions. U.S. EPA often applies an uncertainty factor when developing a RfD. U.S. EPA defines uncertainty factor as one of several, generally 10-fold, default factors used in operationally deriving the RfD from experimental data. The factors are intended to account for (1) variation in susceptibility among the members of the human population (i.e., inter-individual or intraspecies variability); (2) uncertainty in extrapolating animal data to humans (i.e., interspecies uncertainty); (3) uncertainty in extrapolating from data obtained in a study with less-than-lifetime exposure (i.e., extrapolating from subchronic to chronic exposure); (4) uncertainty in extrapolating from a lowest-observed-adverse-effect level (LOAEL) rather than from a no-observed-adverse-effect level (NOAEL); and (5) uncertainty associated with extrapolation when the database is incomplete.

*Comment:* The utilities commissioned Atmospheric & Environmental Research, Inc. (AER) to corroborate U.S. EPA's deposition modeling and then compare the results of CAMR with a 90% reduction in mercury emissions. AER used the Trace Element Analysis Model (TEAM) to model a 2004 basecase to compare reductions in deposition expected with CAMR and that could occur with application of a 90% removal rule. AER found that a CAIR/CAMR scenario would lead to an average 13% reduction in mercury deposition from 2004 levels in Indiana and the CAIR/CAMR/Indiana 90% reduction would lead to a 14% reduction. This analysis shows

that a reduction in mercury deposition does not necessarily lead to a corresponding reduction in fish tissue methylmercury levels. Both AER's and U.S. EPA's deposition modeling analyses are consistent with Dr. Keeler's findings regarding the levels of deposition predicted in Steubenville, Ohio. Electric Power Research Institute (EPRI) has noted that the "Steubenville investigators found that 60-70% of the mercury deposited at their location in rainfall is from coal fired sources at 'local/regional' scales (up to 1,000 miles)." For the Steubenville study "local/regional" does not mean in the immediate vicinity of the plant. In the Florida Everglades study, fish tissue methylmercury data were collected at 12 locations. Some samples showed a decrease in methylmercury concentrations, while others had concentrations that were unchanged or even increased, and only about half the samples from locations in the study area showed a decrease. Similarly, fish tissue methylmercury reductions were not consistent in a Massachusetts study either. Also, these studies are irrelevant because methylation rates are waterbody specific and the emissions reductions occurred at sources that emit reactive gaseous mercury that deposits more readily to the earth's surface. Emissions from EGUs generally become part of the regional transport and are comprised, in the vast majority, of elemental mercury. Indiana data indicates that EGU emissions have little, if any, impact on fish tissue concentrations in waterbodies in their vicinity. Looking at mercury emission data by county there are six counties each with annual mercury emissions in 2002 of more than 500 pounds (Cass, Dekalb, Gibson, Lake, Montgomery, and Spencer Counties). Based upon the 2006 Indiana mercury fish advisories, no waterbody-specific mercury fish advisories are in place in Cass, Dekalb, Lake, Montgomery, or Spencer County. EGU's are present in at least four of these counties. If mercury emissions were to fall close to a source and if there was a linear relationship between mercury deposition to a waterbody and fish tissue methylmercury levels in that waterbody, the one would expect consistent fish advisories in the counties with the highest mercury emissions and that is not the case. U.S. EPA defines *hot spots* as "water bodies that are a source of consumable fish with MeHg [methylmercury] tissue concentrations attributable solely to utilities greater than the MeHg water quality criterion of 0.3 mg/kg." EPRI has found "that power plant mercury emissions do not and will not create or intensify "hotspots" under the regulations issued by EPA." (IEA)

*Response:* Different studies have yielded different conclusions with respect to the deposition issue. The important fact is that the federal cap and trade rule will achieve significant reductions of mercury emissions in Indiana and elsewhere, which will lead to reductions in deposition in Indiana. Indiana has had a robust mercury deposition monitoring network in place since 2001, through which we can track the reductions in deposition.

*Comment:* Research and testing of powdered activated carbon or other sorbents that may remove mercury emissions are underway. But no one has demonstrated that even halogenated sorbents will consistently, continuously, and reliably produce 90% removal results, as required by a command and control rule across all boiler configurations, coal types, and operating conditions. If government was ready to determine that such control technology is "commercially available," meaning that it is not only available for purchase, but also capable of performing in the manner in which it is intended, then Department of Energy (DOE) would not continue to fund extensive testing of that equipment. Mercury removal technologies are still a work in progress. The commenter is not aware of any vendor that will provide a guarantee that activated carbon injection (ACI), even halogenated ACI used with a baghouse, the ultimate in mercury collection, will consistently, continuously, and reliably produce a 90% reduction in mercury, while vendors will guarantee the performance of control equipment for other types of emissions at compliance levels. DOE has described its goals in its research and development program for mercury controls to be to "develop control technologies capable of 50-70% mercury capture" for "commercial demonstration" at bituminous EGUs by 2005 and at lower coal-ranked units by 2007 and to "develop lower cost control technologies capable of 90% mercury capture for commercial demonstration by 2010." "Commercially available" is not the same as "commercially demonstrated." DOE has examined the co-benefits of SCRs, FGDs, ESPs, and baghouses. Only certain units, with certain control configurations and burning one type of coal have achieved 90% mercury reductions during testing. The DOE information does not report that any units combusting subbituminous coal have achieved a 90% level of mercury emission reduction regardless of the controls in place. There are many studies on co-benefits that provide a huge range of information and results; the ranges are too great to support the technical feasibility of the 90% approach suggested by HEC across all units in Indiana. ACI will not automatically result in a 90% reduction in mercury emissions. For instance, a recent test of ACI at the Duke Energy Miami Fort Station, mercury removal averaged about 40% and did not exceed 60% using ACI. (IEA)

*Comment:* As IDEM is aware, during 2006 testing of the injection of various types of activated carbon upstream of half of the ESP was conducted on Unit 2 at the Rockport Plant for the control of mercury from roughly an 85% bituminous/15% subbituminous coal blend. Testing was done in two phases. First testing was done using several different sorbents for approximately five days each at various injection rates, ending with a 30-day test of the best performing sorbent from the five-day tests. The results from this testing provides cautious optimism that an approximately 70% reduction in mercury emissions may be achievable on a long term basis using ACI upstream of the ESP. This is not consistent with claims made by several parties that ACI in conjunction with an ESP is capable of 90% reduction on a long term basis. (AEP)

*Comment:* Previously the commenter has given IDEM reports concerning mercury emissions testing at Merom Station. Merom is equipped with SCR and wet limestone flue gas desulfurization (FGD) systems. The co-benefit mercury removal measured during this testing was 64 to 70%, not the 80 to 90% observed at other

similarly configured plants burning bituminous coal. Rules must recognize technological limits at the time they are adopted. (HE)

*Comment:* A 90% reduction by 2010 is not feasible since the U.S. EPA has found that the availability of mercury-specific pollution control technology has not been proven on a large-scale long-term basis. Manufacturer guarantees are not being granted for the control device but appear to be more site specific. In addition, reasons for site-specific differences on control device performance have yet to be understood. (IPL)

*Comment:* There are several existing issues that are associated with mercury add-on controls that have yet to be resolved at this time such as SO<sub>2</sub>, temperature and coal variations, hopper fires and evacuation still remain unaddressed at this time. In addition, there needs to be quantification, understanding and mitigation of potential particulate emission increases associated with add-on mercury controls before more stringent mercury limits can be made applicable. (IPL) (IEA)

*Response:* The CAMR cap and trade approach with two phases will allow the utilities the flexibility to address the uncertainties with achieving 90% control still associated with mercury emission control. ACI has yielded promising results in some field tests, however, there are some technological and economic issues related to its use such as detrimental effect on ESP with relatively small collection area and the effect on the usability of byproducts. Co-benefit controls such as SO<sub>2</sub> scrubbers have shown a large variation in mercury removal depending on the type of coal. A number of long term tests to address the above concerns are in progress.

*Comment:* As CMMS are being installed around the country sources as finding that there are extreme variations in accuracy within a given system, proven by measuring the emissions with the Ontario Hydro Method. The variations in accuracy exceed the emissions standard that forms part of the HEC 90% petition. U.S. EPA is heavily involved in the testing of CMMS and working through the problems they are having. These problems have even more adverse ramifications under a command and control program. Sorbent traps, the other alternative under CAMR for mercury monitoring, is not well suited for a command and control rule because they do not provide real time sampling results. Sorbent traps must be removed from the EGU and analyzed at a laboratory for results. CAMR mercury monitoring requires data substitution for periods when a CMMS is not working so that all emissions are conservatively accounted for, preserving the integrity of the trading system. Monitoring systems for specific control technology requirement programs or command and control rules typically do not include such data substitution requirements or the same level of data capture as for trading programs. A failed monitoring system would result in violation of the applicable requirements with no opportunity to avoid the noncompliance through the possible purchase and surrender of allowances. Even if IDEM were to develop a monitoring system more suitable to a command and control program, the EGUs in Indiana would still have to install and operate CMMS required by CAMR in order to comply with the federal requirement regarding mass emissions of mercury. (IEA)

*Comment:* Mercury emission testing has also been recently completed at Ratts Station (equipped with electrostatic precipitation (ESP) only), using continuous mercury measurement monitoring system (CMMS) and sorbent trap method (STM) techniques approved by U.S. EPA for CAMR compliance. Preliminary results indicate valid data capture by the CMMS method over a two week period, ranged from 84% to 96%. Comparative results between the two approved methods were almost 50%, that is, one measurement technique indicated an emission rate of almost half as much as the other. This shows the difficulty of accurately measuring mercury emissions from EGUs. (HE)

*Comment:* It is also unclear the level of testing accuracy associated with testing such low level of emissions. (IPL)

*Response:* IDEM is incorporating the CAMR monitoring requirements into the state rule. Over the past few years U.S. EPA, EPRI, industry and monitoring equipment vendors have conducted field demonstrations. As a result of these tests, system design changes have been made to improve the performance of the mercury monitoring systems. However, field tests still continue to resolve several issues such as developing a viable instrument reference method, finalizing traceability protocols and improving CMMS performance.

*Comment:* The utilities disagree with HEC's estimate of the benefits and costs presented in the summary of comments from the first comment period. The utilities agree with IDEM's conclusion in the Second Notice that the benefit/cost ratio is low for the HEC petition. HEC relies on a study by the Center for Children's Health and the Environment at the Mount Sinai School of Medicine for costs associated with projected neurological impairment and a study by the Northeast States for Coordinated Air Use Management (NESCAUM) and the Harvard Center for Risk Analysis for projected costs associated with potential cardiovascular effects. U.S. EPA has stated that the Mount Sinai study made assumptions that lead to an extreme overstatement of the benefits of mercury reduction. The NESCAUM study also has flaws because it did not take into account the timeframe for reduced exposure to methylmercury and uses a model that over-predicts mercury deposition from U.S. power plants. Regardless, these reports are irrelevant because fish consumption forms the basis for the adverse health effects HEC projects and the record lacks the basis to project a measurable incremental additional reduction in fish tissue mercury levels due to a beyond-CAMR rule as compared to CAMR. Even using HEC's overestimates of benefits, IDEM correctly determined that the asserted benefits of a 90% reduction rule were substantially outweighed by the costs of adopting such a rule. Mercury rule compliance costs and associated impacts on electricity rates are incremental to CAIR compliance costs. Unnecessary costs do not encourage economic development and have a

disproportionate impact on lower income groups. (IEA)

*Response:* IDEM agrees.

*Comment:* When Rockport Plant is burning the 85/15 blend of subbituminous and bituminous coal, nearly all of the fly ash generated is salable and very little ash is sent to the landfill for disposal. However, during 2006, due to limitations in the availability of subbituminous coals the plant used a higher blend of bituminous coal destroying the salability of the ash. Sending virtually all of the ash to the landfill cost approximately \$3,000,000 to dispose of the ash and \$1,000,000 in lost sales. In addition, continued disposal of all the ash would mean that a new cell in the landfill would have to be developed every two years at the cost of \$1,000,000. This cost is another part of the economic consideration in determining an overall CAMR strategy. (AEP)

*Comment:* ACI fouls ash that may currently be used in the concrete industry as a substitute for cement eliminating a potential revenue stream for the fly ash and imposing new cost for disposal and adds a waste stream. (IEA)

*Comment:* There are also concerns with ACI due to potential adverse impacts on the use of coal combustion by-products. These impacts may be avoidable by the placement of ACI injections after existing ESPs, but that would require the installation of an additional collection device, such as a baghouse, at considerable expense. Similarly, gypsum is a by-product of FGDs. The point of injection of the carbon would be upstream of the FGD and residual carbon in the FGD by-product gypsum could render the gypsum unmarketable for wallboard because of the impact of the carbon on color. Adding a baghouse or increasing the size of an ESP to address impacts to due to ACI may not be possible due to space constraints. (IEA)

*Response:* IDEM agrees that the usability of combustion by-products is an important economic consideration in this rulemaking. Powdered ACI upstream of the particulate control equipment will mix with the collected fly ash. If present in quantities in excess of the acceptance limits it may severely affect the usability of fly ash, for example in concrete. This fly ash will therefore have to be land filled. Sources may in addition to losing the fly ash sale revenue will also have to spend extra money in land filling. Department of Energy, National Energy Technology Laboratory (DOE/NETL) estimates several order of magnitude increases in the cost of mercury control using ACI if the fly ash can not be used for useful purposes (DOE/NETL. Preliminary Economic Analysis of Activated Carbon Injection. April 2006).

*Comment:* There is the possibility that installation of mercury controls could create an obligation under the New Source Review (NSR) programs to install additional controls to the extent the installation of mercury controls causes an increase in collateral pollutants and the installation otherwise qualifies as a regulated modifications under NSR. (IEA)

*Response:* IDEM understands this concern and will work with affected sources and U.S. EPA to provide as much flexibility as possible to alleviate NSR requirements in these situations.

### **Support the HEC Petition**

*Comment:* It is important to reduce Indiana's power plant mercury emissions sooner than required by CAMR. (HEC)

*Comment:* While natural emissions of mercury occur, mercury emissions from human sources have raised the amount of mercury available to biological systems by four to five fold over the past hundred years. In one study of mercury deposition over time, the United States Geological Survey (USGS) took ice cores from a glacier in Wyoming with layers of ice dating back to 1700. The data showed a four- to five-fold rise in mercury deposition from 1940 to 1990 based on the amount of mercury in each layer. In another example, measurement of mercury in dated layers of sediment at 37 lakes in the northeastern U.S. show that mercury deposition rose from 1875 to the present and peaked between 1975 and 1990. The rise in mercury can also be demonstrated in wildlife. Samples of polar bear fur in Greenland show rising mercury concentration from 1892 to 1973 with the peak mercury level 14-fold greater than in pre-industrial samples dated to the 1300s. (HEC)

*Comment:* Coal-fired power plants are the largest source of mercury emissions in the U.S. contributing approximately 47.91 tons per year out of total U.S. emissions of just over 100 tons in 2002. Indiana ranks fourth in the nation for mercury emissions from power plants and power plants are the largest source of mercury emissions in Indiana. Power plant mercury emissions have remained nearly constant while other major sources have come under tight regulation. Control of mercury emissions is long overdue. (HEC)

*Comment:* The U.S. EPA has modeled mercury deposition using a computer program known as CMAQ. A 2006 CMAQ run shows a substantial decrease in mercury deposition in Indiana if the utility contributions were removed. There is also a growing body of evidence that this model underestimates local deposition. Techniques have recently been developed to track sources of atmospheric mercury using co-deposition of other pollutants. One such study measured deposition for several years at Steubenville, Ohio, a town near several coal-fired power plants. The researchers found that approximately 70% of the wet deposition at Steubenville was attributable to local and regional coal combustion. The U.S. EPA deposition model, CMAQ, also underestimates local deposition because it does not include recent data showing that conversion of elemental to reactive gaseous mercury in the atmosphere is faster than previously believed. Reactive gaseous mercury is known to deposit relatively rapidly after it is emitted. The U.S. EPA model also underestimates local deposition by not including deposition of elemental mercury to and from plant canopies, a phenomenon that has been shown to contribute up to one third



of local mercury deposition. Other models of mercury deposition from power plants exist. According to modeling from the National Oceanographic and Atmospheric Administration (NOAA) mercury deposition within 1000 km (625 miles) of a power plant is between 20% and 28.5% of its total mercury output. A Gaussian plume model shows that four local and regional power plants are significant contributors to deposition at a biological hotspot in New Hampshire, an area with elevated mercury levels in fish and birds. The model predicted that 25-65% of mercury deposition in Southern New Hampshire was attributable to the local and regional sources. Atmospheric mercury can also deposit without precipitation (dry deposition) and leaves have been shown to take up elemental mercury, and when they are shed in the fall they contribute mercury to the soil further adding to dry deposition. Recent studies vary in their estimation of dry deposition from 30 to 70% of total deposition. Dry deposition and the uptake of elemental mercury in leaves contribute additional mercury to Indiana's environment that has not been measured. (HEC)

*Comment:* Based on data from the USGS Mercury Deposition Network Indiana's average deposition for 2001-2004 ranged from 10 to 16 ug/m<sup>2</sup>. The heaviest deposition occurred at Clifty Creek, a site near power plants along the Ohio River. Deposition in Indiana was three to 5 times higher than deposition measured in many other states including New York, Minnesota, North Dakota, Montana, Washington, Oregon, California, Nevada, Colorado and New Mexico which received 3.2 to 7 ug/m<sup>2</sup>. (HEC)

*Comment:* The mercury level is high in many of Indiana's surface waters. In a study performed by the USGS in cooperation with IDEM in 2001-2002, mercury concentrations in surface waters were measured at 24 locations around Indiana. Seventy percent of the samples exceeded the Indiana water quality standard for mercury in surface water (1.3 ng/L). The average was 3.5 ng/L, nearly three times the standard. (HEC)

*Comment:* A portion of the mercury from Indiana's power plants adds to the global mercury problem, the cumulative result of many emissions sources around the world. The exact proportions that deposit locally, regionally or globally are not known, but the mercury is equally toxic regardless of where it deposits. Indiana must act responsibly to reduce its contribution to the global problem. Also, the U.S. is not justified in pointing to the emissions from other countries if it is not controlling its own. (HEC)

*Comment:* Studies have shown elevated mercury levels in multiple wildlife species in both aquatic and terrestrial food chains including fish, ducks, loons, songbirds, bald eagles, mink, raccoon, and bats. The National Wildlife Federation compiled a synopsis of the published literature on mercury levels in wildlife in 2006. The biggest surprise in the data is the high mercury levels seen in animals that do not feed from aquatic food chains. In particular the Indiana Bat and certain songbirds are insectivores, and the source of their elevated mercury levels is under investigation. (HEC)

*Comment:* Mercury is toxic in microgram quantities. Because of several accidental mass poisoning events, the adult lethal dose of methylmercury was estimated to be one gram, less than one tenth of a teaspoon. Adults exposed to high doses of methylmercury during these events suffered paresthesias, cerebellar ataxia, dysarthria, visual field constriction, intellectual deterioration, emotional instability, tremor, memory loss, hypertension, and cardiac arrhythmias. In children exposure caused severe mental deficits. In particular, children exposed in utero suffered mental retardation, seizures, blindness, deafness, and severe spasticity. From the data gathered at one of the poisoning events in Iraq, estimates were made of the threshold dose of mercury in pregnant women at which milder effects like delayed walking were first noted in their offspring. Despite certain weaknesses in the data, researchers were able to estimate that delayed walking was first seen at a maternal hair mercury level of 10ug/g. Fish available for consumption commercially or from fishing in Indiana have mercury levels measured in micrograms or fractions of micrograms per gram of flesh. Low doses of methylmercury from fish in the microgram range have been shown to reduce test scores for language, memory and attention in children. The commenter is aware of twelve studies in the medical literature of low dose methylmercury in children from 11 different locations around the world. Eleven of the twelve studies show detrimental effects on brain function: nine show a detrimental effect on cognition and two found delays in the brain's signaling for vision and hearing. The latter two studies did not attempt to measure effects on cognition. In these studies higher exposure to methylmercury correlated with decreases in IQ, dexterity, memory, attention, and language skills, delays in auditory and visual signaling, abnormal reflexes and muscle tone, delayed developmental milestones, elevated blood pressure, and loss of normal beat-to-beat variability in heart rate (a measure of nervous system control). One study found no measurable effects, the Seychelles Study, though the pilot data for that study looked at 800 children and did find detrimental effects. In the medical literature it has been speculated that the intelligence tests used in the Seychelles study did not translate well into the local language and culture and that may explain why the study was unable to detect the effect of mercury. The amount of mercury that has been shown to lower IQ in children was measured in micrograms. There are one million micrograms in one gram and 454 grams in one pound, therefore a very small amount of mercury has been shown to damage IQ. (HEC)

*Comment:* While some uncertainty remains regarding the link between methylmercury exposure and accelerated atherosclerosis and increased risk of heart attacks, the evidence showing such a link is substantial and should not be dismissed. In Eastern Finland, there is a high rate of coronary heart disease despite a diet high in fish. Salonen and colleagues followed 1833 men aged 42-60 with no evidence of heart disease, stroke, claudication or cancer for seven years. They found that hair mercury levels correlated with fish consumption and

with risk of heart attack and death from coronary heart disease or stroke. Men with hair mercury  $\geq 2.0$  ug/g had a 2-fold age and risk factor adjusted risk compared with those with  $< 2.0$  ug/g. A subsequent prospective study in Finland found a correlation between hair mercury and increase over four years in carotid artery atherosclerosis measured by ultrasound. A nested case-control study, the Health Professionals Follow-up Study, found that in over 33,000 male health professionals mercury levels measured in toenail clippings did not correlate with coronary artery disease after controlling for age and other risk factors. In this study mercury level correlated with fish consumption and dental profession. Another study of toenail mercury was a case control study of 1408 men - 684 with first diagnosis of acute myocardial infarction (MI) and 724 controls. After controlling for risk factors, those in the highest quintile for toenail mercury had an odds ratio of 2.16 compared to those in the lowest quintile. Given this evidence, it is better to act with caution and reduce the chance of mercury exposure despite the remaining uncertainty. (HEC)

*Comment:* Based on a thorough review of the literature, the National Academy of Sciences established a blood level for mercury of 5.8 ug/L that they believed to be safe for fetal development. In data from the Centers for Disease Control (CDC), 5.8% of American women had a blood mercury level higher than 5.8 ug/dl. Research has shown that mercury levels in fetal blood exceed that of the mother by an average of 70%, so a woman with a blood level of 3.4 ug/L could have a fetus with a blood level of 5.8. In the CDC data nearly one in ten reproductive age women in the U.S. has a blood level above 3.4 ug/L. A study of mercury exposure in Wisconsin measured hair mercury levels on 2000 adults: 29% of men and 13% of women had hair mercury levels exceeding 1 part per million (microgram mercury per gram of hair), the U.S. EPA's designated safe threshold for hair mercury. Increasing hair mercury levels were positively associated with increasing fish consumption. Hair mercury testing may more accurately reflect mercury exposure since it measures the previous two months' exposure whereas blood levels reflect only the most recent few days. In vitro studies often give modern medicine insights into the details of human physiology. One recent study examined the effect of low levels of methylmercury on immature neural cells in vitro. It found that exposure to a methylmercury concentration of 5.8 ug/L stopped cell growth and division raising the question of whether that level is sufficiently protective. It is known that methylmercury readily crosses into the brain, so a fetus with a blood level of 5.8 would have exposure of its brain to the same level. (HEC)

*Comment:* Studies demonstrate that local reductions in mercury emissions reduce mercury contamination in fish and other wildlife. The Florida Department of Environmental Protection demonstrated that over ten years as local mercury emissions were reduced by over 90%, the mercury in local fish declined 60%. In Little Rock Lake, WI, from 1994 to 2000 a 10% per year drop in atmospheric deposition was correlated with a 5% per year drop in mercury in the fish. In 17 lakes throughout Massachusetts, there were drops in mercury in perch of 20% to 61.9% and in bass of 16% to 55.2% within four years of implementing a stringent mercury emission reduction program primarily for incinerators. Lakes in the Upper Midwest influenced by nearby mercury sources showed recent declines as nearby sources reduced mercury emissions while coastal lakes in southeast Alaska, which are subject to global but not local mercury sources, did not show a recent decline in mercury. In New Hampshire, from 1997 to 2002 there was 45% reduction in emissions mostly from restrictions on incinerators. Blood mercury levels in loons downwind decreased 64% from 1999 to 2002. In the studies cited above, the reduced emissions came primarily from stringent controls on waste incinerators. Since it has been shown that a portion of mercury emissions from power plants also deposit locally, there is every reason to believe that reductions from their emissions would also give local benefits. So, this evidence suggests that if we reduce mercury emissions from power plants in Indiana, we would see reduced mercury in Indiana fish. (HEC)

*Comment:* The degree of control possible dwarfs the small control requirements under CAMR, particularly in Phase I which only requires a 14% reduction from 1999 emissions. Some pollution controls achieve 90% mercury reduction as a co-benefit. In U.S. EPA data, the pollution control combination of fabric filter together with flue gas desulfurization (FGD) achieves mercury reduction ranging from 97 to 99% with an average mercury reduction of 98% on plants burning bituminous coal. A fabric filter alone reduced mercury 84-93% with an average of 90% for bituminous coal and 53-87% with an average of 72% for sub-bituminous. According to the Indiana Utility Group (IUG), of 62 operating power plant units in Indiana, 20 already have the SCR and FGD combination. The National Energy Technology Laboratory (NETL) reported on mercury capture using the FGD + SCR combination stating that it gave an average total mercury removal of 89%. (HEC)

*Comment:* Mercury-specific technologies such as sorbent injection (for example, activated carbon injection (ACI)) provide additional mercury removal beyond what is achieved by traditional equipment. Full scale demonstrations of sorbent injection have been successful in a wide range of plant configurations and with different coal types since 2000 and they have demonstrated 90% or better control in both bituminous and subbituminous coal, the two types used in Indiana. For subbituminous coal, a halogenated version of ACI has achieved better than 90% reduction, for bituminous coal ACI in combination with a fabric filter or compact hybrid particulate collector (COHPAC) has achieved over 90% control. Though some plants do not achieve 90% control, they all show control well beyond 14%, the CAMR Phase I mercury emission cap for Indiana, and most exceed 66%, the Phase II cap for Indiana. The Institute of Clean Air Companies recently reported 33 contracts for purchase of mercury specific controls for power plants, all ACI or other forms of sorbent injection, as of January,

2007. The Illinois EPA states "Sorbent injection systems can generally be fully installed and commissioned within about six months from a power plant placing an order". (HEC)

*Comment:* The State Utility Forecasting Group (SUGF) at Purdue University estimated that CAMR and the HEC petition would both result in rate increases and that the HEC rate increase would be 2.14% to 3.41% higher than the CAMR increase depending on the year. This amounts to \$1.00-\$2.00 more per month per household. This a small price to pay for a significant reduction of a toxic material. To put these rates in perspective, the average retail price of electricity in the United States as of August, 2006, was 9.53 cents/kWh, so even with the increase from the HEC petition Indiana would still have rates well below the national average (U.S. Energy Information Administration). (HEC)

*Comment:* The total cost to society of mercury emissions and their controls includes both the costs of implementing controls and the costs that result from adverse health effects of the emissions that are not controlled. There are three studies of the health costs associated with mercury that provide a partial estimate of the cost of mercury emissions to society. A study from the Center for Children's Health and the Environment at the Mount Sinai School of Medicine estimated the cost to society of mercury's impact on intelligence in children exposed before birth. Lower IQ is associated with lower earning power. The loss of productivity from mercury-related IQ loss was estimated to cost the nation as a whole \$8.7 billion dollars per year with \$1.3 billion of that attributable to mercury from power plants (in 2000 dollars). A second study by the Harvard Center for Risk Analysis looked at the health care costs related to mercury's association with increased risk of heart attack and it was estimated to be as high as \$3.3 billion per year nationally (also in 2000 dollars). In the third study of health costs, Trasande and colleagues at the Mount Sinai School of Medicine in New York calculated the excess number of cases of mental retardation per year in the U.S. due to mercury exposure. Given an IQ of 70 as the definition of mental retardation, they calculated the number of children per year that would be shifted from an IQ above 70 to one below by mercury exposure. They found that mercury from U.S. power plants was responsible for retardation. This study does not include the cost of lost productivity. To translate the figures from these studies into 2005 dollars, we used the adjustment factor of 1.2 from the IDEM fiscal analysis, but scaled to the slightly different time frame. The IDEM fiscal analysis used a multiplier of 1.2 to adjust 1999 dollar figures to 2005 dollars. That means an increase of 0.20 over six years or 0.033 per year. To adjust 2000 dollars to 2005, or five of the six years, the increase would be 0.167. Using 1.167 as an adjustment factor for 2000 to 2005 dollars, the estimated cost of IQ loss of \$1.3 billion in 2000 dollars would be \$1.5 billion in 2005 dollars and the estimated maximum cost of cardiovascular effects of \$3.3 billion would be \$3.9 billion and the \$289 million in the third study would be \$337 million. The total is \$5.7 billion per year in 2005 dollars. Indiana's power plants emit 5.1% of the nation's power plant mercury, so they are responsible for 5.1% of \$5.7 billion or \$291 million per year in estimated health costs for the U.S. These health cost estimates for mercury are underestimates: they focus on a limited subset of costs, and all three health cost studies rely on EPA's 1997 estimate of deposition from domestic power plants. Data gathered since 1997 show that actual deposition from domestic power plants is likely to be higher than that estimate. Though these dollar figures help add perspective on the impact mercury can have, lowering intelligence in children is not something that can readily be measured in dollars. (HEC)

*Comment:* The biggest flaws in CAMR are the unnecessary continuation of mercury emissions when controls are available leading to excess release of mercury to the environment and the trading which could create or exacerbate mercury deposition hotspots. The HEC proposal would limit Indiana's power plant emissions to 1,095 pounds per year while the second phase of CAMR would limit them to 1,656 pounds per year. U.S. EPA estimates that due to banking the phase II cap will be met in 2025. Under CAMR, Indiana power plants would emit nearly 20,000 pounds more mercury when compared to the HEC petition limits during 2010 to 2025. There is significant evidence that power plants affect local and regional mercury deposition. So, a plant that is not reducing its emissions is continuing to contribute to locally and regionally elevated deposition, also referred to as 'hotspots'. (HEC)

*Comment:* Nine states have finalized mercury rules that require mercury controls beyond CAMR including coal states Illinois and Pennsylvania. Another 12 states are working on rules that go beyond CAMR including Wisconsin and Michigan. Of these 21 states, 17 require an 80% or greater reduction in mercury emissions, ten have a final deadline of 2013 or earlier, and 18 limit or prohibit trading of allowances. These state actions illustrate not only confidence in the control technology, but also confidence in the industry's ability for rapid deployment. (HEC)

*Response:* IDEM has considered all of the above referenced material and is proposing a rule based on the draft rule in the Second Notice. There is little disagreement that reductions in mercury emissions in Indiana will lead to reductions in mercury deposition in Indiana. The proposed rule caps mercury emissions in Indiana with a 14% reduction in Phase I and a 66% reduction in Phase II. Through Indiana's mercury deposition monitoring network, IDEM can track the impact of these emissions reductions, and decreased deposition is expected. The Phase I cap is intended to take advantage of the co-benefit controls from the CAIR rule, while ensuring that energy reliability and affordable electricity are maintained. The two phases of the CAMR rule allow for a glide path towards mercury controls that will not disrupt the energy market or the economy, and that permits the flexibility for utilities to control mercury in the most cost-effective way. A one-size-fits-all rule will not accomplish these goals.

Although other states may have adopted rules that exceed the requirements in CAMR, findings specific to other states' rules may not necessarily pertain to Indiana's utilities. For example, the Illinois rule is based on specific control strategies that the state negotiated with several of its utilities. The efficacy of mercury controls depends on many factors such as the type of coal used and the age and configuration of the units.

*Comment:* Indiana should adopt a rule to reduce mercury emissions that will call for greater reductions and shorter timelines than those required in the U.S. EPA's Clean Air Mercury Rule (CAMR). When the means are available it is incumbent on us to take the route that affords the highest level of protection within the best possible timeline. This is especially important when children's health is involved. Additional reductions in mercury emissions by 2010 translates to corresponding differences in the number of children whose health and learning capacity will be impacted negatively. A strong public health policy supports a strong economy. Businesses thrive where the workforce is strong and the employees' families are healthy. The means to meet 90% reduction are neither unattainable nor too expensive. There are some facilities in Indiana that already essentially meet the 90% standard, the State Utility Forecasting Group (SUFG) predicts that consumers will see only a 2 to 3% increase in electricity rates as a result of adopting a 90% reduction standard, and other states have already adopted this type of standard. (IPHA)

*Comment:* Indiana must do all it reasonably can to reduce levels of mercury, a highly toxic chemical, in its own air and waterways, reduce its contribution regionally, nationally, and internationally and address a serious public health issue. The commenter is disappointed that IDEM chose to put forward a rule that requires only the minimum reduction of the federal CAMR, especially after the Indiana Air Pollution Control Board (APCB) indicated its desire to see an alternative approach in between CAMR and the HEC petition. The commenter supports the HEC petition. Reductions of 90% are achievable with current and developing technology, are well within the additional cost that most Hoosiers would be willing to pay, and will result in local reductions of mercury. IDEM's cost/benefit analysis for the HEC petition fails to take into account how difficult it can be to quantify the costs to individuals and society of the kinds of harm caused by mercury to the fetal and very young brain. (SC)

*Comment:* Mercury emissions should be reduced as much as is technologically feasible as soon as possible and at all power plants. Children are more susceptible to mercury than adults. As children grow, they consume, pound per pound, more food, drink more water and breathe more air than adults putting them at higher risk for environmental exposures. Consumption of contaminated fish is currently the most common route of exposure to mercury due to the methylmercury that has accumulated in fish tissue. Twelve studies of the effects of mercury on children at the low doses seen in fish were identified by the commenter. Nine of these studies show detrimental effects on cognitive abilities of children with higher exposures to mercury. Only one study of the twelve found no detectable effect. Other significant sources of mercury emissions in the state have already come under strong regulation. Reductions of mercury emissions from power plants are long overdue. CAMR is insufficiently protective and deeply flawed. It does not meet the Clean Air Act requirements for faster reductions and maximum achievable control technology on all units. The American Academy of Pediatrics has joined other public health organizations in the lawsuit challenging CAMR. Indiana is capable of exceeding CAMR. Other states are requiring 90% reduction in mercury emissions and the Institute of Clean Air Companies has stated that a 90% reduction is achievable. If after accounting for the cost of mercury's health effects, there is still increased cost of mercury control, the cost is justified for protecting current and future generations. For the protection of children's health Indiana should control mercury from power plants with a rule that reduces mercury emissions by 90% and does so as soon as possible without permitting trading of allowances. (AAP)

*Comment:* The commenter testified in support of the HEC petition early on and has not changed their views since. Indiana citizens deserve a rule which is more protective of health than the federal rule provides and there is concern that hot spots will be allowed to occur as a result of a cap and trade program. Poor people who must rely on subsistence fishing in Indiana are forced to eat mercury tainted fish, subjecting their children, current and future, to developmental problems that accompany high levels of mercury in their diets. Throughout the lengthy process to develop this rule, IDEM has treated the issue more as an economic issue than one of health placing cost above the well being of Hoosier citizens. It was clear from the beginning that IDEM was going to take a minimalist approach to correcting a serious problem. Technology currently exists to remove more than 90% of mercury from the utilities' waste stream at a price that is affordable. This is especially important for people who reside along the Ohio River where utilities could purchase credits and continue to release large volumes of mercury. The process to arrive at this point while appearing to be fair and inclusive has not been. Conference lines have been hard to hear leaving people from Valley Watch disengaged. The only option left is to seek intervention on the part of the APCB to implement a rule that will actually be protective of health. This would be an unusual event since the APCB has always relied on IDEM for counsel and authority. It is time that IDEM and the APCB come to grips with the seriousness of the air pollution problem that Indiana has created. We complain that college graduates leave the state, but who can blame an educated person for leaving a region that apparently cares so little for the environment and health of citizens. (VW)

*Comment:* IDEM should adopt the mercury reductions as recommended by HEC. (RJC) (GR) (WW) (KB) (TH) (TB) (RGH) (CB) (BM) (LK) (MGS) (DS) (FH) (MZ) (DG) (DFC) (WB) (BT) (JK) (AH) (CH) (TB) (CB) (VTBLRKKZ) (TMB) (KMB) (RB) (RS) (JM) (LR) (TJH)

*Comment:* Since mercury does so much damage it is worth at least trying to reduce emissions by 90%. (MGS)

*Comment:* As an avid outdoors man the commenter was shocked to discover how relaxed the federal rule for mercury emissions was. We need to teach our children the correct way to care for the environment. A cost of \$1 to \$2 per month per household is a cost most Hoosiers would be willing to pay if it meant a 90% reduction of mercury emissions by 2010. (TJH)

*Comment:* U.S. EPA estimates the 66% reduction by 2018 will not be achieved until 2025 because of banking. Since technology to control mercury emissions is available now, the delay to 2025 is extreme. Indiana residents would be willing to pay a \$1 to \$2 per month household increase in electricity rates to reduce toxic mercury emissions. Indiana would still be well below the national average for cost of electricity. Mercury is health hazard to unborn children and poison to the environment. (VTBLRKKZ)

*Comment:* Why wait when technology to control mercury emissions to these tighter standards is available now? The neurological impact that mercury emissions have on our children, grandchildren, and future generations must be reduced. Indiana ranks 4<sup>th</sup> highest in mercury emissions. Other midwestern states of Illinois, Pennsylvania and Michigan have already made rules for more stringent mercury reductions in their states. The commenter would gladly agree to higher electric rates of 2.1% to 3.4% to achieve tighter standards. (TMB) (KMB) (RB) (RS) (JM) (LR)

*Comment:* Indiana is great, but one of the drawbacks is the pollution caused by coal burning plants. (MZ)

*Comment:* It is in the best interest of Indiana, as well as the United States as a whole, that a rule be passed to stop this sort of pollution. (CH)

*Comment:* The commenter is willing to pay slightly more to make sure the HEC petition is adopted. (DG)

*Comment:* Mercury is harmful to health and the total impact of mercury on health has not been documented. (CB)

*Comment:* The commenter is willing to pay an additional \$1 to \$2 per month for household electricity. The science that argues for reducing mercury emissions is clear, and the cost of addressing these emissions from coal-fired power plants now is a fraction of the costs (both in terms of dollars and human suffering) of contending with it later. (TB)

*Comment:* Indiana is sorely behind in passing powerful positive measures for air pollution. (AH)

*Comment:* Citizens with permanent mercury poisoning need total care with a devastating effect on quality of life. (JK)

*Comment:* Cleaner air is important for ourselves and future generations as well as the environment. (FH)

*Comment:* With affordable technology the only responsible option is conservation. (DS)

*Comment:* Governor Mitch Daniels has recently described efforts to stop the "brain drain" from Indiana. We should begin with making Indiana a clean, safe place to live. With out air and water quality standards we are self-selecting only the economically and intellectually challenged students to stay here. (WB)

*Comment:* Mercury emissions from Indiana's coal fired power plant are currently the fourth highest in the country. One option to reduce mercury emissions in Indiana is the HEC petition. Given that other states have been able to progress towards a 90% reduction in mercury emissions, it is evident that such reductions are possible using technology today. ACI has allowed plants such as Alabama Power's multi-unit Gaston plant and Sunflower Electric's Holcomb Station in Kansas to achieve 90% mercury reductions. Given that Indiana's electricity bills are some of the lowest in the nation, it seems rather misplaced for utilities serving Indiana to contend that consumers will balk at slightly higher bills. Also, a cap and trade program for mercury is ill-suited for mercury emissions, as it allows the older, dirtier and less efficient coal-fired power plants more latitude by permitting them to buy credits from newer, more efficient plants. Southwest Indiana has more than its fair share of the older, dirtier plants that should have retired years ago. A cap and trade program may do little to reduce actual mercury emissions in Indiana. (NJEJ)

*Comment:* The draft mercury rule is much to slow in lowering mercury emission standards. It is a global environment and we all must do something soon. It is a good deal to spend \$2 a month extra for quicker reductions and a cleaner environment for future generations. Indiana should match the schedule that Illinois has adopted. Indiana does not need to be the state that chooses to stay polluted for a few dollars a month. (MLS)

*Comment:* The Hoosier Environmental Council (HEC) collected comments from citizens concerned about mercury emissions from coal-fired power plants in support of the petition to reduce mercury emissions by 90%. (HEC list of commenters)

*Response:* IDEM received many comments from concerned citizens. IDEM appreciates the effort that so many citizens made to get involved in the rulemaking process. IDEM has evaluated available information and is proposing a rule for preliminary adoption that is based on the federal rule. The proposed rule will reduce mercury emissions from coal-fired power plants in Indiana by a substantial amount while ensuring continued electricity reliability and affordability.

#### **Support of a Compromise Rule (greater reductions than the federal rule)**

*Comment:* Indiana policy makers and stakeholders are engaged in a constructive and productive debate about this rulemaking. The APCB has so far been presented with two options: the federal CAMR rule, which

includes a cap and trade program with a mercury cap of 67,104 ounces (4,194 pounds) in 2010 and 26,496 ounces (1,656 pounds) in 2018; and the HEC petition, which calls for a 90% reduction (or 0.6 lbs/trillionBtu) by 2010, with plant-wide emissions averaging for compliance, but no trading program. At a recent meeting, several members of the board asked for one or more alternative, or compromise, options. The commenter offers an alternative to the federal CAMR that provides greater protection to the public and the environment but will not pose an unreasonable cost burden to Indiana ratepayers or put the Indiana utilities at risk of not being able to comply. The elements of the proposed alternative are as follows:

**Retain the cap and trade program.** Being able to participate in the federal cap and trade program is critical to the utility industry and will make compliance achievable at a lower cost to Indiana rate payers. It also satisfies the federal requirement that Indiana limit its total mercury emissions (the HEC 90% or emission-rate proposal does not include an overall limit on statewide mercury emissions) and saves IDEM from having to set up and administer a separate compliance program.

**Phase I reductions are those achieved by federal CAIR.** It acknowledges that utilities are working diligently to find reliable control technology that will assure compliance. The commenter believes that more mercury reduction could be achieved in Phase 1 than is being required, but acknowledges that some progress will be made in this step and are willing to accept it as an incremental step for this program.

**Phase II reductions would be required by 2015 instead of CAMR's 2018.** The evidence is mounting that control technology to achieve Phase II reduction targets should be commercially available several years ahead of the CAMR 2018 deadline. Some states have gone ahead to adopt CAMR without much independent investigation, but those states that have looked into the issue have determined that lower and sooner reductions are possible (Pennsylvania, Illinois and Colorado are the most recent examples).

**Phase II reductions would be less than the HEC petition but more than CAMR.** This proposal sets the Phase II cap at 19,200 ounces (1,200 pounds), representing a 75% reduction from 1999 levels. Given the increasing evidence from DOE/National Energy Technology Laboratory (NETL) and other studies about the effectiveness of various mercury control technologies including technologies already in place or soon to be in place, the level is achievable. Alternatives for the 456 pounds of allowances that would not be distributed to the utilities under this approach could be 1) permanent retirement as a public health set-aside; 2) make them available as incentives to clean energy programs (see below); or 3) make them available for sale by the state with the proceeds going to fund clean air, clean water, or public health programs.

By advancing the Phase II compliance date by 3 years and lowering the Phase II cap, this alternative prevents at least 9,000 pounds of mercury from ever being emitted, as compared to CAMR (it is difficult to predict precisely what the difference would be because of the banking provisions in the rule and the ability of utilities to buy allowances). (IKE)

*Response:* IDEM appreciates the commenter's suggestion for an alternative rule. At the request of the air board, IDEM held discussions with representatives from the utilities and the Hoosier Environmental Council (HEC) to discuss alternatives to the CAMR rule and the HEC petitions. Those discussions did not yield a consensus concerning alternatives, so IDEM must now propose a rule to the air board for preliminary adoption. After consideration of all the factors, IDEM has concluded there is not a compelling reason to adopt a rule more stringent than CAMR.

*Comment:* Indiana should adopt a rule that requires stronger mercury restrictions than the federal minimum requirements. The commenter supports a fair compromise position between the U.S. EPA CAMR and the Hoosier Environmental Council (HEC) petition to reduce Indiana's mercury emissions from inlets by 90% by the year 2010. The IDEM presentation identifying low cost/benefit returns to Hoosiers from the HEC petition is very flawed. In reality: 1) there is technology to control mercury emissions to these tighter standards available today; 2) Indiana is fourth in the nation for mercury pollution; 3) 70% of the mercury emissions stays in the local area; 4) thousands of miles of Indiana streams and thousands of acres of Indiana lakes are impaired with mercury; and 5) there is significant neurological impact that mercury emissions have on the residents of Indiana, particularly young children. Mercury is also impacting most every type of wildlife. If other states in the Midwest have taken action significantly beyond the U.S. EPA minimum requirements, then so can Indiana. The increase electricity rates would be a small price to pay to reduce mercury emissions. (IWF)

*Comment:* The Save the Dune's Board of Directors passed a resolution in November 2006, asking IDEM to adopt a rule, which would essentially call for the reduction of mercury emissions beyond the 70% U.S. EPA reduction level. The commenter questions IDEM's regulatory and enforcement capabilities for a cap and trade program. IDEM should maintain stringent guidelines on monitoring and the collection of mercury emission data. Reducing mercury emissions by substantial amounts will call for the rigorous enforcement of permit application deadline requirements to allow IDEM's timely review for the issuance or denial of mercury budget permits. IDEM should also consider mercury emissions from coke ovens in a future rulemaking. (SDC)

*Comment:* Mercury emissions from Indiana's coal-fired power plants should be properly regulated. Mercury is a toxic heavy metal, especially dangerous for children, and its release to the environment should be reduced. The Clean Air Act has produced significant improvements in air quality and helped to ensure healthier conditions for Americans. The U.S. EPA has produced a weak rule for power plants that substantially delays reductions in

mercury emissions. There is a mixture of data and models regarding the final disposition of mercury from power plants and its connection to health effects. Given the known toxicity of mercury IDEM should use great caution and reduce the emissions of mercury. It is less costly to society to control the emission of a toxin than it is to attempt to clean it up and control human exposure once the toxin is widely distributed. (LWVI)

*Comment:* The resources of the world are a gift to all generations. No single person or generation has the right to consume wastefully or to ruin Creation thoughtlessly. The following principles should guide decision makers on environmental matters: 1) strive for environmental justice, 2) seek to equally share the benefits and the costs, and 3) consider the consequences of our actions on life yet unborn. Indiana should seek to reduce mercury emissions as much as is reasonably possible and the federal rule does not achieve that goal. IDEM and the APCB should fashion a rule that truly protects public health and the Indiana environment. (IAI)

*Comment:* IDEM should require stronger mercury restrictions than U.S. EPA's CAMR. Indiana's rule should require a higher percentage reduction than CAMR and in a quicker timeframe. Most all of Indiana's streams and lakes are impaired from mercury, some from polychlorinated byphenyls (PCBs). Much of this mercury comes from Indiana's local sources. Once these deposits are significantly reduced then the mercury content will drop in our fish, in particular smallmouth bass. Since smallmouth is found in most all of Indiana's streams the whole state will benefit. Estimates of electricity rate increases of 2 to 3% are a small price to pay for a healthier environment for smallmouth in particular as well as other wildlife and our beloved human inhabitants. (ISC)

*Comment:* Indiana needs a rule that is more protective of wildlife and human health than the federal CAMR, a rule that has greater reductions in mercury emissions that are achieved sooner. Mercury from power plants is deposited locally. In Steubenville, Ohio, 70% of the local mercury deposition came from nearby power plants. There was a program on National Public Radio about mercury and how it not only affects fish (there are not or almost no large fish that can be caught and eaten in Indiana without regard to mercury hazard), but also song birds and other wildlife in terrestrial ecosystems. Studies have shown that young children exposed to mercury from eating fish have poorer test scores in attention, memory and language. Coal-fired power plants are the largest source of mercury emissions in the U.S. and Indiana's power plants are the fourth highest in mercury emissions in the U.S. (SCDG)

*Comment:* According to the U.S. EPA (1994-95) data utility boilers are responsible for 30% of the mercury emissions in the United States. According to the U.S. EPA's 1999 data of mercury emissions by state (<http://www.epa.gov/ttn/atw/combust/utiltox/stxstate2.pdf>), Indiana ranks as the 7<sup>th</sup> highest polluter in the United States. Elevated levels of mercury have been found in a wide range of birds, fish, mammals, and humans. Studies show that mercury negatively impacts the cognitive abilities of young children. CAMR requires control of mercury emissions from coal-fired power plants, but the rule is too conservative and takes far too long to achieve reductions in mercury emissions. Indiana should not be limited by CAMR should institute more aggressive measures to reduce mercury emissions from all sources, especially from coal-fired EGUs. (LR) (JW) (JCF) (LG) (JC) (MAR)

*Comment:* U.S. EPA estimates the 66% reduction by 2018 will not be achieved until 2025 because of banking. It is possible to achieve reductions much faster and to a greater degree than the federal rule. So far, nine states have finalized rules stronger than the federal minimum. In face of the uncertainty expressed in the second notice IDEM should err on the side of caution, particularly caution to prevent harm where the potential for harm exists. (VLP)

*Comment:* The commenter lives week to week when it comes to income and used the local parks for entertainment and fishing. We need to do what is necessary to keep our environment clean. Whether or not the mercury emissions are as bad as some say, or not, it should be treated as a great threat, and taken care of immediately. (BN)

*Comment:* The arguments by Indiana's biggest mercury emitters for why they should do nothing more than what is required of them at the federal level is subterfuge designed to confuse and convolute the real issue. One cannot live among the largest concentration of coal-fired power plants and other polluting industries without being chronically exposed to heavy metals such as mercury. Southern Indiana is a mercury hot spot. A federal cap and trade program will not benefit southern Indiana. Other states have recognized the need for reductions more stringent than the federal rule and Indiana should follow the lead of these other states. Some may argue that additional reductions are too costly and will effect economic development. What hurts economic development is doing nothing about mercury hot spots. Dominion Electric's Mount Storm facility was the largest mercury emitter in the nation with a reported 1,900 pounds of mercury released in 2000. After installing a scrubber at the Mount Storm power plant, Dominion saw an 83% reduction in mercury in 2005. If it was not economically viable, Dominion would not be installing scrubbers at this facility and other facilities. Indiana's leadership is far behind the rest of the nation, and not representative of the people. Moreover, this is not just about eating mercury contaminated fish, this is also about the general public's chronic exposure to mercury in the air. If IDEM adopts nothing more than the federal rule it will be clear that IDEM is an agency controlled by the industries and politicians and not by the people who seek its protection. (CAW)

*Response:* The proposed rule will yield significant mercury emissions reduction from power plants with corresponding human health and environmental benefits. This is the first comprehensive rule to address mercury

emissions from power plants. Because of the critical importance of a reliable and affordable source of electricity to our citizens, in addition to human health, all factors must be weighed in any decision on this rule. It is IDEM's determination that a rule based on the CAMR rule appropriately balances all of these important factors. IDEM will continue to monitor mercury deposition in Indiana to assess the impact of this rule over time.

**Draft Rule Language**

*Comment:* The commenter supports IDEM's position with respect to fuel neutrality in determining allowance allocations. (HE)

*Comment:* The commenter strongly supports IDEM's fuel neutral approach for allowance allocations where heat input values are not adjusted for coal type. To build any preferences or incentives for non-bituminous coal into the Indiana mercury rule would be inconsistent with the Governor's Strategic Energy Plan, "Hoosier Homegrown Energy" (2006; energy.in.gov). IDEM has not studied what the real-world effects of assigning a heat input adjustment factor (e.g., 1.25 for subbituminous coal) would be in Indiana, and whether those effects are consistent with the underlying objectives of the mercury control program, principals of sound air quality management, and the Strategic Energy Plan. (DUKE)

*Comment:* IDEM should adopt the fuel rank adjustment factors embodied in the federal Clean Air Mercury Rule (CAMR) since subbituminous coals make up between 33 to 40% of the coal used by utilities in Indiana. Subbituminous coals have an inherently lower mercury content than do bituminous coals, but emit most of that gaseous mercury in an elemental form when combusted by themselves. Elemental mercury has been demonstrated to be more difficult for current control technologies to collect. This is the underlying basis for U.S. EPA's adoption of coal type adjustment factors in CAMR. (AEP)

*Comment:* There are issues with current mercury-specific control technology to achieve high levels of mercury reduction, particularly for subbituminous coal. The federal model rule for CAMR is designed to take advantage of the mercury reductions expected to be achieved as a result of installation of more conventional air pollution control technology designed for reduction of SO<sub>2</sub> and NO<sub>x</sub> emissions as part of CAIR. In order to reduce SO<sub>2</sub> emissions for compliance with the acid rain program, Dominion State Line facility switched to lower sulfur subbituminous coal in 1999. Subbituminous coals are generally lower in total mercury but have higher levels of elemental mercury, which makes it much more difficult to control with conventional pollution controls. Bituminous coals have higher levels of ionic or oxidized mercury, which is easier to control with conventional control technology. The oxidized mercury is also more readily deposited while elemental mercury is more likely to enter the global pool. U.S. EPA has acknowledged the difficulty of controlling elemental mercury from some coal types and included adjustment factors for subbituminous and lignite coals in the mercury allowance allocation formula. U.S. EPA based their conclusion that mercury in each of the coals reacts differently to NO<sub>x</sub> and SO<sub>2</sub> control equipment based on information collected in the 1999 Mercury Information Collection Request (ICR), as well as more recent data collected by U.S. EPA, Department of Energy (DOE), and industry sources. Examining the single best performing control configurations by coal type in the ICR data the following average mercury removals are seen: bituminous - 80%, subbituminous - 72%, and lignite - 44%. Evaluation of the 1999 ICR data also shows that the presence of chlorine compounds (which tend to be higher for bituminous coals) results in increased ionic mercury, which is easier to control. U.S. EPA used these factors to equitably distribute allowances to the states and tribes on the basis of the affected industry within their borders. However, IDEM is proposing to not adopt these adjustment factors for different coal types. U.S. EPA records indicate that 19 of the 71 coal-fired EGUs in Indiana burn subbituminous coal, accounting for 34% of the coal-fired capacity on which the Indiana CAMR allocations are based. Based on the federal CAMR Phase I Indiana mercury budget of 2.098 (67,136 ounces) tons, approximately 6% (4,229 ounces) is derived from additional allocations for EGUs burning subbituminous coal. IDEM proposes to summarily redistribute to other Indiana EGUs the additional 6% of the mercury allowances allocated to Indiana for EGUs using subbituminous coal. Seizing these 4,229 ounces of mercury allowances and redistributing these commodities to other EGUs represents an annual loss of \$7.2 million beginning in 2010 and increasing to an annual \$12.1 million in 2020 (based on estimated allowance prices) to EGUs burning the lower sulfur subbituminous coal. IDEM should restore the adjustment factors in the Indiana rule. (DM)

*Response:* IDEM is retaining the fuel neutral approach in the draft rule for preliminary adoption. Other nearby states have also decided to eliminate the coal type adjustment factors in the federal model rule, including West Virginia, Pennsylvania and Ohio. There is also evidence on control technology effectiveness that now shows promising results for controlling elemental mercury from subbituminous coals with improved activated carbon sorbents, contrary to what U.S. EPA assumed in CAMR (U.S. DOE/NETL, "Clarification of the U.S. Department of Energy's Perspective on the Status of Mercury Control Technologies for Coal-Fired Power Plants, May 25, 2006).

*Comment:* The commenter agrees with IDEM's proposal to base the initial allocation for years 2010 through 2014 and subsequent allocations on heat input values using an eight-year look back period. A look back period of 1998-2005 for the heat input years is more representative of "normal" operations than 2000-2004 because of the effects of the NO<sub>x</sub> SIP Call in Indiana. (DUKE)

*Comment:* The commenter generally supports IDEM's proposed allocation methodology, including the six-year block allocations based upon the highest three years' average heat input determined from an updating



baseline with an eight-year look back. IUG takes no position regarding fuel neutrality. (IEA)

*Response:* IDEM appreciates the commenter's support of the draft rule and agrees with maintaining consistency with the CAIR and CAMR programs where possible.

*Comment:* It is possible under U.S. EPA's proposed approach for implementing the CAMR Federal Plan that federal allocations will substitute for the state's allocations for 2010 and possibly 2011, with adverse economic impacts for some Indiana electric generating units (EGUs). It is critical that IDEM do all it can to ensure that state policy is not pre-empted by federal action merely because of delays inherent in the Indiana rulemaking process. IDEM should take immediate action to prevent this from happening. U.S. EPA could extend the deadline for submission of a state mercury plan for a reasonable and sufficient time period or U.S. EPA could postpone its current date of December 1, 2007, for issuing allowances for 2010. U.S. EPA's allocation methodology differs from Indiana's with respect to the years used for annual heat input values and the coal adjustment factors for coal type. Duke Energy Indiana calculates that the number of allowances it would receive for just 2010 under the Indiana approach would exceed the number from U.S. EPA by approximately 1,200 ounces which would be a costly consequence of Indiana's rulemaking process. Many companies have committed themselves already to a compliance plan and would prefer greater allocations over early notice. (DUKE)

*Comment:* IDEM should pursue completing this rulemaking in a timely fashion to allow the allocations under this rule to be made prior to U.S. EPA's federal plan allocations being issued. (AEP)

*Comment:* IDEM should work with U.S. EPA to avoid imposition of the CAMR federal plan allocation methodology for 2010 allowance allocations. Indiana, like many other states, is in the process of diligently working to develop the state mercury rule. IDEM is discussing an allocation methodology that differs from the federal CAMR model rule and CAMR federal plan, but would still meet U.S. EPA approvability requirements. A federal allocation methodology for 2010 will result in unnecessary confusion regarding allocations for the state and the regulated community. (NS)

*Comment:* The recent notice of proposed rulemaking by U.S. EPA addressing the imposition of a federal plan raises concerns about the timing of the proposed Indiana rule and the potential imposition of the U.S. EPA federal plan allowance allocation methodology. IDEM should add the following language to [326 IAC 24-4-8\(b\)](#): "If U.S. EPA imposes a Federal Implementation Plan to implement the CAMR prior to the effective date of this rule, the department shall submit to the U.S. EPA the mercury allowance allocations as specified in subsections (b), (c), and (d) for the control periods for which the U.S. EPA has not already allocated allowances." (NS) (IEA)

*Response:* IDEM is aware of the impending federal deadline for allocations under the CAMR federal plan and has submitted comments to U.S. EPA on the proposed CAMR federal plan issued December 22, 2006. IDEM has asked U.S. EPA to work with the state in providing flexibility for 2010 allocations under the state methodology and not impose the federal allocation methodology on the state when we are working diligently to finish the state rule. According to the proposed federal plan, states will have until May 30, 2007 to submit a state allocation methodology to U.S. EPA (i.e., state allocations under the federal plan or partial federal plan option) for approval and until October 31, 2007 to submit the first set of mercury allocations for 2010. U.S. EPA has indicated to IDEM that the final federal plan will not be issued by May 30, 2007 and thus if U.S. EPA retains the partial federal plan option in the final rule the proposed May 30, 2007 due date would be extended. If necessary, IDEM will present an emergency rule for a state allocation methodology to the air board later this year and submit to U.S. EPA for approval as the state allocation methodology for 2010. An emergency rule is effective for 90 days and can be renewed twice. This would provide enough time to keep an emergency rule in effect long enough to finish the state rulemaking process for the full CAMR rule. If the state is not able to make allocations under the state rule for 2010, language can be added to the rule before final adoption to clarify that IDEM will only submit allocations for control periods for which U.S. EPA has not already allocated allowances.

*Comment:* IDEM, as well as U.S. EPA may have overlooked an important consequence of the current movement to promote and develop clean coal technologies such as syngas production. Syngas, however, appears to fit the proposed definition of "coal-derived fuel" and once produced, may be introduced into intra-state and interstate gas pipelines, mixing with other combustion gases, for general distribution. If it were so introduced, many Indiana combustion units now firing natural gas could thereby become mercury budget units, subject to the Indiana mercury rule. IDEM should evaluate whether this contingency could occur and consider the possibility of asking U.S. EPA to build an exception for such syngas into the definition of "coal-derived fuel" in CAMR and the Indiana mercury rule. (DUKE) (NS)

*Response:* IDEM agrees that this is a concern and has asked U.S. EPA for guidance on this issue. IDEM is proposing to amend the definition of "coal-derived fuel" to exempt syngas fuel that has been introduced into gas pipelines for general distribution. This will give an opportunity for affected parties and U.S. EPA to comment on during the third comment period.

*Comment:* The final rule should include language allowing any new integrated combined cycle gasification (IGCC) facility to receive extra allowances out of the new source set-aside where it commences commercial operation before December 31, 2015, but may have operated less than three full consecutive years. The rule should also define the baseline for such a facility in terms of its actual gross electrical output for a shorter representative period, or its rated gross electrical capacity, multiplied by an 85% capacity factor. Another

possibility is to set the baseline emissions to be commensurate with the mercury emission limit in the new source performance standard (NSPS) Subpart Da, as opposed to the facility's actual emission rate. Such provisions would show that Indiana wants to promote the development of new and efficient coal-fired EGUs, as well as usage of Indiana coal. (DUKE)

*Response:* IDEM has amended the draft rule for preliminary adoption to include an alternative way to calculate allowances for new clean coal technology units and has added a set-aside for clean coal units to receive additional allowances. IDEM is proposing to define clean coal technology units as the same types of coal-fired units, for example, IGCC and pressurized fluidized bed combustion, that U.S. EPA has defined as repowered units in CAMR. The clean coal incentive is limited to units commencing operation before January 1, 2018 to provide incentives for pioneering projects. The modified allowance calculation for clean coal units provides the option of using a reasonable surrogate of full performance when electricity output may be low during the initial years of operation. The second component of this incentive is a clean coal technology set-aside to provide additional mercury allowances beyond what would be allocated through the new unit set-aside and baseline allocation. The set-aside is one percent of the total mercury allowances taken from the new unit set-aside for control periods through 2021.

*Comment:* IDEM should provide incentives in the rule for utilities that are pursuing energy efficiency, alternative energy or clean coal projects. That provision in the NO<sub>x</sub> SIP Call rule is starting to generate some real interest, incentives are crucial to these projects being pursued. The Governor's "Hoosier Homegrown Energy Plan" emphasizes the need to develop clean coal and alternative sources of energy. One way Indiana's mercury rule could provide an incentive would be to set aside some number of allowances each year as it did in the NO<sub>x</sub> SIP Call rule. Another option would be to transfer any unused allowances in the new source set-aside to these<sup>x</sup> types of projects rather than returning them to current plants (which will not be counting on them in their compliance plans). IDEM should discuss this issue with the stakeholder group to generate other ideas. The commenter also recommends that in Phase 1, each plant/unit should receive at most the number of allowances that equals its previous estimated emissions and that the remainder be put into an energy efficiency/renewable energy/clean coal incentive fund. (IKE)

*Comment:* The draft rule does little to encourage energy efficiency or provide incentives for companies wishing to develop renewable energy generation. (SC)

*Response:* IDEM agrees that the rule should include an incentive for clean coal technologies and is proposing language in the draft rule for preliminary adoption that includes a set-aside for clean coal technologies. IDEM is not proposing to include incentives for alternative energy and energy efficiency (EE/RE) projects. An EE/RE program is in the NO<sub>x</sub> budget trading program and the new CAIR annual and ozone season NO<sub>x</sub> programs that apply to all fossil-fueled generation. Due to the fact that the CAMR program only applies to coal-fired generation, the size of the mercury budget, the uncertainties associated with mercury control from coal-fired boilers, the difficulty in associating displacement of only coal-fired generation by EE/RE savings or generation, and that there is no good conversion factor for determining the amount of mercury allowances to award per project, IDEM has decided not to include an EE/RE program in CAMR.

*Comment:* Indiana's allocation methodology should be output-based so that energy efficiency, rather than inefficiency, is rewarded. Unused allowances from the new unit set-aside should not be returned to existing sources and should be permanently retired instead. Utilities can not count on that surplus, so will be planning their compliance activities without them. (SC)

*Response:* For new units the allocation methodology is output-based so that more efficient units receive more allowances. IDEM has not amended the rule language to permanently retire unused new unit set-aside allowances as that would effectively be lowering the budget and IDEM is proposing to follow the federal mercury caps.

*Comment:* In [326 IAC 24-4-2](#)(37), definition of mercury allowance, IDEM cites "40 CFR 62.15940 through 40 CFR 62.15943\*" at two different points in the definition. These cited sections do not exist in the Code of Federal Regulations (CFR). These citations should actually reference "40 CFR 60.4140 through 40 CFR 60.4142." (AEP)

*Response:* The cites for 40 CFR 62.15940 through 40 CFR 62.15943 refer to the federal mercury budget trading program proposed by U.S. EPA on December 22, 2006. Since these proposed cites do not exist yet IDEM has revised the definition in the draft rule language for "mercury allowance" and "mercury budget trading program" to refer to the CAMR federal plan without referencing the CFR cites. Once the final CAMR federal plan is published IDEM will update these definitions to include the CFR cites.

*Comment:* Sections [326 IAC 24-4-8](#)(b) and [326 IAC 24-4-9](#)(e) and (f) are structured in a way that does not describe how allowance allocations will be handled for the year 2015. (IEA)

*Comment:* A similar fix is necessary to resolve a similar problem in [326 IAC 24-4-9](#) to synchronize the dates for U.S. EPA to record the allowance allocations. (AEP) (NS)

*Response:* IDEM has amended the draft rule for preliminary adoption so that allocations for 2015 are included in the rule.

*Comment:* The inclusion of provisions for unattended sources that would allow for the retention of records at a central location within Indiana as was provided in the Indiana NO<sub>x</sub> SIP Call rule and the recently promulgated

Indiana CAIR is appreciated. Inclusion of these provisions in the Indiana CAMR will help address the practical concerns of affected parties faced with this situation and provide certainty compared to the petition process contained in the federal CAMR. (NS)

*Response:* IDEM supports the request for allowing retention of records at a central location for unattended sources and has kept this provision in the draft rule for preliminary adoption. IDEM is aware that U.S. EPA does not consider this type of record keeping appropriate and will modify this provision if necessary based on whether or not U.S. EPA approves this provision in CAIR that is currently under U.S. EPA's review for SIP approval.

*Comment:* At [326 IAC 24-4-2](#)(53)(A) and (B) the listing of five-tenths as "(0.50)" is incorrect. Five-tenths is 0.5. If the intent is to numerically list the equivalent of five-tenths, the "(0.50)" should be changed to "(0.5)". If the intent is to be consistent with the federal CAMR, "five-tenths (0.50)" should be changed to "fifty-hundredths (0.50)." (NS)

*Response:* IDEM will change the rule to read, "fifty-hundredths (0.50)."

*Comment:* At [326 IAC 24-4-2](#)(61)(F) IDEM should clarify the meaning of "the Secretary of Energy" by including the full reference to this position held by a member of the federal, not state, government. The reference should be to the Secretary of the United States Department of Energy. (NS)

*Response:* IDEM will change the reference to "the Secretary of the United States Department of Energy."

#### **LIST OF ATTACHMENTS – Submitted by IEA**

1. State Representative David Wolkins, Then Chairman of the Environmental Affairs Committee of the Indiana House of Representatives, Memorandum to Lieutenant Governor Becky Skillman, April 25, 2005.
2. Electric Power Research Institute, "Mercury Research Update," presentation to EEI Clean Air Strategy Group, July 19, 2006, in part.
3. Atmospheric & Environmental Research, Inc., *Modeling Deposition of Atmospheric Mercury in Indiana*, February 2007.
4. Martin Risch (U.S. Geological Survey, Indiana Water Science), "Mercury in Atmospheric Deposition and Surface Water in Indiana," n.d., in part.
5. Sandy Szwarc, "Fishy Advice: The Politics of Methylmercury in Fish and Mercury Emissions," Issue Analysis, Competitive Enterprise Institute, 2004.
6. Electric Power Research Institute, "Mercury Inventory, Atmospheric Processes, Health Effects," EPRI Program 42 – *Air Toxics Health & Risk Assessment*, presentation in Charlotte, North Carolina, October 25, 2006, in part.
7. Charles Graham, "The Flynn Effect," rev. Jonathan Plucker, 2002 < [www.indiana.edu/%7Eintell/flynneffect.shtml](http://www.indiana.edu/%7Eintell/flynneffect.shtml) >.
8. Aubrey Stimola, adapted from a report by Gail Charnley, Ph.D., "Regulating Mercury Emissions from Power Plants: Will It Protect Our Health?" September 2005.
9. Electric Power Research Institute, "Mercury 'Hot Spots' – Emissions and Deposition Patterns," August 2006.
10. Electric Power Research Institute, "Comments on BioScience Article 'Biological Mercury Hotspots,'" January 9, 2007.
11. Charles E. Miller, *et al.*, *Mercury Capture and Fate Using Wet FGD at Coal-Fired Power Plants*, August 2006.
12. L.D. Carter, Memorandum to Bill Maxwell, "Mercury Control Technologies," January 8, 2004.
13. Paul S. Nolan, *et al.*, "Mercury Emissions Control in Wet FGD Systems," n.d.
14. James Butz, *et al.*, "Trial of Amended Silicates™ for Mercury Control at Miami Fort Station," presentation to the Mercury Control Technology Conference, December 11-13, 2006.
15. Richard D. McRanie, *An Overview of Hg Emission Measurement Technology and Capability with Focus on Measurement Accuracy and Precision*, February 2007.

#### **References – Hoosier Environmental Council (HEC) Comments**

Agency for Toxic Substances and Disease Registry (ATSDR). Nation Alert: A Warning about continuing patterns of metallic mercury exposure. Last update Oct 2003 at <http://www.atsdr.cdc.gov/alerts/970626.html>.

Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological Profile for Mercury. TP-93/10. Centers for Disease Control. 1999.

American Academy of Pediatrics. Press Release: National Medical and Public Health Groups Sue EPA to Prevent Future Mercury Exposure. June 2005.

[http://www.aap.org/advocacy/washing/Final\\_public\\_health\\_mercury\\_lawsuit\\_%20release1.pdf](http://www.aap.org/advocacy/washing/Final_public_health_mercury_lawsuit_%20release1.pdf)

Brickett, L. and R. Landreth. Advanced Utility Mercury-Sorbent Field-Testing Program: Progress Report December 2006. Presentation for DOE/NETL Mercury Control Technology Conference.

[www.netl.doe.gov/publications/proceedings/06/mercury/index.html#sorbentinj1](http://www.netl.doe.gov/publications/proceedings/06/mercury/index.html#sorbentinj1). Retrieved 15 Feb, 2007.

Bullock, R (USEPA and NOAA). CMAQ Mercury Modeling. Presentation for the LADCO Mercury Workshop, February 2006. Available at [http://www.ladco.org/mercuryworkshop\\_feb06.htm](http://www.ladco.org/mercuryworkshop_feb06.htm).

Cain, Alexis. Clean Air Mercury Rule: Trading program overview. Presentation to the IDEM Mercury

Workgroup, April 2005

Calvert, J.G. et al. Mechanisms of mercury removal by O<sub>3</sub> and OH in the atmosphere. *Atmospheric Environment* 2005;39:3355-3367.

Centers for Disease Control and Prevention. Third National Report of Human Exposure to Environmental Chemicals: Health and Nutrition Examination Survey, 2005.

Clarkson T.W. The three modern faces of mercury. *Environ Health Perspect* 2002;110(suppl 1):11-23.

Cohen, M. Source-attribution for atmospheric mercury deposition. Presentation to the IDEM Mercury Workgroup, April 2005.

Counter, S.A. and L.H. Buchanan. Mercury exposure in children: a review. *Toxicol Applied Pharm* 2004;198:209-230.

Cox, C., et al. 1989. Dose-response analysis of infants prenatally exposed to methyl mercury: An application of a single compartment model to single-strand hair analysis. *Environ. Res.* 49(2):318-332

Crump KS, et al. Influence of prenatal mercury exposure upon scholastic and psychological test performance: benchmark analysis of a New Zealand cohort. *Risk Anal* 1998 Dec; 18(6):701-13.

Dietz, R. et al. Trends in mercury in hair of Greenlandic polar bears (*Ursus maritimus*) during 1892-2001. *Environmental Science and Technology* 2006;40(4):1120-1125.

Driscoll, C.T., et al. Mercury Matters: Linking Mercury Science with Public Policy in the Northeastern United States. Hubbard Brook Research Foundation Jan 2007.

Durham, M.D. Cost and Performance of Sorbent-Based Mercury Control for Coal-fired Boilers. Presentation to the IDEM Mercury Workgroup, February 2005.

Easterly, T.W. Indiana Power Plant Mercury Rulemaking Recommendation. Presentation to the Indiana Air Pollution Control Board. October 19, 2006.

Engstrom, D.R. and E. Swain. Recent declines in atmospheric mercury deposition in the Upper Midwest. *Environmental Science and Technology* 1997;31:960-967.

EPA. Control of Mercury Emissions from Coal-fired Electric Utility Boilers. 2002, 600/R-01-109.

EPA, Office of the Inspector General. Monitoring needed to assess impact of EPA's Clean Air Mercury Rule on potential Hotspots. 2006-P-00025, May 2006. Available at <http://www.epa.gov/oig/reports/2006/20060515-2006-P-00025-glance.pdf>.

Evers, D.C., et al. Biological mercury hotspots in the Northeastern United States and Southeastern Canada. *Bioscience* 2007;57(11):29-43.

Feeley, T.J., et al. at the Department of Energy's National Energy Technology Laboratory. Field Testing of Mercury Control Technologies for Coal-Fired Power Plants. DOE/NETL Mercury R & D Program Review, May 2005. <http://www.netl.doe.gov/technologies/coalpower/ewr/mercury/index.html>.

Florida Department of Environmental Protection. Integrating atmospheric mercury deposition with aquatic cycling in South Florida. 2002. [www.dep.state.fl.us/secretary/news/2003/nov/1106.htm](http://www.dep.state.fl.us/secretary/news/2003/nov/1106.htm). Accessed 2 Feb, 2007.

Gay, D. et al. Wet deposition of mercury in the U.S. and Canada, 1996 - 2004: Results from the NADP Mercury Deposition Network (MDN). Presentation for the LADCO Mercury Workshop, February 2006. Available at [http://www.ladco.org/mercuryworkshop\\_feb06.htm](http://www.ladco.org/mercuryworkshop_feb06.htm).

Grandjean, P., et. al. Cognitive deficit in 7-year-old children with prenatal exposure to methylmercury, *Neurotoxicology and Teratology*, 1997: 19(6):417-428.

Grandjean P, et al. Cognitive performance of children prenatally exposed to "safe" levels of methylmercury. *Environ Res* 1998 May;77(2):165-72.

Guallar, E., et al. Mercury, fish oils and the risk of myocardial infarction. *N Eng J Med* 2002;347:1747-1754.

Gustin, M.S., et al. Determining the role of plants and soils in the biogeochemical cycle of mercury on an ecosystem level. Final Report to EPA May 2003. Project# R827622-02-0.

Hammitt, JK and G Rice. Economic valuation of human health benefits of controlling mercury emissions from U.S. coal-fired power plants. Feb 2005. Report by NESCAUM and the Harvard Center for Risk Analysis.

Harada, Y. and K. Noda. How it came about the finding of methylmercury poisoning in Minamata District. *Cong Anomalies*, 1988;28:S59-S69.

Hrabik, T.R. and C.J. Watras. Recent declines in mercury concentration in a freshwater fishery: isolating the effects of de-acidification and decreased atmospheric mercury deposition in Little Rock Lake. *Science of the Total Environment* 2002; 297:229-237.

Hylander, L.D. and M.E. Goodsite. Environmental costs of mercury pollution. *Science of the Total Environment* 2006;368:352-370.

Illinois Environmental Protection Agency. Statement of Reasons in the Matter of Proposed New 35 Ill Adm. Code 225 Control of Emissions from Large Combustion Sources. March, 2006. Available at <http://www.epa.state.il.us/air/cair/documents/031406/final-statement-of-reasons.pdf>

Illinois Environmental Protection Agency. Technical Support Document for Reducing Mercury Emissions from Coal-fired Electric Generating Units. March 2006. Available at <http://www.epa.state.il.us/air/cair/documents/031406/final-tds-hg.pdf>

Indiana Department of Environmental Management, Office of Air Quality. Summary of Mercury Emissions

from Non-Electric Generating Units. 2004. [www.in.gov/idem/air/workgroups/mercury/oct04/non\\_egu.html](http://www.in.gov/idem/air/workgroups/mercury/oct04/non_egu.html).

Indiana Utility Group. Comments on IDEM Fiscal Impact Analysis of the 90% Mercury Reduction MACT Proposal. January 2006.

Innis, S.M. et al. Increased levels of mercury associated with high fish intakes among children from Vancouver, Canada. *J Pediatrics* 2006;148:759-763.

Institute of Clean Air Companies. Commercial Electric Utility Mercury Control Technology Bookings. January 19, 2007. Available at [http://www.icac.com/files/public/Commercial\\_Hg\\_Equipment\\_01-19-2007.pdf](http://www.icac.com/files/public/Commercial_Hg_Equipment_01-19-2007.pdf)

Institute of Clean Coal Technologies, January 3, 2005 Comment Letter to EPA on the Notice of Data Availability for the Utility Mercury Reduction Rule. <http://www.icac.com/files/public/hgcontrol010305.pdf>. Retrieved February 14, 2007.

Institute of Clean Air Companies. Comments to the EPA on Docket #OAR-2002-0056. June 29, 2004. Available at <http://www.icac.com/files/public/hgcontrol62904.pdf>. Retrieved February 14, 2007.

Jones, A.P., et al. at the Department of Energy's National Energy Technology Laboratory. DOE/NETL's Phase II Mercury Control Technology Field Testing Program: Preliminary Economic Analysis of Activated Carbon Injection. April 2006. <http://www.netl.doe.gov/technologies/coalpower/ewr/mercury/index.html>.

Keeler, G.J., et al. Sources of mercury wet deposition in Eastern Ohio, USA. *Environ Sci Technol* published on the web 9/8/06.

Kjellström, T., et al. 1989. Physical and Mental Development of Children with Prenatal Exposure to Mercury from Fish. National Swedish Environmental Protection Board Report No. 3642

Knobeloch, L. et al. Assessment of methylmercury exposure in Wisconsin. *Environmental Research* 2007;103:205-210.

Landis, M.S. and G.J. Keeler. Atmospheric mercury deposition to Lake Michigan during the Lake Michigan Mass Balance Study. *Environmental Science and Technology* 2002;36:4518-4524.

Landrigan, P.J. and L Goldman. Letter to the Editor. *Lancet* 2003;362:666.

Lipman, Z. Mercury Control Technologies. Presentation to the IDEM Mercury Workgroup, November 2004.

Mason, R.P., et al. Annual and seasonal trends in mercury deposition in Maryland. *Atmospheric Environment* 2000;34(11):1691-1701.

Massachusetts Department of Environmental Protection. Massachusetts Fish Tissue Mercury Studies: Long-term monitoring results, 1999-2004. Feb 2006. <http://www.mass.gov/dep/toxics/stypes/hgtrend.pdf>. Accessed 2 Feb, 2007.

Miller, C.E. et al. Mercury Capture and Fate Using Wet FGD at Coal-fired Power Plants. U.S. Dept. of Energy, National Energy Technology Laboratory. August 2006.

Miller, E. Atmospheric Mercury Speciation and Deposition in Rural Vermont. Presentation at the Northeast Regional Mercury Science and Policy Conference, April 2006. available at [http://www.neiwpcc.org/hgconference/hg\\_pdfs/Eric.Miller1.pdf](http://www.neiwpcc.org/hgconference/hg_pdfs/Eric.Miller1.pdf)

Murata K, et al. Delayed brainstem auditory evoked potential latencies in 14 year old children exposed to methylmercury. *J Pediatr* 2004 Feb;144(2):177-83.

National Academy of Sciences. *Toxicological Effects of Methylmercury*. Committee on the Toxicological Effects of Methylmercury, Board on Environmental Studies and Toxicology, National Research Council. 2000.

National Wildlife Federation. States Tackling Mercury Pollution from Coal-burning power plants. September 2006. Available at <http://www.nwf.org/wildlife/pdfs/StatesCoalBurningPowerPlants.pdf>.

National Wildlife Federation. Poisoning Wildlife: The Reality of Mercury Pollution. Sept 2006. Available at [www.nwf.org/news](http://www.nwf.org/news)

Nelson, S. et al. Accumulated Power-Plant Mercury-Removal Experience with Brominated PAC Injection. Presentation at the Combined Power Plant Air Pollutant Control Mega Symposium, Washington, DC. September 2004.

Perry, E. et al. Deconstruction of historic mercury accumulation in lake sediments, northeastern United States. *Ecotoxicology* 2004;14:85-99.

Rea, A.W., et al. Assessment of dry deposition and foliar leaching of mercury and selected trace elements based on washed foliar and surrogate surfaces. *Environ Sci Technol* 2000;34:2418-2425.

Risch, M. Mercury in atmospheric deposition and surface water in Indiana. U.S. Geologic Survey, Indiana Water Science Center. Presentation for the LADCO Mercury Workshop, February 2006. Available at [http://www.ladco.org/mercuryworkshop\\_feb06.htm](http://www.ladco.org/mercuryworkshop_feb06.htm).

Salonen, J.T., et al. Intake of mercury from fish, lipid peroxidation, and the risk of myocardial infarction and coronary, cardiovascular and any death in Eastern Finnish men. *Circulation* 1995;91:645-655.

Salonen, J.T., et al. Mercury accumulation and accelerated progression of carotid atherosclerosis: a population-based prospective 4-year follow-up study in men in eastern Finland. *Atherosclerosis* 2000;148:265-273.

Schauer, J. Atmospheric mercury observations in the Midwestern United States: Atmospheric perspective. Presentation for the LADCO Mercury Workshop, February 2006. Available at [http://www.ladco.org/mercuryworkshop\\_feb06.htm](http://www.ladco.org/mercuryworkshop_feb06.htm).



State of Illinois, Office of the Governor. Gov. Blagojevich's Mercury Pollution Reduction Plan wins final approval. Press Release, December 12, 2006. Available at [www.illinois.gov/PressReleases/ShowPressRelease.cfm?SubjectID=3 & RecNum=5592](http://www.illinois.gov/PressReleases/ShowPressRelease.cfm?SubjectID=3 & RecNum=5592).

State Utility forecasting Group, Purdue University. The Projected Impacts of Mercury Emissions Reductions on Electricity Prices in Indiana. September 2006.

### **SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING**

On May 2, 2007, the Air Pollution Control Board (board) conducted the first public hearing/board meeting concerning the development of new rule [326 IAC 24-4](#). Comments were made by the following parties:

Carly Watson, AirAware and Valley Watch (AA)

Americans for Balanced Energy Choices members: written comments submitted by Jim Wheeler (ABEC members)

David Long, American Electric Power (AEP)

Claude W. Caddell (CWC)

Dina Ferreira (written comment) (DF)

Robert Asplund, Dominion (DM)

Dan Weiss, Duke Energy (DUKE)

Hoosier Environmental Council members: written comments submitted by Ryan Camp (HEC members)

Dr. Paul Winchester, M.D., Indiana Academy of Pediatrics (IAP)

Jenny Kalis, Indiana Biomedical Kids (IBK)

Nat Nolan, Indiana Coal Council (written comment submitted by Stan Pinegar) (ICC)

Stan Pinegar, Indiana Energy Association (IEA)

Dr. Indra Frank, Hoosier Environmental Council (IF)

Janet McCabe, Improving Kids' Environment (IKE)

Patrick Bennett, Indiana Manufacturers Association (IMA)

Jerry King, Indiana Public Health Association (IPHA)

Dwayne Burke, Indianapolis Power & Light (IPL)

Chuck Brinkman, Indiana Wildlife Federation (IWF)

Jeff Barnd (JB)

John Gibson (JG)

John Ross, NiSource (JR)

Julia Tipton Hogan (read by Dr. Indra Frank) (JTH)

Jim Wheeler (JW)

Mark Strimbu, NiSource (MS)

Ryan Camp, Hoosier Environmental Council (RC)

Richard Van Frank, Improving Kids' Environment (RVF)

Vince Griffin, State Chamber (SC)

Steve Fox, Marion County Green Party member (read by Dr. Miner) (SF)

Constance Clay, Save the Dunes Council (STD)

Tom Hougham (written comment) (TH)

Tim Maloney, Hoosier Environmental Council (TM)

Following is a summary of the comments received and IDEM's responses thereto:

#### **Comments in support of CAMR rule proposed by IDEM**

*Comment:* IUG fully supports the proposed rule before the board and encourages the board to adopt the rule as proposed by the agency. It's the right decision for the health of Indiana citizens and the right decision for customers who will pay for the cost of controls. (IEA)

*Comment:* The rule as proposed by IDEM strikes an appropriate balance between improving and protecting the state's environment and preserving Indiana's economy. (DUKE)

*Comment:* While there are some differences of opinion regarding certain details of the rule such as the fuel neutrality issue and the clean coal incentive program, IDEM's CAMR proposal offers a balanced, achievable, and cost-effective approach to mercury emissions reduction. (AEP)

*Comment:* The commenter endorses the Indiana adoption of the federal CAMR. CAMR will result in substantial reductions in power plant mercury emissions and deposition in Indiana. (DM)

*Comment:* The commenter supports the Indiana adoption of the federal CAMR. The United States is the first nation in the world to adopt mercury regulations. (IPL) (SC)

*Comment:* The primary health concern is eating mercury with fish. The reality is that more than 90% of all of the fish consumed in the United States comes from the ocean, not the lakes and streams that may be of concern. Eating fish promotes good health. To tell all segments of our population that eating fish is dangerous is not only wrong, it is irresponsible. Indiana is doing something to reduce mercury emissions. Co-benefits from CAIR will reduce mercury emissions. Different estimates have been presented, but roughly 40 % of the mercury is removed with controls for NO<sub>x</sub> and SO<sub>2</sub>. (SC)

*Comment:* The commenter supports Indiana adoption of the federal rule. Indiana coal mines produce approximately 36 millions tons of coal annually and supply roughly one-half of the total coal consumed by Indiana electric utilities and other industrial facilities. The final federal rule was well thought out and based upon science and current technologies. Both the National Mining Association and the Indiana Coal Council (ICC) support the federal rule. Any requirements beyond those established by U.S. EPA could drastically harm Indiana's coal industry and Indiana rate payers. Affordable electricity rates are important to all Hoosiers and the continued economic expansion of Indiana. The commenter points to U.S. EPA's findings that additional health benefits of any state actions to exceed the federal requirements would be negligible due to emissions from other countries. The commenter submitted two documents regarding health impacts that conclude that a 70% reduction in mercury emissions from Indiana's electric utilities is protective of all Hoosiers. The first document is from Eugene Trisko on behalf of the United Mine Workers Association and the second is a report by Gail Charnley, PhD. Both the Indiana General Assembly and the Administration of Governor Daniels are encouraging new investment in clean coal technologies that will continue to reduce emissions from the generation of electricity and production of substitute natural gas. (ICC)

*Comment:* IUG opposes both alternatives to the rule IDEM is proposing: the Hoosier Environmental Council (HEC) petition and the Improving Kids' Environment (IKE) proposal. The citizens of Indiana would likely incur significant cost with little, if any, measurable health benefit and imposing such levels of reductions would create significant technical questions, including the achievability of an additional level of reductions and the ability to monitor emissions at the levels proposed. (IEA)

*Comment:* More stringent emissions reductions are not necessary or appropriate. (AEP)

*Comment:* The cost of complying with CAMR is not cheap. It is estimated to cost between \$64 million and \$68 million annually by 2018. Based on the same analysis, compliance with the HEC petition could cost between \$207 million and \$373 million annually beginning in 2010. IUG estimates based on the same model indicate that the IKE proposal would cost an additional \$70 million annually; twice as expensive as CAMR. CAMR costs are already in addition to Clean Air Interstate Rule (CAIR) costs for power plants of \$1.5 billion, or total annualized cost of \$291 million. Indiana's ranking as a low-cost energy state is very important, not only for economic development opportunities, but also for low-income customers. (IEA)

*Comment:* IDEM and IUG cost analyses were done some time ago and costs are increasing for labor and materials. Baghouses with activated carbon injection (ACI) were estimated to cost \$40 to \$70 per kilowatt hour to install. Recently, Electric Power Research Institute (EPRI) issued a report with updated cost information indicating that the current capital cost of a baghouse is estimated to be \$150 per kilowatt hour. (AEP)

*Comment:* A cap and trade program is important in keeping costs down. (IEA) (IPL)

*Comment:* Mercury is a global pollutant that is neither created nor destroyed by human activities. The amount of mercury deposition can be derived by monitoring and modeling. Electric Power Research Institute/Atmospheric & Environmental Research, Inc (EPRI/AER) modeling shows that there is very little, if any, benefit to requiring utility mercury emission reductions beyond those of the IDEM proposed CAMR. (MS)

*Comment:* One of the predominant findings touted from the Steubenville study is that "local" sources of mercury causes high levels of deposition in the Steubenville, Ohio area. It is important to note that "local" deposition in this study is characterized as emissions from up to 600 miles away. Other studies, such as the Florida Everglades and Massachusetts studies, have shown some reductions in fish flesh mercury levels over time after reductions in mercury emissions, but only at some locations and, even at such locations, not at the level of emission reduction in the area. These two studies are not directly applicable to Indiana. Methylation rates are highly variable and waterbody-specific. The Everglades may not be comparable to Indiana waters. Also, the sources from which emission reductions occurred in these two studies were not power plants and the type of the source is very important to results. Data from another study performed at Little Rock Lake, Wisconsin shows that there was a steady decline in mercury both in precipitation and in the lake water. The authors of this study theorize that it "may have been the combined effect of regional decreases in smelting activity, the commercial and industrial use of Hg, and/or changes in the fuel mix of coal burning power plants." The point is that methylation is a very complex process that depends on waterbody-specific issues. (JR)

*Comment:* In any discussion around additional mercury reductions the impacts of oxidized mercury must be considered. More stringent emission reductions will force the installation of unproven and expensive mercury-specific technologies that would primarily reduce elemental mercury. Elemental mercury has less of an impact on Indiana lakes and streams than oxidized mercury. Controls for sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) that will be installed over the next two years in response to CAIR will reduce mercury emissions due to co-benefits. But these controls will not reduce elemental mercury. Meeting stringent CAMR Phase II mercury limits or even more stringent alternative proposals require installation of mercury-specific technology that targets elemental mercury. Reductions in elemental mercury will result in virtually no change in mercury in Indiana lakes and streams. (DUKE)

*Comment:* While there is continuing research on refining mercury-specific controls, such as ACI, they are not and will not be commercially available for many years, since they cannot consistently, continually, and reliably reduce mercury emissions over the wide range of power plants, fuel characteristics, and operating conditions

found in Indiana. (DUKE)

*Comment:* To allow time for the development of mercury-specific technologies U.S. EPA developed a phased program approach. (AEP)

*Comment:* A concern with installing mercury-specific control technologies now is that if power plants have to install additional SO<sub>2</sub> and NO<sub>x</sub> controls in the future due to upcoming more stringent air quality standards over the horizon then the mercury-specific controls may no longer be necessary due to the mercury reduction co-benefits of the SO<sub>2</sub> and NO<sub>x</sub> controls. Ratepayers would then be paying for a unnecessary piece of equipment. (DUKE)

*Comment:* Results from testing confirm that the AEP system will not be able to meet CAMR requirements through the installation of CAIR control alone. Additional mercury reductions beyond those anticipated from the CAIR control plan will be needed by 2010. (AEP)

*Comment:* Continuous emissions monitoring (CEMS) for mercury are difficult to keep running. The primary difficulty of making mercury emissions measurements on stacks is getting a sample of the stack gas that contains the mercury to be measured to the analyzer in a quantitative manner. Recognizing the infancy of the program, U.S. EPA is heavily involved in the testing of the monitoring systems and working through the problems. CAMR does include a viable alternative to CEMS by allowing the use of a much more reliable sorbent trap mercury measuring program. Given that there are still problems with operating mercury CEMS and that the variations in accuracy of CEMS monitoring exceeds the HEC petition standard, the CAMR monitoring program is not appropriate for a command and control rule such as the HEC petition. (DM)

*Comment:* Not all units are seeing 90% reduction of mercury emissions due to co-benefits of selective catalytic reduction (SCR) and scrubber controls. At the Petersburg Station, which has a combination of SCR and a scrubber, tests have shown a 40% reduction. The issue is the scrubber is not removing as much mercury as expected. (IPL)

*Comment:* Pollution control projects also need approval from the Indiana Utility Regulatory Commission if costs are added onto the rate base for customers. This is a very time consuming process. This time frame is important when considering how long it will take to come into compliance with an emissions reduction rule. (IPL)

*Comment:* Other states that have adopted more stringent rules have included variances or extensions. For example, the Illinois rule requires a 90% reduction by 2009. But the rule includes provisions for a variance until 2014 if a unit has installed ACI or a combination of scrubber and SCR and cannot meet the limits. (IPL)

*Comment:* The commenter supports the adoption of the federal CAMR. Indiana is a manufacturing state. One of the pillars in this very challenged industry is the fact that Indiana still has relatively low cost of operations and energy is an important part of that. Indianapolis has a diversified economy, but the rest of the state is in economic trouble. The main reasons to support the federal rule is that there is still uncertainty about how much it would cost to go with the proposed alternatives and what the real benefit would be. CAMR goes a long way in the right direction. (JW)

*Comment:* The commenter supports the adoption of the federal CAMR. The cost of compliance with this rule will become the cost of energy to industry. Some folks may say that this shouldn't be a cost argument. Over the last couple of years the association became aware of two or three members that have started to import their parts from overseas because it is cheaper. From a regulatory point of view the concern is that they are buying parts from overseas where the regulations could be nonexistent, a huge advantage over a manufacturing company in the U.S. The adoption of this rule will have an incremental effect on the cost of manufacturing and the cost of products. A more stringent rule would make that incremental difference even greater. In order for a regulating body to go beyond the federal standard, the evidence should be compelling. So far the commenter has only heard that there's speculative influence that maybe Indiana should go beyond the federal rule. The board can also come back and regulate more in the future if necessary. (IMA)

*Comment:* The adoption of the Indiana CAMR is supported. It will reduce mercury emissions from power plants in Indiana while balancing the protection of public health with affordable access to energy. CAMR will lower mercury emissions from existing coal power plants by 70%. The cap and trade program is cost effective and will continue environmental progress while ensuring affordable, reliable electricity. (ABEC member comments submitted by Jim Wheeler: Diane Aardema, Charles Abel, Mickie Alexander, Wendy Alexander, Ronald Allen, Karen Anttila, Herbert Arihood, Janice Arreola, Jack Atwell, Henrietta Ball, Deborah Bargo, Nelly Barrett, Janice Batteast, John Bauer, Alice Beard, Karen Bedwell, Manny Bejar, Timothy Bennefiel, Laura Bennett, Bud Bernitt, Joyce Bishop, Karen Bittner, Alvin Black, Darrell Blackburn, Sylvia Blackburn, Glenn Blackwell, Evan Blankenbaker, Florence Booker, Kathy Bowman, Maggie Brents, Debra Brinkley, Angie Brown, Tony Brummnel, David Burdine, Richard Burger, Alvin Burke, Charna Burnett, Marilyn Burton, Terry Busby, Melvin Byers, Billie Caldwell, Enrique Campos, Doris Carbins, Robert Carmichael, Susan Casey, Julian Cenicerros, Donita Chambless, Dana Clapp, Billy Claridge, Bill Clark, Charles Clark, Karen Clark, Ebbie Clark Sr., David Clemons, Jeff Clifford, Joe Cmiel, Martha Coffman, Jerry Colglazier, Marybeth Collins, Joyce Colquitt, Dan Conway, Douglas Cook, Timothy Corbin, Maureen Coyne, Kathy Crabtree, Thomas Croninger, John Crum, Bobby Curry, Fred Daniels, Jannel Davis, Marie Davis, Marilyn Davis, Marsha Davis, Fred Day, Cindy Dehaan, Margaret Delp, Stephen Deniston, Arlene Denny, Harold Dent, Blanche Dereau, Sally Devoe, Steven Dillinger, John Ditslear, Elizabeth Donnell, Steven Dorsett, Tom Drew, Ronald Dudley, Ted Durham, John Edgeworth, Diane Edwards,



Keith Elder, Bill Ellis, Sandra Emenhiser, Marina Ewing, Ruthann Falatic, Dean Fallis, Kelly Favory, Adeline Fazekas, Shelley Felker, Stephanie Ferriell, Rayfield Fisher, Dennis Fisk, Michael Fite, Dan Fleener, Floyd Fletcher, Douglas Flournoy, John Foster, Carol Fox, Kent Frantz, Alice Fultz, Kenneth Furto, Susan Gamez, Mike Garrett, Jeanne Garringer, Brenda Garrison, Marion Gaston, James Gatchell, Kay Gedert, Cheryl Gilbert, Kenny Given, Kenneth Glover, Michelle Golden, George Goodale, John Goralczyk, Vivian Gordon, Patricia Grabner, Linda Graham, Hetty Gray, Marilyn Gray, Sarah Green, Lynn Greenwalt, Vince Griffin, Timothy Griffith, J.D. Guinn, Raymond Haack, Mike Hamblin, Mary Hammond, Ray Hanson, Jean Ann Harcourt, Francis Hardman, Betty Harmless, Alma Harris, Margaret Hart, James Hasse, Robert Hastings, Jeff Havens, Priscilla Hawks, Mark Heimsoth, Rhonda Hennin, Linda Herman, Robert Herrick, Jim Hess, Thomas Hetrick, Charles Hill, David Hilligoss, Larry Hinkle, James Hoffman, Booker Hollis, Bernard Holm, Detherila Hopkins, Annabelle Hoskins, Glenn Howard, Leslie Howard, H. Hudson, Diane Huening, Craig Hunnicut, Joe Hyde, Robert Ice, John Jackson, Doug Jacques, Dan Jayne, Cecil Johns, Alelia Johnson, Helen Johnson, Arnold Jones, Bobby Jones, Gerald Jones, Mike Jones, William Jones, Kent Justus, Loieta Kalil, James Karas, Beth Karnes, Ken Kavensky, Russell Kemmerer, Patty Kempf, Iona King, John Kinney, Frances Kleber, Sarah Knisley, Iramgrd Kohanyi, Andrew Kruer, Jeffery Kruse, Kris Kyler, Patricia Lacy, John Lahr, Bob Lambert, Janice Languell, Nancy Lawhorn, John Leahy, Dave Leathers, Anna Leigh, Mike Leneave, Marice Lesley, Daniella Lett, Marilyn Levering, Elia Levin, Janet Lewellyn, Jim Long, Garry Lytle, Larry Mahns, Daniel Maikranz, Suzie Martin, Steve Martinez, Rebecca Maskovich, Michael McCain, William McChesney, Alice McColgin, Anna McCord, Terry McDaniel, Tim Mciver, Judith McKinley, Rick McKinney, Kim Meador, John Meeks, Sue Meisberger, Ty Mercer, Jack Metcalf, Velvet Metzger, Joe Metzinger, Hugh Meyer, Vincent Micchia, Nicolas Mijares, Edward Milam, Samuel Miles, George Miller, John Miller, James Mitchell, Nicole Mitchell, Robert Mitchell, Max Mock, Grant Monihan, Mary Moore, Lennis Moran, Charles Morelock, Kathy Morford, Jeffrey Morton, Diane Moulesong, James Mull, Craig Mullins, William Murphy, Terry Myers, Vicky Myers, John Mylet, Timothy Napiwocki, Maxine Nesbitt, Gio Nguin, Linda Nohl, Nat Noland, Biddie Null, Joe Offerle, Michelle Parker, Janie Parrott, Douh Patterson, Shirley Payne, Diane Peachey, Rosa Pena, Sharon Pence, Gary Perkins, Vicky Perkins, Karen Petalas, Vernon Petersen, Dave Phillips, Ed Pierce, Maurice Pierce, Patricia Pinter, Steve Plumer, Dan Porter, Donald Portwood, Louise Pratt, Linzie Price, Mike Price, Jacquine Przeniczny, Maria Rago, Mary Rancourt, Melandy Ransom, Rory Raub, Joe Remington, Ellen Rendon, Arthur Richardson, Jay Rigdon, David Rivera, Ruth Rizek, Brenda Robinson, Barbara Roe, Jose Rosado, Mary Ross, Vicki Rowe, Carol Rudzinski, Thomas Salentine, Margaret Saliga, Teresa Samuel, Craig Savage, Jack Saylor, James Schneider, Ralph Schneider, Kenneth Seis, Ronald Sevier, Jeanea Sexton, James Shaw, Charles Shepherd, Marcia Shepherd, Sharon Shotts, Jacqueline Shrader, Betty Simon, Nancy Slater, John Smith, Nathan Smith, R.M. Smith, Vanessa Smith, Ray Snyder, Bert Sorenson, Teena Spencer, David Stalbaum, Edward Stephens, Melanie Stevens, Virginia Stewart, Ara StJohn, Ruth Straub, Barbara Strauss, Ron Suttmoeloloer, Christopher Swan, Milton Swanson, Christopher Swatts, Nick Sztzesniak, Pamela Takacs, Jane Testa, Rene Thomas, Mary Tiemann, Donald Tillema, Reneta Toliver, Charles Turner, James Turner, David Turoci, Jim Tyler, Don Underdahl, Donna Valle, Flavio Vega, Nancy Velez, Jimmy Ventura, Joan Voelkel, Teresa Wade, Charles Ward, Mae Ward, Alice Washington, Antonio Washington, Elizabeth Waters, Marcia Weaver, Richard Weaver, Gary Wehr, Tim Wehr, Sandra Wells, Steve Wieger, Jack Wiley, Max Wiley, Amos Williams, John Williams, Mae Williams, Nancy Williamson, Daniel Willis, Audre Wilson, Paul Wilson, Don Wine, Norman Winkler, Carolyn Winrich, Elaine Winter, Cathy Wiseman, Edward Witek, Curtis Woodfaulk, Wile Wright, Mynniel Wyatt, Paul Wylie, Randy Yeiter, Sherrill Yergler, Harriet Yoder, Brad Young, William Zander, Ed Zehr, Rex Zenor, Jamine Zimmerman)

*Response:* IDEM appreciates the support and has proposed a rule based on the federal rule.

#### **Comments in support of going beyond federal CAMR**

*Comment:* The Hoosier Environmental Council's (HEC) petition for rulemaking calls for a 90% reduction from inlet to outlet in mercury emissions from power plants. Since many Indiana plants already have some controls in place, the HEC proposal would result in a 78% reduction from 1999 emissions. The HEC proposal would reduce power plant emissions to 1,095 pounds per year in 2010. By contrast, under CAMR it could take until 2025 to reach the CAMR Phase II cap of 1,656 lbs per year. Other coal producing states, Illinois and Pennsylvania, along with 19 other states are working on mercury regulations stronger than CAMR with greater reductions and shorter deadlines. CAMR is too little and takes too long. Indiana can and should do what's achievable, what's affordable, and what gets toxic mercury out of the environment: adopt a mercury rule requiring a 90% reduction. (TM)

*Comment:* Mercury is a neurotoxin. There is no normal role for mercury in the human body and allowing mercury to disperse widely in the environment cannot possibly do any good and has the potential to do harm. Based on reports from the U.S. EPA and the U.S. Department of Energy (U.S. DOE), and recent experience on the Mercury Air Board Study Group, reducing mercury emissions is feasible now and does not require a wait of nearly 20 years. In Indiana, 80% of the generating capacity burns bituminous coal. For those plants the combination of a scrubber with SCR achieves mercury reductions of 70-90%. So, for the majority of plants, 70% reduction or greater will be achieved with Clean Air Interstate Rule (CAIR) controls that are required by 2015. For the other 20% of Indiana's generating capacity, various forms of sorbent injection are available that achieve significant mercury reductions, in some cases exceeding 90% control of mercury. Full scale trials of sorbent

injection at coal-fired power plants began in 2001, and there are now published results from 19 power plants burning bituminous or subbituminous coal. While U.S. DOE states that work is still needed to perfect ACI for some plant configurations, as a practical matter these systems are commercially available. The Institute of Clean Air Companies published a list of 33 contracts for purchase of sorbent technology for power plants that had been signed as of January 2007. Controlling mercury emissions is inexpensive; even with the HEC proposal and industry estimates the difference in cost compared to CAMR comes to \$0.27 cents per kilowatt hour at most. Even with this increase Indiana will still have prices well below the national average and most of neighboring states. Given that mercury is an undisputed toxin and that CAMR is going to take nearly 20 years to achieve a 66% reduction, there is a compelling reason to control mercury beyond CAMR. (IF)

*Comment:* IPHA has adopted a resolution calling for being in favor of a more aggressive reduction of mercury emissions. The biggest concern is Indiana's rank in amount of mercury emissions, the relationship of mercury to the food chain, and the impact of mercury on the nervous system of children. There are many different ideas of what is the right thing to do on this matter. The right thing to do is to err on the side of caution to protect the earth and the earth's ecosystems. It is also right to protect life and health, especially children's health. Finally, it is also right for Indiana to take responsibility for mercury emissions from Indiana's energy production. (IPHA)

*Comment:* This issue presents a compelling case for the air board to adopt a rule that goes beyond the federal rule. The federal rule started out in the late 1990's looking like it would require a 90% inlet to outlet reduction in mercury emissions by 2008, which is approximately the equivalent of a 78% reduction compared to the 66% reduction required by the final federal rule. As is the case with most rules this one is being challenged in courts, but the litigants are not the usual groups, but the list includes several medical organizations. There are a significant number of states adopting something more than the federal rule. Indiana has gone beyond the federal requirements in the past with respect to mercury by adopting a mercury limit for the Indianapolis municipal waste incinerator in advance of a federal limit, adopting a progressive law that banned mercury in novelty products and prohibited it on school property, and recently adopting a mercury switch program for automobiles. All of this is in recognition that mercury is a special pollutant. The responsibility of the air board under [IC 13-17-1-1](#) is to safeguard the air resource through the prevention, abatement, and control of air pollution by all practical and economically feasible methods. A compelling case has been made for this board to think hard about a rule that will go beyond the federal minimum. (IKE)

*Comment:* The commenter's research area of interest is focused on why Indiana children appear to have a high rate of birth defects, premature births, and learning disabilities. Research has looked at how environment relates to health in Indiana. Is Indiana's pollution good for Indiana children or is there a serious health problem? Indiana is in top ten for quantity of pesticides, nitrates, or mercury. Indiana has 512 waterbodies with fish advisories for no consumption by pregnant women or young children. Data analysis shows that pollution peaks in June in Indiana, whether it's measured by trihalomethanes, atrazine in pesticides, nitrates, or mercury in surface water. Mercury is also not just a toxin, but actually acts as an endocrine disruptor. Endocrine disruption is an interaction of mercury with thyroid hormones and sex hormones. Hormonal disruption may not only affect the child in the short term, but may also produce long term traits that are negative. A key question is determining what is safe in the case of mercury. The stillbirth rate also peaks in June. Indiana does not collect birth defect data, but national data shows birth defects peak for babies conceived in June. Comparing the month of conception for children with special education requirements correlates with a peak month of conception for children with learning disabilities with highest months of contamination. There are concerns that Indiana's environment is not healthy for children and the commenter urges board to adopt stringent rules to protect Indiana children. (IAP)

*Comment:* The commenter trusts the medical community when they say the difference between 70% and 90% is more than a negligible health risk to Indiana citizens. If it is true that there is the ability to control to 90%, how could Indiana not take the high road? How could people not be willing to pay a higher rate for electricity to protect public health? (JG)

*Comment:* Since it is known that mercury can harm pregnant women and their unborn babies, the Indiana Perinatal Network supports the maximum reduction of mercury in Indiana as soon as possible. (JTH)

*Comment:* The decision that the board will make will leave a lasting legacy for our children and grandchildren, and it is important to make the right decision. In talking with friends, family, and co-workers nobody has had an issue with paying higher rates to solve the mercury issue. So the minor increase in rates should not be a major factor in the decision. (JB)

*Comment:* The commenter supports the HEC petition. There are 17 coal-fired power plants in a 62-mile radius of the commenter's home town in the Newburgh area of southern Indiana. There is a lot of particulate matter and mercury in this area. A 70% reduction in mercury will help, but it will not go far enough to address the problem. A cap and trade program will not help either, since industries can simply buy their way out of actually having to do anything. Cost should not be a factor. Just because China is not reducing emissions should not be a reason to do something in Indiana. If everyone is concerned about economic development then something should be done about mercury hot spots because nobody wants to live in an environmental mess. Indiana should err on the side of caution. (AA)

*Comment:* HEC has knocked on over 50,000 doors and talked to just over 25,000 people. The consensus is

that citizens are happy to pay a little more on the electricity bill to see that the 90% mercury reduction occurs. It is a serious problem that so many lakes, rives, and streams in Indiana are unsafe, especially for women of childbearing age, to eat any of the fish caught in them. The technology is available and it's time to use it. It is possible to have both a healthy environment and a strong economy. A healthy environment is needed for a strong workforce. (RC)

*Comment:* Mercury pollution is a serious problem in Indiana. The board should adopt a rule requiring a 90% reduction in mercury emissions from coal plants by 2010. (HEC member comments submitted by Ryan Camp: Bill Hodgson, Josefa Beyer, Kyle Kent, Dave Eads, Austin Mitchell, Ralph Tambasco, Susan Johnson, Mario Melendez, Kate Allen, Abby Kempf, Phillip Schwein, Kristin Simku, Dakota Manuel, Benjamin Leslie, Andrew Barlear, Thomas Bryan, Michael Poteracki, K. St. Clair, Melissa Fenta, Vадnia Taylor, D. Chesnut, G. Bey, Andrew Jones, Mary Jo and Bob Wright, Eric Higbie, Laura Crawford, 21 unidentifiable commenters (either last name or full name was illegible))

*Comment:* The commenter supports the HEC petition. We need to have an attitude that there is hope that our kids would want to live in our state, drink the water, and eat the fish. Leaders are needed to stand up and say no to pollution. States with forward thinking rules on the environment attract young, energetic, intelligent individuals who want to have hope and be able to raise healthy children. Maybe it's not such a bad thing to raise the electric rates. It will make solar and wind energy cheap, more affordable. Citizens could do more to conserve energy. The commenter hopes the board will surprise him by voting for a cleaner Indiana. (CWC)

*Comment:* CAMR does not go far enough in reducing mercury emissions. Save the Dunes Council is an advocate for less environmental impact by utility plants. The environment and the health of citizens needs protecting with regulations that are enforceable and affordable. Currently, nine states have finalized rules with stronger mercury controls than CAMR, including the coal states of Illinois and Pennsylvania. Many states have also adopted requirements that will ensure in-state emission reductions by rejecting the CAMR cap and trade program. Indiana's economic vitality will benefit if the board acts to adopt more stringent measures. (STD)

*Comment:* The commenter represents a group of parents who are using various detoxification methods to recover their children from autism, attention deficit hyperactivity disorder (ADHD), allergies, and asthma. The commenter has two children that have been diagnosed with autism. The illness requires a lot of time and money. Tests have shown that they have high levels of heavy metals, including mercury, in their bodies. Even though with detoxification the children have recovered from most of their autistic symptoms, the children are still sick. More recent testing has shown that the children still have a high toxicity level due to mercury. Studies have shown a correlation between the toxins released into the environment and the rates of autism. Mercury destroys life and no amount is safe. (IBK)

*Comment:* The HEC petition is supported. (SF) (DF)

*Comment:* The commenter is worried about eating fish from a small pond. (TH)

*Response:* IDEM understands the concerns expressed by those attending the preliminary adoption hearing regarding the health effects of mercury and IDEM appreciates the effort that so many citizens made to get involved in the rulemaking process. IDEM evaluated available information and proposed a rule for preliminary adoption that is based on the federal rule. The proposed rule will reduce mercury emissions from coal-fired power plants in Indiana by a substantial amount while ensuring continued electricity reliability and affordability.

#### **Comments specific to a compromise rule**

*Comment:* IKE is offering a compromise option that should address the two issues that utilities can't compromise on: a cap and trade program and the phase 1 compliance date and cap. A cap and trade program brings down cost and saves IDEM from running a compliance program, although local deposition is still a concern. The compromise proposal accepts these two concerns. The proposal does move the Phase II compliance date from 2018 to 2015. The evidence is mounting that technology to achieve Phase II reductions will be available by 2015. Other states have adopted earlier deadlines. Given evidence from the U.S. DOE about the effectiveness of various technologies the proposal lowers the Phase II caps to 1,200 pounds. This would result in approximately 9,000 fewer pounds of mercury emitted in three years from 2015 to 2018. The proposal could be modified to include extensions for small sources or have a midterm check to see if the rule needs adjusting. Allowances from the Phase II cap reduction could be put into a energy efficiency and renewable energy set-aside. (IKE)

*Comment:* Mercury has an impact on Indiana rivers and lakes where fish live. It affects their spawning and schooling. Other species, such as otters, osprey, and eagles feed on fish. Studies show that these species are showing significant signs of mercury levels. Studies are also showing that mercury is found in species that don't eat fish. Weekend fish fries are a tradition in many parts of Indiana and fishermen are going to want to eat what they catch; the bigger the better. Indiana should be able to come up with a proposal that is between CAMR and the 90% reduction. It's almost like there's not enough concern for the health of the citizens or for the wildlife. (CB)

*Comment:* In the past when SO<sub>2</sub> regulations were being adopted industry did not view SO<sub>2</sub> as a problem. Industry contested that scrubbers and continuous emissions monitors did not work and were too expensive, and that due to electricity rate increases industry would leave the state. The commenter doesn't believe any of this actually happened. Now is the time to control mercury emissions. Under current circumstances, it would be

appropriate for the board to adopt a compromise position on this significant public health issue. (RVF)

*Comment:* Industry has not come up with its own alternative proposal because IUG members believe the federal rule is the proper rule to pursue. (IEA)

*Response:* IDEM appreciates the commenter's suggestion for an alternative rule. Discussions with representatives from the utilities and HEC did not yield a consensus. IDEM evaluated available information and proposed a rule that is based on the federal rule.

#### **New Source Review**

*Comment:* The pollution control project exclusion has been eliminated from the new source review permitting program. Currently, if a physical change in an existing facility, including the installation of a pollution control device, causes a significant net increase in a regulated pollutant, a major new source review permit is required. The time required to prepare information for this type of permit is significant. These permitting requirements may have an impact on time frames required to install additional mercury-specific control. (AEP)

*Response:* IDEM understands the concern.

#### **Clean coal technology incentive**

*Comment:* The clean coal technology incentive in the proposed rule is appreciated. The allowances from the clean coal unit set-aside will help promote building of the next generation of cleaner burning coal-fired power plants, such as the proposed integrated gasification combined cycle (IGCC) plant at Edwardsport. (DUKE)

*Response:* IDEM appreciates the support. This incentive is in line with the governor's "Hoosier Homegrown Energy Plan" emphasizing the need to develop clean coal and alternative sources of energy.

#### **Air board**

*Comment:* There appears to be the appearance of a conflict of interest for board member Mr. Jeff Quyle. This matter has been raised with the governor's office. He is employed by Hoosier Energy and his employer has a clear financial interest in this matter. It would be appropriate for Mr. Quyle to recuse himself from voting on the mercury rule even though the governor's office has checked with the State Ethics Commission and has received an oral response that there's no legal bar to his voting today. (IKE)

*Comment:* It is a dangerous precedent to set to have board members recuse themselves when they are voting on a rule that affects an industry that they are associated with. (IEA)

*Comment:* The commenter was previously on the air board for six years and was employed at Lilly Research Laboratories at the time. When any issue came before the board that affected Eli Lilly & Company the commenter recused himself from voting on the issue, because it was a conflict of interest. This precedent should be continued. (RVF)

*Response:* Prior to the board hearing for preliminary adoption the governor's office received an informal opinion from the director of the state ethics commission based on interpretation of the state ethics statute. There is a provision in [IC 4-2-6-9](#) that says that a special state appointee is not allowed to participate in a vote if there is knowledge that there's a financial interest in the outcome of the vote to either the special state appointee or a business organization. Financial interest is a specially defined term, and it includes an interest in a purchase, sale, lease, contract, option or other transaction between an agency and any person, or an interest involving property or services. The specially defined term of financial interest led the state ethics commission to advise that in this particular circumstance, voting on this rule did not constitute a violation of the state ethics commission. For the record, Mr. Quyle abstained from voting for preliminary adoption. The governor's office will pursue this issue for a formal opinion.

#### **[326 IAC 24-4](#)**

SECTION 1. [326 IAC 24-4](#) IS ADDED TO READ AS FOLLOWS:

#### **Rule 4. Clean Air Mercury Rule (CAMR) Trading Program**

##### **[326 IAC 24-4-1](#) Applicability**

**Authority:** [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

**Affected:** [IC 13-15](#); [IC 13-17](#)

**Sec. 1. (a) This rule establishes a mercury emissions budget and mercury trading program for coal-fired generating units. The following units shall be mercury budget units, and any source that includes one (1) or more such units shall be a mercury budget source and shall be subject to the requirements of this rule, except as provided in subsection (b):**

**(1) Any:**

**(A) stationary, coal-fired boiler; or**

(B) stationary, coal-fired combustion turbine; serving at any time, since the later of November 15, 1990, or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than twenty-five (25) megawatt electrical producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under subdivision (1), is not a mercury budget unit begins to:

(A) combust coal or coal-derived fuel; or

(B) serve a generator with nameplate capacity of more than twenty-five (25) megawatt electrical producing electricity for sale;

the unit shall become a mercury budget unit as provided in subdivision (1) on the first date on which it both combusts coal or coal-derived fuel and serves such generator.

(b) Units that meet the following requirements shall not be mercury budget units:

(1) Any unit that is a mercury budget unit under subsection (a):

(A) qualifying as a cogeneration unit during the twelve (12) month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) not serving at any time, since the later of November 15, 1990, or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than twenty-five (25) megawatt electrical supplying in any calendar year more than one-third (1/3) of the unit's potential electric output capacity or two hundred nineteen thousand (219,000) megawatt hours, whichever is greater, to any utility power distribution system for sale.

If a unit qualifies as a cogeneration unit during the twelve (12) month period starting on the date the unit first produces electricity and meets the requirements of subdivision (1) for at least one (1) calendar year, but subsequently no longer meets all such requirements, the unit shall become a mercury budget unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of subdivision (1)(B).

(2) Any unit that is a mercury budget unit under subsection (a), is a solid waste incineration unit combusting municipal waste, and is subject to the requirements of any of the following:

(A) A state plan approved by the U.S. EPA in accordance with 40 CFR 60, Subpart Cb\* (emissions guidelines and compliance times for certain large municipal waste combustors) and [326 IAC 11-7](#).

(B) 40 CFR 60, Subpart Eb\* (standards of performance for certain large municipal waste combustors).

(C) 40 CFR 60, Subpart AAAA\* (standards of performance for certain small municipal waste combustors).

(D) A state plan approved by the U.S. EPA in accordance with 40 CFR 60, Subpart BBBB\* (emission guidelines and compliance times for certain small municipal waste combustion units).

(E) 40 CFR 62, Subpart FFF\* (federal plan requirements for certain large municipal waste combustors).

(F) 40 CFR 62, Subpart JJJ\* (federal plan requirements for certain small municipal waste combustion units).

\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(Air Pollution Control Board; [326 IAC 24-4-1](#))

### [326 IAC 24-4-2](#) Definitions

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-11-2](#); [IC 13-15](#); [IC 13-17](#)

Sec. 2. For purposes of this rule, the definition given for a term in this rule shall control in any conflict between [326 IAC 1-2](#) and this rule. In addition to the definitions provided in [IC 13-11-2](#) and [326 IAC 1-2](#), the following definitions apply throughout this rule, unless expressly stated otherwise or unless the context clearly implies otherwise:

(1) "Account number" means the identification number given by the U.S. EPA to each mercury



allowance tracking system account.

(2) "Acid rain emissions limitation" means a limitation on emissions of sulfur dioxide or nitrogen oxides under the acid rain program.

(3) "Acid rain program" means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the U.S. EPA under Title IV of the Clean Air Act and 40 CFR Parts 72 through 78\*.

(4) "Allocate" or "allocation" means, with regard to mercury allowances, the determination by a permitting authority or the U.S. EPA of the amount of mercury allowances to be initially credited to a mercury budget unit, a new unit set-aside, or other entity.

(5) "Allowance transfer deadline":

(A) means, for a control period, midnight of March 1 (if it is a business day) or midnight of the first business day thereafter (if March 1 is not a business day) immediately following the control period; and

(B) is the deadline by which a mercury allowance transfer must be submitted for recordation in a mercury budget source's compliance account in order to be used to meet the source's mercury budget emissions limitation for such control period in accordance with section 9(i) and 9(j) of this rule.

(6) "Alternate mercury designated representative" means, for a mercury budget source and each mercury budget unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source in accordance with section 6 of this rule to act on behalf of the mercury designated representative in matters pertaining to the mercury budget trading program.

If the mercury budget source is also:

(A) a CAIR NO<sub>x</sub> source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO<sub>x</sub> trading program;

(B) a CAIR SO<sub>2</sub> source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR SO<sub>2</sub> trading program;

(C) a CAIR NO<sub>x</sub> ozone season source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO<sub>x</sub> ozone season trading program; and

(D) subject to the acid rain program, then this natural person shall be the same person as the alternate designated representative under the acid rain program.

(7) "Automated data acquisition and handling system" or "DAHS" means that component of the CEMS, or other emissions monitoring system approved for use under section 11 of this rule, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required under section 11 of this rule.

(8) "Boiler" means an enclosed fossil fuel-fired or other fuel-fired combustion device used to:

(A) produce heat; and

(B) transfer heat to recirculating water, steam, or other medium.

(9) "Bottoming-cycle cogeneration unit" means a cogeneration unit in which:

(A) the energy input to the unit is first used to produce useful thermal energy; and

(B) at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

(10) "CAIR NO<sub>x</sub> annual trading program" means a multistate nitrogen oxides air pollution control and emission reduction program approved and administered by the U.S. EPA in accordance with [326 IAC 24-1](#), 40 CFR 96\*, Subparts AA through II\*, and 40 CFR 51.123\*, or established by the U.S. EPA in accordance with 40 CFR 97, Subparts AA through II\*, 40 CFR 51.123(p)\*, and 40 CFR 52.35\* as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

(11) "CAIR NO<sub>x</sub> ozone season source" means a source that is subject to the CAIR NO<sub>x</sub> ozone season trading program.

(12) "CAIR NO<sub>x</sub> ozone season trading program" means a multistate nitrogen oxides air pollution control and emission reduction program approved and administered by the U.S. EPA in accordance with [326 IAC 24-3](#), 40 CFR 96, Subparts AAAA through IIII\*, and 40 CFR 51.123\*, or established by the U.S. EPA in accordance with 40 CFR 97, Subparts AAAA through IIII\*, 40 CFR 51.123(ee)\*, and 40 CFR 52.35\* as a means of mitigating interstate transport of ozone and nitrogen oxides.

(13) "CAIR NO<sub>x</sub> source" means a source that is subject to the CAIR NO<sub>x</sub> annual trading program.

(14) "CAIR SO<sub>2</sub> source" means a source that is subject to the CAIR SO<sub>2</sub> trading program.

(15) "CAIR SO<sub>2</sub> trading program" means a multistate sulfur dioxide air pollution control and emission reduction program approved and administered by the U.S. EPA in accordance with [326 IAC 24-2](#), 40 CFR 96\*, Subparts AAA through III, and 40 CFR 51.124\*, or established in accordance with 40 CFR 97, Subparts AAA through III, 40 CFR 51.124(r)\*, and 40 CFR 52.36\* as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

(16) "Clean coal technology unit" means a unit as described in subdivision (61)(A) through (61)(F).

(17) "Coal" means any solid fuel classified as:

- (A) anthracite;
- (B) bituminous;
- (C) subbituminous; or
- (D) lignite;

by the American Society of Testing and Materials (ASTM) Designation D388-05\*\*.

(18) "Coal-derived fuel" means any fuel, whether in a solid, liquid, or gaseous state, produced by the mechanical, thermal, or chemical processing of coal. The term does not include syngas that has been introduced into gas pipelines for general distribution.

(19) "Coal-fired" means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

(20) "Cogeneration unit" means a stationary, coal-fired boiler or stationary, coal-fired combustion turbine:

- (A) having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and
- (B) producing during the twelve (12) month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity:

(i) for a topping-cycle cogeneration unit:

- (AA) useful thermal energy not less than five percent (5%) of total energy output; and
- (BB) useful power that, when added to one-half ( $\frac{1}{2}$ ) of useful thermal energy produced, is not less than forty-two and one-half percent (42.5%) of total energy input, if useful thermal energy produced is fifteen percent (15%) or more of total energy output, or not less than forty-five percent (45%) of total energy input, if useful thermal energy produced is less than fifteen percent (15%) of total energy output; and

(ii) for a bottoming-cycle cogeneration unit, useful power not less than forty-five percent (45%) of total energy input.

(21) "Combustion turbine" means:

- (A) an enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and
- (B) if the enclosed device under clause (A) is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

(22) "Commence commercial operation" means, with regard to a unit, the following:

(A) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in section 3 of this rule, subject to the following:

(i) For a unit that is a mercury budget unit under section 1 of this rule on the later of November 15, 1990, or the date the unit commences commercial operation as defined in this clause and that subsequently undergoes a physical change, other than replacement of the unit by a unit at the same source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a mercury budget unit under section 1 of this rule on the later of November 15, 1990, or the date the unit commences commercial operation as defined in this clause and that is subsequently replaced by a unit at the same source (for example, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in this clause or clause (B), as appropriate.

(B) Notwithstanding clause (A), and except as provided in section 3 of this rule, for a unit that is not a mercury budget unit under section 1 of this rule on the later of November 15, 1990, or the date the unit commences commercial operation as defined in clause (A), the unit's date for commencement of commercial operation shall be the date on which the unit becomes a mercury budget unit under section 1 of this rule subject to the following:

(i) For a unit with a date for commencement of commercial operation as defined in this clause and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the unit's date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in this clause and that is subsequently replaced by a unit at the same source (for example, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the

replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in this clause or clause (A), as appropriate.

(23) "Commence operation" means the following:

(A) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber.

(B) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in clause (A), such date shall remain the unit's date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(C) For a unit that is replaced by a unit at the same source (for example, repowered) after the date the unit commences operation as defined in clause (A), such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in this clause or clause (A) or (B), as appropriate.

(24) "Common stack" means a single flue through which emissions from two (2) or more units are exhausted.

(25) "Compliance account" means a mercury allowance tracking system account, established by the U.S. EPA for a mercury budget source under section 9 of this rule, in which any mercury allowance allocations for the mercury budget units at the source are initially recorded and in which are held any mercury allowances available for use for a control period in order to meet the source's mercury budget emissions limitation in accordance with section 9(i) and 9(j) of this rule.

(26) "Continuous emission monitoring system" or "CEMS" means the equipment required under section 11 of this rule to sample, analyze, measure, and provide, by means of readings recorded at least once every fifteen (15) minutes, using an automated DAHS, a permanent record of mercury emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration, as applicable, in a manner consistent with 40 CFR 75\*. The following systems are the principal types of continuous emission monitoring systems required under section 11 of this rule:

(A) A flow monitoring system:

(i) consisting of a stack flow rate monitor and an automated DAHS; and

(ii) providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh).

(B) A mercury concentration monitoring system:

(i) consisting of a mercury pollutant concentration monitor and an automated DAHS; and

(ii) providing a permanent, continuous record of mercury emissions in micrograms per dry standard cubic meter ( $\mu\text{g}/\text{dscm}$ ).

(C) A moisture monitoring system:

(i) as defined in 40 CFR 75.11(b)(2)\*; and

(ii) providing a permanent, continuous record of the stack gas moisture content, in percent  $\text{H}_2\text{O}$ .

(D) A carbon dioxide monitoring system:

(i) consisting of a  $\text{CO}_2$  concentration monitor, or an oxygen monitor plus suitable mathematical equations from which the  $\text{CO}_2$  concentration is derived, and an automated DAHS; and

(ii) providing a permanent, continuous record of  $\text{CO}_2$  emissions, in percent  $\text{CO}_2$ .

(E) An oxygen monitoring system:

(i) consisting of an  $\text{O}_2$  concentration monitor and an automated DAHS; and

(ii) providing a permanent, continuous record of  $\text{O}_2$ , in percent  $\text{O}_2$ .

(27) "Control period" means the period:

(A) beginning January 1 of a calendar year, except as provided in section 4(c)(2) of this rule; and

(B) ending on December 31 of the same year;  
inclusive.

(28) "Emissions" means air pollutants exhausted from a unit or source into the atmosphere as:

(A) measured, recorded, and reported to the U.S. EPA by the mercury designated representative;  
and

(B) determined by the U.S. EPA in accordance with section 11 of this rule.

(29) "Excess emissions" means any ounce of mercury emitted by the mercury budget units at a mercury budget source during a control period that exceeds the mercury budget emissions limitation for the source.

(30) "General account" means a mercury allowance tracking system account, established under section 9(a) through 9(c) of this rule, that is not a compliance account.

(31) "Generator" means a device that produces electricity.

(32) "Gross electrical output" means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process. This process may include,



but is not limited to, the following:

(A) Any on-site processing or treatment of fuel combusted at the unit.

(B) Any on-site emission controls.

(33) "Heat input" means, with regard to a specified period of time, the product, in million British thermal units per unit of time (MMBtu/time) of the gross calorific value of the fuel, in British thermal units per pound (Btu/lb), divided by one million (1,000,000) British thermal units per million British thermal units (Btu/MMBtu) and multiplied by the fuel feed rate into a combustion device, in pounds of fuel per unit of time (lb of fuel/time):

(A) as measured, recorded, and reported to the U.S. EPA by the mercury designated representative;

(B) as determined by the U.S. EPA in accordance with section 11 of this rule; and

(C) excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

(34) "Heat input rate" means the amount of heat input, in million British thermal units (MMBtu), divided by unit operating time, in hours, or, with regard to a specific fuel, the amount of heat input attributed to the fuel, in million British thermal units (MMBtu), divided by the unit operating time, in hours, during which the unit combusts the fuel.

(35) "Life-of-the-unit, firm power contractual arrangement" means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract, for:

(A) the life of the unit;

(B) a cumulative term of not less than thirty (30) years, including contracts that permit an election for early termination; or

(C) a period not less than twenty-five (25) years or seventy percent (70%) of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

(36) "Maximum design heat input" means the maximum amount of fuel per hour, in British thermal units per hour (Btu/hr), that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

(37) "Mercury allowance" means a limited authorization issued by a permitting authority or the U.S. EPA under provisions of a state plan that is approved under 40 CFR 52.24(h)(6)\*, or under the federal mercury budget trading program, to emit one (1) ounce of mercury during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the mercury budget trading program. An authorization to emit mercury that is not issued under the provisions of a state plan that are approved under 40 CFR 60.24(h)(6)\* or under the federal mercury budget trading program shall not be a mercury allowance.

(38) "Mercury allowance deduction" or "deduct mercury allowances" means the permanent withdrawal of mercury allowances by the U.S. EPA from a compliance account, for example, in order to account for a specified number of ounces of total mercury emissions from all mercury budget units at a mercury budget source for a control period, determined in accordance with section 11 of this rule, or to account for excess emissions.

(39) "Mercury allowances held" or "hold mercury allowances" means the mercury allowances recorded by the U.S. EPA, or submitted to the U.S. EPA for recordation, in accordance with sections 9 and 10 of this rule, in a mercury allowance tracking system account.

(40) "Mercury allowance tracking system" means the system by which the U.S. EPA records allocations, deductions, and transfers of mercury allowances under the mercury budget trading program. Such allowances shall be:

(A) allocated;

(B) held;

(C) deducted; or

(D) transferred;

only as whole allowances.

(41) "Mercury allowance tracking system account" means an account in the mercury allowance tracking system established by the U.S. EPA for purposes of recording the:

(A) allocation;

(B) holding;

(C) transferring; or

(D) deducting;

of mercury allowances.

(42) "Mercury authorized account representative" means, with regard to a general account, a

responsible natural person who is authorized, in accordance with sections 6 and 9 of this rule, to transfer and otherwise dispose of mercury allowances held in the general account and, with regard to a compliance account, the mercury designated representative of the source.

(43) "Mercury budget emissions limitation" means, for a mercury budget source, the equivalent, in ounces of mercury emissions in a control period, of the mercury allowances available for deduction for the source under section 9(i) and 9(j)(1) of this rule for the control period.

(44) "Mercury budget permit" means the legally binding and federally enforceable written document, or portion of such document, issued by the department under section 7 of this rule, including any permit revisions, specifying the mercury budget trading program requirements applicable to a mercury budget source, to each mercury budget unit at the source, and to the owners and operators and the mercury designated representative of the source and each such unit.

(45) "Mercury budget source" means a source that includes one (1) or more mercury budget units.

(46) "Mercury budget trading program" means a multistate mercury air pollution control and emission reduction program approved and administered by the U.S. EPA in accordance with this rule, 40 CFR 60, Subpart HHHH\*, and 40 CFR 60.24(h)(6)\*, or established by the U.S. EPA in accordance with the federal mercury budget trading program, as a means of reducing national mercury emissions.

(47) "Mercury budget unit" means a unit that is subject to the mercury budget trading program under section 1 of this rule.

(48) "Mercury designated representative" means, for a mercury budget source and each mercury budget unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with section 6 of this rule, to represent and legally bind each owner and operator in matters pertaining to the mercury budget trading program. If the mercury budget source is also:

(A) a CAIR NO<sub>x</sub> source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO<sub>x</sub> annual trading program;

(B) a CAIR SO<sub>2</sub> source, then this natural person shall be the same person as the CAIR designated representative under the CAIR SO<sub>2</sub> trading program;

(C) a CAIR NO<sub>x</sub> ozone season source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO<sub>x</sub> ozone season trading program; and

(D) subject to the acid rain program, then this natural person shall be the same person as the designated representative under the acid rain program.

(49) "Monitoring system" means any monitoring system that meets the requirements of section 11 of this rule, including any of the following:

(A) A CEMS.

(B) An alternative monitoring system.

(C) An excepted monitoring system under 40 CFR 75\*.

(50) "Municipal waste" means municipal waste as defined in the Clean Air Act, Section 129(g)(5).

(51) "Nameplate capacity" means, starting from the initial installation of a generator, the maximum electrical generating output, in megawatt electrical (MWe), that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output, in megawatt electrical (MWe), that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) such increased maximum amount, as of such completion, as specified by the person conducting the physical change.

(52) "Operator" means any person who operates, controls, or supervises a mercury budget unit or a mercury budget source and shall include, but not be limited to, any:

(A) holding company;

(B) utility system; or

(C) plant manager;

of such a unit or source.

(53) "Ounce" means twenty-eight million four hundred thousand ( $2.84 \times 10^7$ ) micrograms. For the purpose of determining compliance with the mercury budget emissions limitation, total ounces of mercury emissions for a control period shall be calculated as the sum of all recorded hourly emissions, or the mass equivalent of the recorded hourly emission rates, in accordance with section 11 of this rule, but with any remaining fraction of an ounce:

(A) equal to or greater than fifty-hundredths (0.50) ounces deemed to equal one (1) ounce; and

(B) less than fifty-hundredths (0.50) ounces deemed to equal zero (0) ounces.

(54) "Owner" means any of the following persons:

(A) With regard to a mercury budget source or a mercury budget unit at a source, respectively, any:

- (i) holder of any portion of the legal or equitable title in a mercury budget unit at the source or the mercury budget unit;
  - (ii) holder of a leasehold interest in a mercury budget unit at the source or the mercury budget unit; or
  - (iii) purchaser of power from a mercury budget unit at the source or the mercury budget unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, the term shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, on the revenues or income from such mercury budget unit.
- (B) With regard to any general account, any person who:
- (i) has an ownership interest with respect to the mercury allowances held in the general account; and
  - (ii) is subject to the binding agreement for the mercury authorized account representative to represent the person's ownership interest with respect to mercury allowances.
- (55) "Permitting authority" means the:
- (A) state air pollution control agency;
  - (B) local agency;
  - (C) other state agency; or
  - (D) other agency authorized by the U.S. EPA;
- to issue or revise permits to meet the requirements of the mercury budget trading program or, if no such agency has been so authorized, the U.S. EPA.
- (56) "Potential electrical output capacity" means thirty-three percent (33%) of a unit's maximum design heat input, divided by three thousand four hundred thirteen (3,413) Btu/kilowatt hour, divided by one thousand (1,000) kilowatt hour/megawatt hour, and multiplied by eight thousand seven hundred sixty (8,760) hours/year.
- (57) "Receive" or "receipt of" means, when referring to the department or the U.S. EPA, to come into possession of a document, information, or correspondence, whether sent in hard copy or by authorized electronic transmission, as indicated in an official log, or by a notation made on the document, information, or correspondence, by the department or the U.S. EPA in the regular course of business.
- (58) "Recordation", "record", or "recorded" means, with regard to mercury allowances, the movement of mercury allowances by the U.S. EPA into or between mercury allowance tracking system accounts, for purposes of allocation, transfer, or deduction.
- (59) "Reference method" means any direct test method of sampling and analyzing for an air pollutant as specified in 40 CFR 75.22\*.
- (60) "Replacement", "replace", or "replaced" means, with regard to a unit, the:
- (A) demolishing of a unit, or the permanent shutdown and permanent disabling of a unit; and
  - (B) construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).
- (61) "Repowered" means, with regard to a unit, replacement of a coal-fired boiler with one (1) of the following coal-fired technologies at the same source as the coal-fired boiler:
- (A) Atmospheric or pressurized fluidized bed combustion.
  - (B) Integrated gasification combined cycle.
  - (C) Magnetohydrodynamics.
  - (D) Direct and indirect coal-fired turbines.
  - (E) Integrated gasification fuel cells.
  - (F) As determined by the U.S. EPA in consultation with the Secretary of the United States Department of Energy, a derivative of one (1) or more of the technologies under clauses (A) through (E) and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with:
    - (i) improved boiler or generation efficiency; and
    - (ii) significantly greater waste reduction;relative to the performance of technology in widespread commercial use as of January 1, 2005.
- (62) "Sequential use of energy" means:
- (A) for a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or
  - (B) for a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.
- (63) "Serial number" means, for a mercury allowance, the unique identification number assigned to each mercury allowance by the U.S. EPA.
- (64) "Solid waste incineration unit" means a stationary, coal-fired boiler or stationary, coal-fired

combustion turbine that is a solid waste incineration unit as defined in the Clean Air Act, Section 129(g)(1).

(65) "Source" means all buildings, structures, or installations located in one (1) or more contiguous or adjacent properties under common control of the same person or persons. For purposes of Section 502(c) of the Clean Air Act, a source, including a source with multiple units, shall be considered a single facility.

(66) "State" means the following:

(A) For purposes of referring to a governing entity, one (1) of the states in the United States, the District of Columbia, or, if approved for treatment as a state under 40 CFR 49\*, the Navajo Nation or Ute Indian Tribe that adopts the mercury budget trading program pursuant to 40 CFR 60.24(h)(6)\*.

(B) For purposes of referring to geographic areas:

(i) one (1) of the states in the United States;

(ii) the District of Columbia;

(iii) the Navajo Nation Indian country; or

(iv) the Ute Indian Tribe Indian country.

(67) "Submit" or "serve" means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(A) in person;

(B) by United States Postal Service; or

(C) by other means of dispatch or transmission and delivery.

Compliance with any submission or service deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt by the department or the U.S. EPA.

(68) "Title V operating permit" or "Part 70 operating permit" means a permit issued under [326 IAC 2-7](#).

(69) "Title V operating permit regulations" or "Part 70 operating permit regulations" means the rules under [326 IAC 2-7](#).

(70) "Topping-cycle cogeneration unit" means a cogeneration unit in which:

(A) the energy input to the unit is first used to produce useful power, including electricity; and

(B) at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

(71) "Total energy input" means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself.

(72) "Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

(73) "Unit" means a stationary coal-fired boiler or a stationary coal-fired combustion turbine.

(74) "Unit operating day" means a calendar day in which a unit combusts any fuel.

(75) "Unit operating hour" or "hour of unit operation" means an hour in which a unit combusts any fuel.

(76) "Useful power" means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process, which process includes, but is not limited to, any on-site:

(A) processing or treatment of fuel combusted at the unit; and

(B) emission controls.

(77) "Useful thermal energy" means, with regard to a cogeneration unit, thermal energy that is:

(A) made available to an industrial or commercial process, not a power production process, excluding any heat contained in condensate return or makeup water;

(B) used in a heating application (for example, space heating or domestic hot water heating); or

(C) used in a space cooling application (that is, thermal energy used by an absorption chiller).

(78) "Utility power distribution system" means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

\*\*This document is incorporated by reference. Copies are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(Air Pollution Control Board; [326 IAC 24-4-2](#))

### **326 IAC 24-4-3 Retired unit exemption**

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

Sec. 3. (a) This section applies to any mercury budget unit that is permanently retired.

(b) Any mercury budget unit that is permanently retired shall be exempt from the mercury budget trading program, except for the provisions of this section and sections 1, 2, 4(c)(4) through 4(c)(7), 5, 6, 8(a), 9, and 10 of this rule.

(c) The exemption under this section shall become effective the day on which the mercury budget unit is permanently retired. Within thirty (30) days of the unit's permanent retirement, the mercury designated representative shall submit a statement to the department and shall submit a copy of the statement to the U.S. EPA. The statement shall state, in a format prescribed by the department, that the unit:

- (1) was permanently retired on a specific date; and
- (2) shall comply with the requirements of subsection (e).

(d) After receipt of the statement under subsection (c), the department shall amend any permit under section 7 of this rule covering the source at which the unit is located to add the provisions and requirements of the exemption under subsections (b) and (e).

(e) A unit exempt under this section shall comply with the following provisions:

- (1) The unit exempt shall not emit any mercury, starting on the date that the exemption takes effect.
- (2) The department shall allocate mercury allowances under section 8 of this rule to the unit.
- (3) For a period of five (5) years from the date the records are created, the owners and operators of the unit shall retain, at the source that includes the unit, or a central location within Indiana for those owners and operators with unattended sources, records demonstrating that the unit is permanently retired. The five (5) year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the department or the U.S. EPA. The owners and operators bear the burden of proof that the unit is permanently retired.
- (4) The owners and operators and, to the extent applicable, the mercury designated representative of the unit shall comply with the requirements of the mercury budget trading program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.
- (5) A unit located at a source that is required, or but for this exemption would be required, to have an operating permit under [326 IAC 2-7](#) shall not resume operation unless the mercury designated representative of the source submits a complete mercury budget permit application under section 7(c) of this rule for the unit not less than two hundred seventy (270) days before the later of January 1, 2010, or the date on which the unit resumes operation.
- (6) A unit exempt under this section shall lose its exemption on the earliest of the following dates:
  - (A) The date on which the mercury designated representative:
    - (i) submits a mercury budget permit application for the unit under subdivision (5); or
    - (ii) is required under subdivision (5) to submit a mercury budget permit application for the unit.
  - (B) The date on which the unit resumes operation, if the mercury designated representative is not required to submit a mercury budget permit application for the unit.
- (7) For the purpose of applying monitoring, record keeping, and reporting requirements under section 11 of this rule, a unit that loses its exemption under this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

(Air Pollution Control Board; [326 IAC 24-4-3](#))

### **326 IAC 24-4-4 Standard requirements**

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

**Sec. 4. (a) The owners and operators and mercury designated representative of each mercury budget source and mercury budget unit shall comply with the following permit requirements:**

**(1) The mercury designated representative of each mercury budget source required to have a federally enforceable permit and each mercury budget unit required to have a federally enforceable permit at the source shall submit the following to the department:**

**(A) A complete mercury budget permit application under section 7(c) of this rule in accordance with the deadlines specified in section 7(b) of this rule.**

**(B) Any supplemental information that the department determines is necessary to:**

**(i) review a mercury budget permit application; and**

**(ii) issue or deny a mercury budget permit;**  
**in a timely manner.**

**(2) The owners and operators of each mercury budget source required to have a federally enforceable permit and each mercury budget unit required to have a federally enforceable permit at the source shall:**

**(A) have a mercury budget permit issued by the department under section 7 of this rule for the source; and**

**(B) operate the source and the unit in compliance with such mercury budget permit.**

**(3) The owners and operators of a mercury budget source that is not otherwise required to have a federally enforceable permit and each mercury budget unit that is not required to have a federally enforceable permit are not required to:**

**(A) submit a mercury budget permit application; and**

**(B) have a mercury budget permit;**

**under section 7 of this rule for such mercury budget source and such mercury budget unit.**

**(b) The owners and operators and mercury designated representative of each mercury budget source and mercury budget unit shall comply with the following monitoring, record keeping, and reporting requirements:**

**(1) The monitoring, record keeping, and reporting requirements of section 11 of this rule.**

**(2) The emissions measurements recorded and reported in accordance with section 11 of this rule shall be used to determine compliance by each mercury budget source with the mercury budget emissions limitation under subsection (c).**

**(c) The owners and operators and mercury designated representative of each mercury budget source shall comply with the following mercury emission requirements:**

**(1) As of the allowance transfer deadline for a control period, the owners and operators of each mercury budget source and each mercury budget unit at the source shall hold, in the source's compliance account, mercury allowances available for compliance deductions for the control period under section 9(i) of this rule in an amount not less than the ounces of total mercury emissions for the control period from all mercury budget units at the source, as determined in accordance with section 11 of this rule.**

**(2) A mercury budget unit shall be subject to the requirements under subdivision (1) for the control period starting on the later of January 1, 2010, or the deadline for meeting the unit's monitor certification requirements under section 11(c)(1) or 11(c)(2) of this rule and for each control period thereafter.**

**(3) A mercury allowance shall not be deducted, for compliance with the requirements under subdivision (1), for a control period in a calendar year before the year for which the mercury allowance was allocated.**

**(4) Mercury allowances shall be:**

**(A) held in;**

**(B) deducted from; or**

**(C) transferred into or among;**

**mercury allowance tracking system accounts in accordance with sections 9 and 10 of this rule.**

**(5) A mercury allowance is a limited authorization to emit one (1) ounce of mercury in accordance with the mercury budget trading program. No provision of:**

**(A) the mercury budget trading program;**

**(B) the mercury budget permit application;**

**(C) the mercury budget permit;**

**(D) an exemption under section 3 of this rule; or**

**(E) law;**

**shall be construed to limit the authority of the department or the U.S. EPA to terminate or limit such**

authorization.

(6) A mercury allowance does not constitute a property right.

(7) Upon recordation by the U.S. EPA under sections 8 through 10 of this rule, every allocation, transfer, or deduction of a mercury allowance to or from a mercury budget source's compliance account is incorporated automatically in any mercury budget permit of the source.

(d) If a mercury budget source emits mercury during any control period in excess of the mercury budget emissions limitation, then:

(1) the owners and operators of the mercury budget source and each mercury budget unit shall:

(A) surrender the mercury allowances required for deduction under section 9(j)(4) of this rule; and

(B) pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and

(2) each:

(A) ounce of such excess emissions; and

(B) day of such control period;

shall constitute a separate violation of this rule, the Clean Air Act, and other applicable state law.

(e) Owners and operators of each mercury budget source and each mercury budget unit at the source shall comply with the following record keeping and reporting requirements:

(1) Unless otherwise provided, the owners and operators of the mercury budget source and each mercury budget unit at the source shall keep on site at the source or at a central location within Indiana for those owners and operators with unattended sources each of the following documents for a period of five (5) years from the date the document is created, which period may be extended for cause, at any time before the end of five (5) years, in writing by the department or the U.S. EPA:

(A) The certificate of representation under section 6(h) of this rule for the mercury designated representative for the source and each mercury budget unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such five (5) year period until such documents are superseded because of the submission of a new certificate of representation under section 6(h) of this rule changing the mercury designated representative.

(B) All emissions monitoring information, in accordance with section 11 of this rule, provided that to the extent that section 11 of this rule provides for a three (3) year period for record keeping, the three (3) year period shall apply.

(C) Copies of the following:

(i) All reports, compliance certifications, and other submissions and all records made or required under the mercury budget trading program.

(ii) All documents used to complete a mercury budget permit application and any other submission under the mercury budget trading program or to demonstrate compliance with the requirements of the mercury budget trading program.

(2) The mercury designated representative of a mercury budget source and each mercury budget unit at the source shall submit the reports required under the mercury budget trading program, including those under section 11 of this rule.

(f) The owners and operators of each mercury budget source and each mercury budget unit shall be liable as follows:

(1) Each mercury budget source and each mercury budget unit shall meet the requirements of the mercury budget trading program.

(2) Any provision of the mercury budget trading program that applies to a mercury budget source or the mercury designated representative of a mercury budget source shall also apply to the owners and operators of such source and of the mercury budget units at the source.

(3) Any provision of the mercury budget trading program that applies to a mercury budget unit or the mercury designated representative of a mercury budget unit shall also apply to the owners and operators of such unit.

(g) No provision of:

(1) the mercury budget trading program;

(2) a mercury budget permit application;

(3) a mercury budget permit; or

(4) an exemption under section 3 of this rule;

shall be construed as exempting or excluding the owners and operators, and the mercury designated representative, of a mercury budget source or mercury budget unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

(Air Pollution Control Board; [326 IAC 24-4-4](#))

### **[326 IAC 24-4-5](#) Computation of time and appeal procedures**

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

**Sec. 5. (a)** Unless otherwise stated, any time period scheduled, under the mercury budget trading program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

**(b)** Unless otherwise stated, any time period scheduled, under the mercury budget trading program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

**(c)** Unless otherwise stated, if the final day of any time period, under the mercury budget trading program, falls on a weekend or a state or federal holiday, the time period shall be extended to the next business day.

**(d)** The appeal procedures for decisions of the U.S. EPA under the mercury budget trading program will follow those procedures set forth in 40 CFR 78\*.

\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(Air Pollution Control Board; [326 IAC 24-4-5](#))

### **[326 IAC 24-4-6](#) Mercury designated representative for mercury budget sources**

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

**Sec. 6. (a)** Except as provided under subsection (f), each mercury budget source, including all mercury budget units at the source, shall have one (1) and only one (1) mercury designated representative, with regard to all matters under the mercury budget trading program concerning the source or any mercury budget unit at the source.

**(b)** The mercury designated representative of the mercury budget source shall:

- (1)** be selected by an agreement binding on the owners and operators of the source and all mercury budget units at the source; and
- (2)** act in accordance with the certification statement in subsection (h)(4).

**(c)** Upon receipt by the U.S. EPA of a complete certificate of representation under subsection (h), the mercury designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the mercury budget source represented and each mercury budget unit at the source in all matters pertaining to the mercury budget trading program, notwithstanding any agreement between the mercury designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the mercury designated representative by the department, the U.S. EPA, or a court regarding the source or unit.



**(d) No:**

- (1) mercury budget permit shall be issued;**
- (2) emissions data reports shall be accepted; and**
- (3) mercury allowance tracking system account shall be established;**

for a mercury budget unit at a source, until the U.S. EPA has received a complete certificate of representation under subsection (h) for a mercury designated representative of the source and the mercury budget units at the source.

**(e) The following shall apply to submissions made under the mercury budget trading program:**

- (1) Each submission under the mercury budget trading program shall be submitted, signed, and certified by the mercury designated representative for each mercury budget source on behalf of which the submission is made. Each such submission shall include the following certification statement by the mercury designated representative: "I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."**
- (2) The department and the U.S. EPA will accept or act on a submission made on behalf of owners or operators of a mercury budget source or a mercury budget unit only if the submission has been made, signed, and certified in accordance with subdivision (1).**

**(f) The following shall apply where the owners or operators of a mercury budget source choose to designate an alternate mercury designated representative:**

- (1) A certificate of representation under subsection (h) may designate one (1) and only one (1) alternate mercury designated representative, who may act on behalf of the mercury designated representative. The agreement by which the alternate mercury designated representative is selected shall include a procedure for authorizing the alternate mercury designated representative to act in lieu of the mercury designated representative.**
- (2) Upon receipt by the U.S. EPA of a complete certificate of representation under subsection (h), any representation, action, inaction, or submission by the alternate mercury designated representative shall be deemed to be a representation, action, inaction, or submission by the mercury designated representative.**
- (3) Except in subsections (a) and (d), this subsection, and subsections (g), (h), and (j), and sections 2 and 9(a) through 9(c) of this rule, whenever the term "mercury designated representative" is used in this rule, the term shall be construed to include the mercury designated representative or any alternate mercury designated representative.**

**(g) The following shall apply when changing the mercury designated representative or the alternate mercury designated representative or when there are changes in the owners or operators:**

- (1) The mercury designated representative may be changed at any time upon receipt by the U.S. EPA of a superseding complete certificate of representation under subsection (h). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous mercury designated representative before the time and date when the U.S. EPA receives the superseding certificate of representation shall be binding on the new mercury designated representative and the owners and operators of the mercury budget source and the mercury budget units at the source.**
- (2) The alternate mercury designated representative may be changed at any time upon receipt by the U.S. EPA of a superseding complete certificate of representation under subsection (h). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate mercury designated representative before the time and date when the U.S. EPA receives the superseding certificate of representation shall be binding on the new alternate mercury designated representative and the owners and operators of the mercury budget source and the mercury budget units at the source.**
- (3) Changes in owners and operators shall be made as follows:**
  - (A) In the event an owner or operator of a mercury budget source or a mercury budget unit is not included in the list of owners and operators in the certificate of representation under subsection (h),**

such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the mercury designated representative and any alternate mercury designated representative of the source or unit, and the decisions and orders of the department, the U.S. EPA, or a court, as if the owner or operator were included in such list.

(B) Within thirty (30) days following any change in the owners and operators of a mercury budget source or a mercury budget unit, including the addition of a new owner or operator, the mercury designated representative or any alternate mercury designated representative shall submit a revision to the certificate of representation under subsection (h), amending the list of owners and operators to include the change.

(h) A complete certificate of representation for a mercury designated representative or an alternate mercury designated representative shall include the following elements in a format prescribed by the U.S. EPA:

(1) Identification of the mercury budget source, and each mercury budget unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The:

(A) name;

(B) address;

(C) e-mail address, if any;

(D) telephone number; and

(E) facsimile transmission number, if any;

of the mercury designated representative and any alternate mercury designated representative.

(3) A list of the owners and operators of the mercury budget source and of each mercury budget unit at the source.

(4) The following certification statement by the mercury designated representative and any alternate mercury designated representative: "I certify that I was selected as the mercury designated representative or alternate mercury designated representative, as applicable, by an agreement binding on the owners and operators of the source and each mercury budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the mercury budget trading program on behalf of the owners and operators of the source and of each mercury budget unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions. I certify that the owners and operators of the source and of each mercury budget unit at the source shall be bound by any order issued to me by the U.S. EPA, the department, or a court regarding the source or unit. Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a mercury budget unit, or where a utility or industrial customer purchases power from a mercury budget unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'mercury designated representative' or 'alternate mercury designated representative,' as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each mercury budget unit at the source; and mercury allowances and proceeds of transactions involving mercury allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of mercury allowances by contract, mercury allowances and proceeds of transactions involving mercury allowances will be deemed to be held or distributed in accordance with the contract."

(5) The signature of the mercury designated representative and any alternate mercury designated representative and the dates signed.

Unless otherwise required by the department or the U.S. EPA, documents of agreement referred to in the certificate of representation shall not be submitted to the department or the U.S. EPA. Neither the department nor the U.S. EPA shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(i) The following shall apply to objections concerning the mercury designated representative:

(1) Once a complete certificate of representation under subsection (h) has been submitted and received, the department and the U.S. EPA will rely on the certificate of representation unless and until a superseding complete certificate of representation under subsection (h) is received by the U.S. EPA.

(2) Except as provided in subsection (g)(1) or (g)(2), no objection or other communication submitted to the department or the U.S. EPA concerning the authorization, or any representation, action, inaction,

or submission, of the mercury designated representative shall affect any representation, action, inaction, or submission of the mercury designated representative or the finality of any decision or order by the department or the U.S. EPA under the mercury budget trading program.

(3) Neither the department nor the U.S. EPA will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any mercury designated representative, including private legal disputes concerning the proceeds of mercury allowance transfers.

(j) The following shall apply to delegation by the mercury designated representative and alternate mercury designated representative:

(1) A mercury designated representative may delegate, to one (1) or more natural persons, his or her authority to make an electronic submission to the U.S. EPA provided for or required under this rule.

(2) An alternate mercury designated representative may delegate, to one (1) or more natural persons, his or her authority to make an electronic submission to the U.S. EPA provided for or required under this rule.

(3) In order to delegate authority to make an electronic submission to the U.S. EPA in accordance with subdivision (1) or (2), the mercury designated representative or alternate mercury designated representative, as appropriate, must submit to the U.S. EPA a notice of delegation, in a format prescribed by the U.S. EPA, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number, if any, of the following:

(i) The mercury designated representative or alternate mercury designated representative.

(ii) The natural person, referred to as an "agent".

(B) For each such natural person, a list of the type or types of electronic submissions under subdivision (1) or (2) for which authority is delegated to him or her.

(C) The following certification statements by such mercury designated representative or alternate mercury designated representative:

(i) "I agree that any electronic submission to the U.S. EPA that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a mercury designated representative or alternate mercury designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under [326 IAC 24-4-6\(j\)\(4\)](#) shall be deemed to be an electronic submission by me."

(ii) "Until this notice of delegation is superseded by another notice of delegation under [326 IAC 24-4-6\(j\)\(4\)](#), I agree to maintain an e-mail account and to notify the U.S. EPA immediately of any change in my e-mail address unless all delegation of authority by me under [326 IAC 24-4-6\(j\)](#) is terminated."

(4) A notice of delegation submitted under subdivision (3) shall be effective, with regard to the mercury designated representative or alternate mercury designated representative identified in such notice, upon receipt of such notice by the U.S. EPA and until receipt by the U.S. EPA of a superseding notice of delegation submitted by such mercury designated representative or alternate mercury designated representative, as appropriate. The superseding notice of delegation may:

(A) replace any previously identified agent;

(B) add a new agent; or

(C) eliminate entirely any delegation of authority.

(5) Any electronic submission:

(A) covered by the certification in subdivision (3)(C)(i); and

(B) made in accordance with a notice of delegation effective under subdivision (4);

shall be deemed to be an electronic submission by the mercury designated representative or alternate mercury designated representative submitting such notice of delegation.

(Air Pollution Control Board; [326 IAC 24-4-6](#))

### [326 IAC 24-4-7](#) Mercury budget permit requirements

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

**Sec. 7. (a)** For each mercury budget source required to have a Part 70 operating permit, such permit shall include a mercury budget permit administered by the department as follows:

(1) The mercury budget portion of the Part 70 permit shall be administered in accordance with [326 IAC 2-7](#), except as provided otherwise by this section.

(2) Each mercury budget permit shall:

- (A) contain, with regard to the mercury budget source and the mercury budget units at the source covered by the mercury budget permit, all applicable mercury budget trading program requirements; and
- (B) be a complete and separable portion of the Part 70 operating permit.

(b) The requirements for the submission of mercury budget permit applications are as follows:

(1) The mercury designated representative of any mercury budget source required to have a Part 70 operating permit shall submit to the department a complete mercury budget permit application under subsection (c) for the source covering each mercury budget unit at the source at least two hundred seventy (270) days before the later of:

(A) January 1, 2010; or

(B) the date on which the mercury budget unit commences commercial operation.

(2) For a mercury budget source required to have a Part 70 operating permit, the mercury designated representative shall submit a complete mercury budget permit application under subsection (c) for the source covering each mercury budget unit at the source to renew the mercury budget permit in accordance with the [326 IAC 2-7-4\(a\)\(1\)\(D\)](#).

(c) A complete mercury budget permit application shall include the following elements concerning the mercury budget source for which the application is submitted, in a format prescribed by the department:

- (1) Identification of the mercury budget source.
- (2) Identification of each mercury budget unit at the mercury budget source.
- (3) The standard requirements under section 4 of this rule.

(d) Each mercury budget permit shall contain, in a format prescribed by the department, all elements required for a complete mercury budget permit application under subsection (c).

(e) Each mercury budget permit is deemed to incorporate automatically the definitions of terms under section 2 of this rule and, upon recordation by the U.S. EPA under sections 8 through 10 of this rule, every allocation, transfer, or deduction of a mercury budget allowance to or from the compliance account of the mercury budget source covered by the permit.

(f) The term of the mercury budget permit shall be set by the department, as necessary to facilitate coordination of the renewal of the mercury budget permit with issuance, revision, or renewal of the mercury budget source's Part 70 operating permit.

(g) Except as provided in subsection (e), the department shall revise the mercury budget permit, as necessary, in accordance with the permit modification and revision provisions under [326 IAC 2-7](#).

(Air Pollution Control Board; [326 IAC 24-4-7](#))

#### [326 IAC 24-4-8](#) Mercury allowance allocations

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

Sec. 8. (a) The trading budget allocated by the department under subsections (d) through (g) for each control period shall equal the mercury allowances apportioned to the mercury budget units, as determined by the procedures in this section. The total number of mercury allowances available for annual allocation of mercury allowances under this rule is sixty-seven thousand one hundred four (67,104) ounces in 2010 through 2017 and twenty-six thousand four hundred ninety-six (26,496) ounces in 2018 and thereafter, apportioned as follows:

(1) For existing units, which have a baseline heat input as determined under subsection (c)(1):

- (A) sixty-three thousand seven hundred forty-nine (63,749) ounces in 2010 through 2014;
- (B) sixty-five thousand ninety-one (65,091) ounces in 2015 through 2017; and

(C) twenty-five thousand seven hundred one (25,701) ounces in 2018 and thereafter.

(2) For new unit allocation set-aside:

(A) two thousand six hundred eighty-four (2,684) ounces in 2010 through 2014;

(B) one thousand three hundred forty-two (1,342) ounces in 2015 through 2017;

(C) five hundred thirty (530) ounces in 2018 through 2021; and

(D) seven hundred ninety-five (795) ounces in 2022 and thereafter.

(3) For clean coal technology set-aside:

(A) six hundred seventy-one (671) ounces in 2010 through 2017; and

(B) two hundred sixty-five (265) ounces in 2018 through 2021.

(b) The department shall allocate mercury allowances to mercury budget units according to the following schedule:

(1) Within thirty (30) days of the effective date of this rule, the department shall submit to the U.S. EPA the mercury allowance allocations, in a format prescribed by the U.S. EPA and in accordance with subsections (c) and (d), for the control periods in 2010, 2011, 2012, 2013, and 2014.

(2) By October 31, 2009, and October 31 every six (6) years thereafter, the department shall submit to the U.S. EPA the mercury allowance allocations, in a format prescribed by the U.S. EPA and in accordance with subsections (c) and (d), for the control periods six (6), seven (7), eight (8), nine (9), ten (10), and eleven (11) years after the year of the allowance allocation.

(3) By October 31, 2010, and October 31 of each year thereafter, the department shall submit to the U.S. EPA the mercury allowance allocations, in a format prescribed by the U.S. EPA and in accordance with subsections (c), (e), (f), and (g), for the control period in the year of the applicable deadline for submission under this subdivision.

(4) The department shall:

(A) make available for review to the public the mercury allowance allocations under subdivision (2) on July 31 of each year allocations are made; and

(B) provide a thirty (30) day opportunity for submission of objections to the mercury allowance allocations.

Objections shall be limited to addressing whether the mercury allowance allocations are in accordance with this section. Based on any such objections, the department shall consider any objections and input from affected sources and, if appropriate, adjust each determination to the extent necessary to ensure that it is in accordance with this section.

(c) The baseline heat input, in million British thermal units (MMBtu), used with respect to mercury allocations under subsection (d) for each mercury budget unit shall be as follows:

(1) For units commencing operation before January 1, 2001:

(A) For a mercury allowance allocation under subsection (b)(1), the average of the three (3) highest amounts of the unit's control period heat input for 1998 through 2005.

(B) For a mercury allowance allocation under subsection (b)(2), the average of the three (3) highest amounts of the unit's control period heat input for the eight (8) years preceding the calculation of the mercury allowance allocation.

(2) For units commencing operation on or after January 1, 2001, and operating each calendar year during a period of three (3) or more consecutive calendar years, the average of the three (3) highest amounts of the unit's total converted control period heat input for the years preceding the calculation of the mercury allowance allocation, not to exceed eight (8) years.

(3) A unit's control period heat input for a calendar year under subdivision (1), and a unit's total ounces of mercury emissions during a calendar year under subsection (e)(3), shall be:

(A) determined in accordance with 40 CFR 75\*, to the extent the unit was otherwise subject to the requirements of 40 CFR 75\* for the year; or

(B) based on the best available data reported to the department for the unit, to the extent the unit was not otherwise subject to the requirements of 40 CFR 75\* for the year.

(4) A unit's converted control period heat input for a calendar year specified under subdivision (2) equals one (1) of the following:

(A) The control period gross electrical output of the generator or generators served by the unit multiplied by eight thousand nine hundred (8,900) British thermal units per kilowatt hour (Btu/kWh) and divided by one million (1,000,000) British thermal units per million British thermal units (Btu/MMBtu), provided that if a generator is served by two (2) or more units, then the gross electrical output of the generator shall be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year.

(B) For a unit that has equipment used to produce electricity and useful thermal energy for

industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the unit multiplied by eight thousand nine hundred (8,900) British thermal units per kilowatt hour (Btu/kWh), plus the useful energy, in British thermal units (Btu), produced during the control period divided by eight-tenths (0.8), and with the sum divided by one million (1,000,000) British thermal units per million British thermal units (Btu/MMBtu).

(C) For any clean coal technology unit commencing operation on or after January 1, 2001, but before January 1, 2018, the mercury designated representative of such mercury budget unit may submit a request to the department prior to May 1 of the year during which allocations are made pursuant to subsection (b) to calculate the baseline heat input as one (1) of the following, whichever is greater:

- (i) The actual gross electrical output of the generator or generators served by the unit during any consecutive twelve (12) months.
- (ii) The gross electrical output of such generator or generators that would result from the utilization of the unit at eighty-five percent (85%) of the rated capacity for any consecutive twelve (12) months, multiplied and divided by the factors in clause (A), as appropriate.

(d) For each control period in 2010 and thereafter, the department shall allocate to all mercury budget units that have a baseline heat input, as determined under subsection (c), a total amount of mercury allowances equal to the amount in subsection (a)(1), except as provided in subsection (g). The department shall allocate mercury allowances to each mercury budget unit in an amount determined by multiplying the total amount of mercury allowances under subsection (a)(1) by the ratio of the baseline heat input of such mercury budget unit to the total amount of baseline heat input of all such mercury budget units and rounding to the nearest whole allowance as appropriate.

(e) For each control period in 2010 and thereafter, the department shall allocate mercury allowances to mercury budget units that commenced operation on or after January 1, 2001, and do not yet have a baseline heat input, as determined under subsection (c), in accordance with the following procedures:

(1) The department shall establish a separate new unit set-aside for each control period equal to the following:

- (A) Two thousand six hundred eighty-four (2,684) ounces in 2010 through 2014.
- (B) One thousand three hundred forty-two (1,342) ounces in 2015 through 2017.
- (C) Five hundred thirty (530) ounces in 2018 through 2021.
- (D) Seven hundred ninety-five (795) ounces in 2022 and thereafter.

(2) The mercury designated representative of such a mercury budget unit may submit to the department a request, in a format specified by the department, to be allocated mercury allowances, starting with the later of the control period in 2010 or the first control period after the control period in which the mercury budget unit commences commercial operation and until the first control period for which the unit is allocated mercury allowances under subsection (d). A separate mercury allowance allocation request for each control period for which mercury allowances are sought must be submitted on or before May 1 of such control period and after the date on which the mercury budget unit commences commercial operation.

(3) In a mercury allowance allocation request under subdivision (2), the mercury designated representative may request for a control period mercury allowances:

- (A) in an amount not exceeding the mercury budget unit's total ounces of mercury emissions during the calendar year immediately before such control period; or
- (B) for a clean coal technology unit commencing operation before January 1, 2018, in an amount not exceeding the product of multiplying the allowable mercury emission rate at 40 CFR 60.45Da(b)\* by the number of megawatt-hours of electricity that would result from utilization of the unit at eighty-five percent (85%) of rated capacity for any consecutive twelve (12) months divided by one-sixteenth (1/16).

(4) The department shall review each mercury allowance allocation request under subdivision (2) and shall allocate mercury allowances for each control period pursuant to such request as follows:

- (A) The department shall accept an allowance allocation request only if the request meets, or is adjusted by the department as necessary to meet, the requirements of subdivisions (2) and (3).
- (B) On or after May 1 of the control period, the department shall determine the sum of the mercury allowances requested, as adjusted under clause (A), in all allowance allocation requests accepted under clause (A) for the control period.
- (C) If the amount of mercury allowances in the new unit set-aside for the control period is greater than or equal to the sum under clause (B), then the department shall allocate the amount of mercury allowances requested, as adjusted under clause (A), to each mercury budget unit covered by an allowance allocation request accepted under clause (A).

(D) If the amount of mercury allowances in the new unit set-aside for the control period is less than the sum under clause (B), then the department shall allocate to each mercury budget unit covered by an allowance allocation request accepted under clause (A) the amount of the mercury allowances requested, as adjusted under clause (A), multiplied by the amount of mercury allowances in the new unit set-aside for the control period, divided by the sum determined under clause (B), and rounded to the nearest whole allowance as appropriate.

(E) The department shall notify each mercury designated representative that submitted an allowance allocation request of the amount of mercury allowances, if any, allocated for the control period to the mercury budget unit covered by the request and submit the mercury allowances to the U.S. EPA according to subsection (b)(3).

(f) For each control period in 2010 through 2021, the department shall allocate mercury allowances to clean coal technology units that commenced operation on or after January 1, 2001, and do not yet have a baseline heat input, as determined under subsection (c), in accordance with the following procedures:

(1) The department shall establish a separate clean coal technology set-aside for each control equal to the following:

(A) Six hundred seventy-one (671) ounces in 2010 through 2017.

(B) Two hundred sixty-five (265) ounces in 2018 and through 2021.

(2) The mercury designated representative of such a clean coal technology unit may submit to the department a request, in a format specified by the department, to be allocated mercury allowances from the set-aside established pursuant to subdivision (1) for any control period during or after which the unit commences commercial operation. A separate mercury allowance allocation request for each control period for which mercury allowances are sought must be submitted on or before May 1 of such control period and after the date on which the mercury budget unit commences commercial operation. Requests for a particular unit may be submitted for any control period through and including 2021.

(3) In a mercury allowance allocation request under subdivision (2), the mercury designated representative may request for a control period mercury allowances in an amount not exceeding the product of multiplying the allowable mercury emission rate at 40 CFR 60.45Da(b)\* by the number of megawatt-hours of electricity that would result from utilization of the unit at eighty-five percent (85%) of rated capacity for any consecutive twelve (12) months divided by one-sixteenth (1/16).

(4) The department shall review each mercury allowance allocation request under subdivision (2) and shall allocate mercury allowances from the clean coal technology set-aside for each control period pursuant to such request as follows:

(A) The department shall accept an allowance allocation request only if the request meets, or is adjusted by the department as necessary to meet, the requirements of subdivisions (2) and (3).

(B) On or after May 1 of the control period, the department shall determine the sum of the mercury allowances requested, as adjusted under clause (A), in all allowance allocation requests accepted under clause (A) for the control period.

(C) If the amount of mercury allowances in the clean coal technology set-aside for the control period is greater than or equal to the sum under clause (B), then the department shall allocate the amount of mercury allowances requested, as adjusted under clause (A), to each mercury budget unit covered by an allowance allocation request accepted under clause (A).

(D) If the amount of mercury allowances in the clean coal technology set-aside for the control period is less than the sum under clause (B), but the new unit set-aside is under-subscribed, the department shall allocate the amount of mercury allowances requested with the difference allocated from the new unit set-aside.

(E) If the amount of mercury allowances in the clean coal technology set-aside for the control period, as supplemented by any remaining unallocated allowances from the new unit set-aside for the control period, is less than the sum under clause (B), then the department shall allocate to each mercury budget unit covered by an allowance allocation request accepted under clause (A) the amount of mercury allowances requested, as adjusted under clause (A), multiplied by the total of the amount of mercury allowances in the clean coal technology set-aside and the amount of remaining unallocated allowances in the new unit set-aside for the control period, divided by the sum determined under clause (B), and rounded to the nearest whole allowance as appropriate.

(F) The department shall notify each mercury designated representative that submitted an allowance allocation request of the amount of mercury allowances, if any, allocated for the control period to the mercury budget unit covered by the request out of the clean coal technology set-aside and submit the mercury allowances to the U.S. EPA according to subsection (b)(3).

(g) If, after completion of the procedures under subsections (e)(4) and (f)(4) for a control period, any



unallocated mercury allowances remain in the new unit set-aside for the control period, the department shall allocate to each mercury budget unit that was allocated mercury allowances under subsection (d) an amount of mercury allowances equal to the total amount of such remaining unallocated mercury allowances, multiplied by the unit's allocation under subsection (d), divided by:

- (1) sixty-three thousand seven hundred forty-nine (63,749) in 2010 through 2014;
- (2) sixty-five thousand ninety-one (65,091) in 2015 through 2017;
- (3) twenty-five thousand seven hundred one (25,701) in 2018 and thereafter, rounded to the nearest whole allowance as appropriate.

\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

(Air Pollution Control Board; [326 IAC 24-4-8](#))

### [326 IAC 24-4-9](#) Mercury allowance tracking system

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

Sec. 9. (a) Upon receipt of a complete certificate of representation under section 6(h) of this rule, the U.S. EPA will establish a compliance account for the mercury budget source for which the certificate of representation was submitted unless the source already has a compliance account.

(b) Any person may apply to open a general account for the purpose of holding and transferring mercury allowances. An application for a general account may designate one (1) and only one (1) mercury authorized account representative and one (1) and only one (1) alternate mercury authorized account representative who may act on behalf of the mercury authorized account representative. The agreement by which the alternate mercury authorized account representative is selected shall include a procedure for authorizing the alternate mercury authorized account representative to act in lieu of the mercury authorized account representative. The establishment of a general account shall be subject to the following:

(1) A complete application for a general account shall be submitted to the U.S. EPA and shall include the following elements in a format prescribed by the U.S. EPA:

(A) The following information concerning the mercury authorized account representative and any alternate mercury authorized account representative:

- (i) Name.
- (ii) Mailing address.
- (iii) E-mail address, if any.
- (iv) Telephone number.
- (v) Facsimile transmission number, if any.

(B) Organization name and type of organization, if applicable.

(C) A list of all persons subject to a binding agreement for the mercury authorized account representative and any alternate mercury authorized account representative to represent their ownership interest with respect to the mercury allowances held in the general account.

(D) The following certification statement by the mercury authorized account representative and any alternate mercury authorized account representative: "I certify that I was selected as the mercury authorized account representative or the alternate mercury authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to mercury allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the mercury budget trading program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the U.S. EPA or a court regarding the general account."

(E) The signature of the mercury authorized account representative and any alternate mercury authorized account representative and the dates signed.

(F) Unless otherwise required by the department or the U.S. EPA, documents of agreement referred



to in the application for a general account shall not be submitted to the department or the U.S. EPA. Neither the department nor the U.S. EPA shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Upon receipt by the U.S. EPA of a complete application for a general account under subdivision (1), the following shall apply:

(A) The U.S. EPA will establish a general account for the person or persons for whom the application is submitted.

(B) The mercury authorized account representative and any alternate mercury authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to mercury allowances held in the general account in all matters pertaining to the mercury budget trading program, notwithstanding any agreement between the mercury authorized account representative or any alternate mercury authorized account representative and such person. Any such person shall be bound by any order or decision issued to the mercury authorized account representative or any alternate mercury authorized account representative by the U.S. EPA or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate mercury authorized account representative shall be deemed to be a representation, action, inaction, or submission by the mercury authorized account representative.

(D) Each submission concerning the general account shall be submitted, signed, and certified by the mercury authorized account representative or any alternate mercury authorized account representative for the persons having an ownership interest with respect to mercury allowances held in the general account. Each such submission shall include the following certification statement by the mercury authorized account representative or any alternate mercury authorized account representative: "I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the mercury allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

(E) The U.S. EPA will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with clause (D).

(3) The following shall apply to changing the mercury authorized account representative, and alternate mercury authorized account representative, and changes in persons with ownership interest:

(A) The mercury authorized account representative for a general account may be changed at any time upon receipt by the U.S. EPA of a superseding complete application for a general account under subdivision (1). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous mercury authorized account representative before the time and date when the U.S. EPA receives the superseding application for a general account shall be binding on the new mercury authorized account representative and the persons with an ownership interest with respect to the mercury allowances in the general account.

(B) The alternate mercury authorized account representative for a general account may be changed at any time upon receipt by the U.S. EPA of a superseding complete application for a general account under subdivision (1). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate mercury authorized account representative before the time and date when the U.S. EPA receives the superseding application for a general account shall be binding on the new alternate mercury authorized account representative and the persons with an ownership interest with respect to the mercury allowances in the general account.

(C) In the event a person having an ownership interest with respect to mercury allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the mercury authorized account representative and any alternate mercury authorized account representative of the account, and the decisions and orders of the U.S. EPA or a court, as if the person were included in such list.

(D) Within thirty (30) days following any change in the persons having an ownership interest with respect to mercury allowances in the general account, including the addition of new persons, the mercury authorized account representative or any alternate mercury authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the mercury allowances in the general account

to include the change.

(4) Once a complete application for a general account under subdivision (1) has been submitted and received, the U.S. EPA will rely on the application unless and until a superseding complete application for a general account under subdivision (1) is received by the U.S. EPA.

(5) Except as provided in subdivision (3)(A) or (3)(B), no objection or other communication submitted to the U.S. EPA concerning the authorization, or any representation, action, inaction, or submission of the mercury authorized account representative or any alternate mercury authorized account representative for a general account shall affect any representation, action, inaction, or submission of the mercury authorized account representative or any alternate mercury authorized account representative or the finality of any decision or order by the U.S. EPA under the mercury budget trading program.

(6) The U.S. EPA will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the mercury authorized account representative or any alternate mercury authorized account representative for a general account, including private legal disputes concerning the proceeds of mercury allowance transfers.

(7) The following shall apply to delegation by the mercury authorized account representative and alternate mercury authorized account representative:

(A) A mercury authorized account representative may delegate, to one (1) or more natural persons, his or her authority to make an electronic submission to the U.S. EPA provided for or required under this section and section 10 of this rule.

(B) An alternate mercury authorized account representative may delegate, to one (1) or more natural persons, his or her authority to make an electronic submission to the U.S. EPA provided for or required under this section and section 10 of this rule.

(C) In order to delegate authority to make an electronic submission to the U.S. EPA in accordance with clause (A) or (B), the mercury authorized account representative, as appropriate, must submit to the U.S. EPA a notice of delegation, in a format prescribed by the U.S. EPA, that includes the following elements:

(i) The name, address, e-mail address, telephone number, and, if any, facsimile transmission number of the following:

(AA) The mercury authorized account representative or alternate mercury authorized account representative.

(BB) Each natural person, referred to as an "agent".

(ii) For each such natural person, a list of the type or types of electronic submissions under clause (A) or (B) for which authority is delegated to him or her.

(iii) The following certification statements by such mercury authorized account representative or alternate mercury authorized account representative:

(AA) "I agree that any electronic submission to the U.S. EPA that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a mercury authorized account representative or alternate mercury authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under [326 IAC 24-4-9\(b\)\(7\)\(D\)](#) shall be deemed to be an electronic submission by me."

(BB) "Until this notice of delegation is superseded by another notice of delegation under [326 IAC 24-4-9\(b\)\(7\)\(D\)](#), I agree to maintain an e-mail account and to notify the U.S. EPA immediately of any change in my e-mail address unless all delegation of authority by me under [326 IAC 24-4-9\(b\)\(7\)](#) is terminated."

(D) A notice of delegation submitted under clause (C) shall be effective, with regard to the mercury authorized account representative or alternate mercury authorized account representative identified in such notice, upon receipt of such notice by the U.S. EPA and until receipt by the U.S. EPA of a superseding notice of delegation submitted by such mercury authorized account representative or alternate mercury authorized account representative, as appropriate. The superseding notice of delegation may:

(i) replace any previously identified agent;

(ii) add a new agent; or

(iii) eliminate entirely any delegation of authority.

(E) Any electronic submission:

(i) covered by the certification in clause (C)(iii)(AA); and

(ii) made in accordance with a notice of delegation effective under clause (D);

shall be deemed to be an electronic submission by the mercury authorized account representative or alternate mercury authorized account representative submitting such notice of delegation.

(c) The U.S. EPA will assign a unique identifying number to each account established under subsection (a) or (b).

(d) Following the establishment of a mercury allowance tracking system account, all submissions to the U.S. EPA pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of mercury allowances in the account, shall be made only by the mercury authorized account representative for the account.

(e) The U.S. EPA will record in the mercury budget source's compliance account the mercury allowances allocated for the mercury budget units at a source, as submitted by the department in accordance with section 8(b)(1) of this rule, for the control periods in 2010, 2011, 2012, 2013, and 2014.

(f) By December 1, 2009, and every six (6) years thereafter, the U.S. EPA will record in the mercury budget source's compliance account the mercury allowances allocated for the mercury budget units at the source, as submitted by the department in accordance with section 8(b)(2) of this rule, for the control periods six (6), seven (7), eight (8), nine (9), ten (10), and eleven (11) years after the allowance allocation.

(g) By December 1, 2010, and December 1 of each year thereafter, the U.S. EPA will record in the mercury budget source's compliance account the mercury allowances allocated for the mercury budget units at the source, as submitted by the department in accordance with section 8(b)(3) of this rule, for the control period in the year of the applicable deadline for recordation under this subsection.

(h) When recording the allocation of mercury allowances for a mercury budget unit in a compliance account, the U.S. EPA will assign each mercury allowance a unique identification number that will include digits identifying the year of the control period for which the mercury allowance is allocated.

(i) Mercury allowances are available to be deducted for compliance with a source's mercury budget emissions limitation for a control period in a given calendar year only if the mercury allowances:

(1) were allocated for the control period in the year or a prior year; and

(2) are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a mercury allowance transfer correctly submitted for recordation under section 10(a) through 10(d) of this rule by the allowance transfer deadline for the control period.

(j) The following shall apply to deductions for purposes of compliance with a source's emissions limitations:

(1) Following the recordation, in accordance with section 10(b) through 10(d) of this rule, of mercury allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the U.S. EPA will deduct from the compliance account mercury allowances available under subsection (i) in order to determine whether the source meets the mercury budget emissions limitation for the control period in one (1) of the following ways:

(A) Until the amount of mercury allowances deducted equals the number of ounces of total mercury emissions, determined in accordance with section 11 of this rule, from all mercury budget units at the source for the control period.

(B) If there are insufficient mercury allowances to complete the deductions in clause (A), until no more mercury allowances available under subsection (i) remain in the compliance account.

(2) The mercury authorized account representative for a source's compliance account may request that specific mercury allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with subdivision (1), (4), or (5). Such request shall:

(A) be submitted to the U.S. EPA by the allowance transfer deadline for the control period; and

(B) include, in a format prescribed by the U.S. EPA, the identification of the mercury budget source and the appropriate serial numbers.

(3) The U.S. EPA will deduct mercury allowances under subdivision (1), (4), or (5) from the source's compliance account, in the absence of an identification or in the case of a partial identification of mercury allowances by serial number under subdivision (2), on a first-in, first-out (FIFO) accounting basis in the following order:

(A) Any mercury allowances that were allocated to the units at the source, in the order of recordation.

(B) Any mercury allowances that were allocated to any entity and transferred and recorded in the compliance account under section 10 of this rule, in the order of recordation.

(4) After making the deductions for compliance under subdivision (1) for a control period in a calendar year in which the mercury budget source has excess emissions, the U.S. EPA will deduct from the source's compliance account an amount of mercury allowances, allocated for the control period in the immediately following calendar year, equal to three (3) times the number of ounces of the source's excess emissions.

(5) Any allowance deduction required under subdivision (4) shall not affect the liability of the owners and operators of the mercury budget source or the mercury budget units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable state law.

(6) The U.S. EPA will record in the appropriate compliance account all deductions from such an account under subdivision (1), (4), or (5).

(7) The U.S. EPA may:

(A) review and conduct independent audits concerning any submission under the mercury budget trading program; and

(B) make appropriate adjustments of the information in the submissions.

(8) The U.S. EPA may:

(A) deduct mercury allowances from or transfer mercury allowances to a source's compliance account based on the information in the submissions, as adjusted under subdivision (7); and

(B) record such deductions and transfers.

(k) Mercury allowances may be banked for future use or transfer in a compliance account or a general account. Any mercury allowance that is held in a compliance account or a general account will remain in such account unless and until the mercury allowance is deducted or transferred under subsection (i), (j), or (l) or section 10 of this rule.

(l) The U.S. EPA may, at its sole discretion and on its own motion, correct any error in any mercury allowance tracking system account. Within ten (10) business days of making such correction, the U.S. EPA will notify the mercury authorized account representative for the account.

(m) The mercury authorized account representative of a general account may submit to the U.S. EPA a request to close the account, which shall include a correctly submitted allowance transfer under section 10(a) through 10(d) of this rule for any mercury allowances in the account to one (1) or more other mercury allowance tracking system accounts.

(n) If a general account has no allowance transfers in or out of the account for a twelve (12) month period or longer and does not contain any mercury allowances, the U.S. EPA may notify the mercury authorized account representative for the account that the account will be closed following twenty (20) business days after the notice is sent. The account will be closed after the twenty (20) day period unless, before the end of the twenty (20) day period, the U.S. EPA receives a:

(1) correctly submitted transfer of mercury allowances into the account under section 10(a) through 10(d) of this rule; or

(2) statement submitted by the mercury authorized account representative demonstrating to the satisfaction of the U.S. EPA good cause as to why the account should not be closed.

(Air Pollution Control Board; [326 IAC 24-4-9](#))

### **[326 IAC 24-4-10](#) Mercury allowance transfers**

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

**Sec. 10. (a)** A mercury authorized account representative seeking recordation of a mercury allowance transfer shall submit the transfer to the U.S. EPA. To be considered correctly submitted, the mercury allowance transfer shall include the following elements, in a format specified by the U.S. EPA:

- (1) The account numbers for both the transferor and transferee accounts.
- (2) The serial number of each mercury allowance that is in the transferor account and is to be transferred.
- (3) The name and signature of the mercury authorized account representative of the transferor account and the date signed.

(b) Within five (5) business days, except as provided in subsection (c), of receiving a mercury allowance transfer, the U.S. EPA will record a mercury allowance transfer by moving each mercury allowance from the transferor account to the transferee account as specified by the request, provided the following:

- (1) The transfer is correctly submitted under subsection (a).
- (2) The transferor account includes each mercury allowance identified by serial number in the transfer.

(c) A mercury allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any mercury allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the U.S. EPA completes the deductions under section 9(i) and 9(j) of this rule for the control period immediately before such allowance transfer deadline.

(d) Where a mercury allowance transfer submitted for recordation fails to meet the requirements of subsection (b), the U.S. EPA will not record such transfer.

(e) The following notification requirements shall apply to mercury allowance transfers:

- (1) Within five (5) business days of recordation of a mercury allowance transfer under subsections (b) through (d), the U.S. EPA will notify the mercury authorized account representatives of both the transferor and transferee accounts.
- (2) Within ten (10) business days of receipt of a mercury allowance transfer that fails to meet the requirements of subsection (b), the U.S. EPA will notify the mercury authorized account representatives of both accounts subject to the transfer of a decision not to record the transfer and the reasons for such nonrecordation.

(f) Nothing in this section shall preclude the submission of a mercury allowance transfer for recordation following notification of nonrecordation.

(Air Pollution Control Board; [326 IAC 24-4-10](#))

#### [326 IAC 24-4-11](#) Mercury monitoring, record keeping, and reporting

Authority: [IC 13-14-8](#); [IC 13-17-3-4](#); [IC 13-17-3-11](#)

Affected: [IC 13-15](#); [IC 13-17](#)

Sec. 11. (a) The owners and operators, and to the extent applicable, the mercury designated representative, of a mercury budget unit, shall comply with the monitoring, record keeping, and reporting requirements as provided in this section and 40 CFR 75, Subpart I\*. For purposes of complying with such requirements, the definitions in section 2 of this rule and in 40 CFR 72.2\* shall apply, and the terms "affected unit", "designated representative", and "continuous emission monitoring system (CEMS)" in 40 CFR 75\* shall be deemed to refer to the terms "mercury budget unit", "mercury designated representative", and "continuous emission monitoring system (CEMS)", respectively, as defined in section 2 of this rule. The owner or operator of a unit that is not a mercury budget unit but that is monitored under 40 CFR 75.82(b)(2)(i)\* shall comply with the same monitoring, record keeping, and reporting requirements as a mercury budget unit.

(b) The owner or operator of each mercury budget unit shall do the following:

- (1) Install all monitoring systems required under this section for monitoring mercury mass emissions and individual unit heat input. This includes all systems required to monitor:
  - (A) mercury concentration;
  - (B) stack gas moisture content;

- (C) stack gas flow rate; and
- (D) CO<sub>2</sub> or O<sub>2</sub> concentration;

as applicable, in accordance with 40 CFR 75.81\* and 40 CFR 75.82\*.

(2) Successfully complete all certification tests required under subsections (g) through (j) and meet all other requirements of this section and 40 CFR 75, Subpart I\*, applicable to the monitoring systems under subdivision (1).

(3) Record, report, and quality-assure the data from the monitoring systems under subdivision (1).

(c) Except as provided in subsection (f), the owner or operator shall meet the monitoring system certification and other requirements of subsection (b) on or before the dates in subdivisions (1) through (3). The owner or operator shall record, report, and quality-assure the data from the monitoring systems under subsection (b)(1) on and after the following dates:

(1) For the owner or operator of a mercury budget unit that commences commercial operation before July 1, 2008, by January 1, 2009.

(2) For the owner or operator of a mercury budget unit that commences commercial operation on or after July 1, 2008, by the later of the following dates:

(A) January 1, 2009.

(B) Ninety (90) unit operating days or one hundred eighty (180) calendar days, whichever occurs first, after the date on which the unit commences commercial operation.

(3) For the owner or operator of a mercury budget unit for which construction of a new stack or flue or installation of add-on mercury emission controls, a flue gas desulfurization system, a selective catalytic reduction system, or a compact hybrid particulate collector system is completed after the applicable deadline under subdivision (1) or (2), by the earlier of:

(A) ninety (90) unit operating days after the date on which emissions first exit to the atmosphere through the new stack or flue, add-on mercury emissions controls, flue gas desulfurization system, selective catalytic reduction system, or compact hybrid particulate collector system; or

(B) one hundred eighty (180) calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue, add-on mercury emissions controls, flue gas desulfurization system, selective catalytic reduction system, or compact hybrid particulate collector system.

(d) The owner or operator of a mercury budget unit that does not meet the applicable compliance date set forth in subsection (c) for any monitoring system under subsection (b)(1) shall, for each such monitoring system, determine, record, and report maximum potential or, as appropriate, minimum potential, values for mercury concentration, stack gas flow rate, stack gas moisture content, and any other parameters required to determine mercury mass emissions and heat input in accordance with 40 CFR 75.80(g)\*.

(e) The following shall apply to any monitoring system, alternative monitoring system, alternative reference method, or any other alternative for a CEMS required under this rule:

(1) No owner or operator of a mercury budget unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this section without having obtained prior written approval in accordance with subsection (o).

(2) No owner or operator of a mercury budget unit shall operate the unit so as to discharge, or allow to be discharged, mercury emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this section and 40 CFR 75, Subpart I\*.

(3) No owner or operator of a mercury budget unit shall disrupt the CEMS, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording mercury mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this section and 40 CFR 75, Subpart I\*.

(4) No owner or operator of a mercury budget unit shall retire or permanently discontinue use of the CEMS, any component thereof, or any other approved monitoring system under this section, except under any one (1) of the following circumstances:

(A) During the period that the unit is covered by an exemption under section 3 of this rule that is in effect.

(B) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this section and 40 CFR 75, Subpart I\*, by the department for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system.

(C) The mercury designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with subsection (h)(3)(A).

(f) The owner or operator of a mercury unit is subject to the applicable provisions of 40 CFR 75\* concerning units in long term cold storage.

(g) The owner or operator of a mercury budget unit shall be exempt from the initial certification requirements of this section for a monitoring system under subsection (b)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with 40 CFR 75\*.

(2) The applicable quality-assurance and quality-control requirements of 40 CFR 75.21\* and 40 CFR 75, Appendix B\*, are fully met for the certified monitoring system described in subdivision (1).

The recertification provisions of this subsection and subsections (h) through (j) shall apply to a monitoring system under subsection (b)(1) exempt from initial certification requirements under this subsection.

(h) Except as provided in subsection (g), the owner or operator of a mercury budget unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (that is, a CEMS and an excepted monitoring system (sorbet trap monitoring system) under 40 CFR 75.15\*) under subsection (b)(1). The owner or operator of a unit that qualifies to use the mercury low mass emissions excepted monitoring methodology under 40 CFR 75.81(b)\* or that qualifies to use an alternative monitoring system under 40 CFR 75, Subpart E\* shall comply with the procedures in subsection (i) or (j), respectively:

(1) The owner or operator shall ensure that each continuous monitoring system under subsection (b)(1), including the automated DAHS, successfully completes all of the initial certification testing required under 40 CFR 75.20\* by the applicable deadline in subsection (c). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this rule in a location where no such monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20\* is required.

(2) Whenever the owner or operator makes a replacement, modification, or change in any certified CEMS, or an excepted monitoring system (sorbet trap monitoring system) under 40 CFR 75.15\*, under subsection (b)(1) that may significantly affect the ability of the system to accurately measure or record mercury mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of 40 CFR 75.21\* or 40 CFR 75, Appendix B\*, the owner or operator shall recertify the monitoring system in accordance with 40 CFR 75.20(b)\*. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each CEMS, and each excepted monitoring system (sorbet trap monitoring system) under 40 CFR 75.15\*, whose accuracy is potentially affected by the change, in accordance with 40 CFR 75.20(b)\*. Changes to a CEMS that require recertification include, but are not limited to:

(A) replacement of the analyzer;

(B) complete replacement of an existing CEMS; or

(C) change in location or orientation of the sampling probe or site.

(3) Clauses (A) through (D) apply to both initial certification and recertification of a continuous monitoring system under subsection (b)(1). For recertifications, replace the words "certification" and "initial certification" with the word "recertification", replace the word "certified" with the word "recertified", and follow the procedures in 40 CFR 75.20(b)(5)\* in lieu of the procedures in clause (E). Requirements for the certification approval process for initial certification, recertification, and loss of certification are as follows:

(A) The mercury designated representative shall submit to the:

(i) department;

(ii) appropriate U.S. EPA Regional Office; and

(iii) U.S. EPA;

written notice of the dates of certification testing, in accordance with subsection (m).

(B) The mercury designated representative shall submit to the department a certification application for each monitoring system. A complete certification application shall include the information specified in 40 CFR 75.63\*.

(C) The provisional certification date for a monitoring system shall be determined in accordance with 40 CFR 75.20(a)(3)\*. A provisionally certified monitoring system may be used under the mercury



budget trading program for a period not to exceed one hundred twenty (120) days after receipt by the department of the complete certification application for the monitoring system under clause (B). Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of 40 CFR 75\*, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the department does not invalidate the provisional certification by issuing a notice of disapproval within one hundred twenty (120) days of the date of receipt of the complete certification application by the department.

(D) The department will issue a written notice of approval or disapproval of the certification application to the owner or operator within one hundred twenty (120) days of receipt of the complete certification application under clause (B). In the event the department does not issue such a notice within such one hundred twenty (120) day period, each monitoring system that meets the applicable performance requirements of 40 CFR 75\* and is included in the certification application will be deemed certified for use under the mercury budget trading program. The issuance of notices shall be as follows:

(i) If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of 40 CFR 75\*, then the department will issue a written notice of approval of the certification application within one hundred twenty (120) days of receipt.

(ii) If the certification application is not complete, then the department will issue a written notice of incompleteness that sets a reasonable date by which the mercury designated representative must submit the additional information required to complete the certification application. If the mercury designated representative does not comply with the notice of incompleteness by the specified date, then the department may issue a notice of disapproval under item (iii). The one hundred twenty (120) day review period shall not begin before receipt of a complete certification application.

(iii) If the certification application shows that any monitoring system does not meet the performance requirements of 40 CFR 75\* or if the certification application is incomplete and the requirement for disapproval under item (ii) is met, then the department will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the department and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification, as defined under 40 CFR 75.20(a)(3)\*. The owner or operator shall follow the procedures for loss of certification in clause (E) for each monitoring system that is disapproved for initial certification.

(iv) The department may issue a notice of disapproval of the certification status of a monitor in accordance with subsection (I).

(E) If the department issues a notice of disapproval of a certification application under clause (D)(iii) or a notice of disapproval of certification status under clause (D)(iv), then the following shall apply:

(i) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under 40 CFR 75.20(a)(4)(iii)\* or 40 CFR 75.21(e)\* and continuing until the applicable date and hour specified under 40 CFR 75.20(a)(5)(i)\*:

(AA) For a disapproved mercury pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of mercury and the maximum potential flow rate, as defined in 40 CFR 75, Appendix A, Sections 2.1.7.1 and 2.1.4.1\*.

(BB) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO<sub>2</sub> concentration or the minimum potential O<sub>2</sub> concentration, as applicable, as defined in 40 CFR 75, Appendix A, Sections 2.1.5, 2.1.3.1, and 2.1.3.2\*.

(CC) For a disapproved excepted monitoring system (sorbent trap monitoring system) under 40 CFR 75.15\* and disapproved flow monitor, respectively, the maximum potential concentration of mercury and maximum potential flow rate, as defined in 40 CFR 75, Appendix A, Sections 2.1.7.1 and 2.1.4.1\*.

(ii) The mercury designated representative shall submit a notification of certification retest dates and a new certification application in accordance with clauses (A) and (B).

(iii) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the department's notice of disapproval, not later than thirty (30) unit operating days after the date of issuance of the notice of disapproval.

(i) The owner or operator of a unit qualified to use the mercury low mass emissions (HgLME) excepted methodology under 40 CFR 75.81(b)\* shall meet the applicable certification and recertification requirements in 40 CFR 75.81(c) through 40 CFR 75.81(f)\*.



(j) The mercury designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the U.S. EPA under 40 CFR 75, Subpart E\*, shall comply with the applicable notification and application procedures of 40 CFR 75.20(f)\*.

(k) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of 40 CFR 75\*, data shall be substituted using the applicable missing data procedures in 40 CFR 75, Subpart D\*.

(l) Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under subsections (g) through (j) or the applicable provisions of 40 CFR 75\*, both at the time of the initial certification or recertification application submission and at the time of the audit, the department will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this subsection, an audit shall be either a field audit or an audit of any information submitted to the department or the U.S. EPA. By issuing the notice of disapproval, the department revokes, prospectively, the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in subsections (g) through (j) for each disapproved monitoring system.

(m) The mercury designated representative for a mercury budget unit shall submit written notice to the department and the U.S. EPA in accordance with 40 CFR 75.61\*.

(n) The mercury designated representative shall comply with all record keeping and reporting requirements in this subsection, the applicable record keeping and reporting requirements of 40 CFR 75.84\*, and the requirements of section 6(e)(1) of this rule as follows:

(1) The owner or operator of a mercury budget unit shall comply with the requirements of 40 CFR 75.84(e)\*.

(2) The mercury designated representative shall submit an application to the department within forty-five (45) days after completing all initial certification or recertification tests required under subsections (g) through (j), including the information required under 40 CFR 75.63\*.

(3) The mercury designated representative shall submit quarterly reports, as follows:

(A) Report the mercury mass emissions data and heat input data for the mercury budget unit, in an electronic format prescribed by the U.S. EPA, for each calendar quarter beginning with:

(i) for a unit that commences commercial operation before July 1, 2008, the calendar quarter covering January 1, 2009, through March 31, 2009; or

(ii) for a unit that commences commercial operation on or after July 1, 2008, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under subsection (c), unless that quarter is the third or fourth quarter of 2008, in which case reporting shall commence in the quarter covering January 1, 2009, through March 31, 2009.

(B) Submit each quarterly report to the U.S. EPA within thirty (30) days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in 40 CFR 75.84(f)\*.

(C) For mercury budget units that are also subject to an acid rain emissions limitation or the CAIR NO<sub>x</sub> annual trading program, CAIR SO<sub>2</sub> trading program, or CAIR NO<sub>x</sub> ozone season trading program, quarterly reports shall include the applicable data and information required by 40 CFR 75, Subparts F through H\*, as applicable, in addition to the mercury mass emission data, heat input data, and other information required by this section.

(4) The mercury designated representative shall submit to the U.S. EPA a compliance certification, in a format prescribed by the U.S. EPA, in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state the following:

(A) The monitoring data submitted were recorded in accordance with the applicable requirements of this section and 40 CFR 75\*, including the quality assurance procedures and specifications.

**(B) For a unit with add-on mercury emission controls, a flue gas desulfurization system, a selective catalytic reduction system, or a compact hybrid particulate collector system and for all hours where mercury data are substituted in accordance with 40 CFR 75.34(a)(1)\*:**

- (i) the mercury add-on emission controls, flue gas desulfurization system, selective catalytic reduction system, or compact hybrid particulate collector system were operating within the range of parameters listed in the quality assurance or quality control program under 40 CFR 75, Appendix B\*; or**
- (ii) with regard to a flue gas desulfurization system or a selective catalytic reduction system, quality-assured SO<sub>2</sub> emission data recorded in accordance with 40 CFR 75\* document that the flue gas desulfurization system, or quality-assured NO<sub>x</sub> emission data recorded in accordance with 40 CFR 75\* document that the selective catalytic system was operating properly, as applicable; and the substitute data values do not systematically underestimate mercury emissions.**

**(o) The mercury designated representative of a mercury budget unit may submit a petition under 40 CFR 75.66\* to the U.S. EPA requesting approval to apply an alternative to any requirement of this section. Application of an alternative to any requirement of this section is in accordance with this section only to the extent that the petition is approved in writing by the U.S. EPA, in consultation with the department.**

**\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.**

*(Air Pollution Control Board; [326 IAC 24-4-11](#))*

#### [Notice of Public Hearing](#)

*Posted: 06/27/2007 by Legislative Services Agency*  
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