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Rich Leukroth

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To: david.menotti@shawpittman.com, Robert.J.Giraud@USA.dupont.com
cc: John Blouin/DC/USEPA/US@EPA, Greg Fritz/DC/USEPA/US@EPA
Subject: January 13 fluoropolymer ECA discussions

Attached is an electronic pdf file of Draft #5 of the ECA document. As noted on the document cover page this reflects changes we discussed, includes additional changes identified by EPA and identifies areas for further discussion.



ECA_FluoroInc_dft1_13_04.PD

Richard W. Leukroth, Jr.
Environmental Scientist / Toxicologist
Chemical Control Division
U.S. Environmental Protection Agency
Mail Stop 7405; Room 4328 S
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Phone: 202-564-8167
FAX: 202-564-4765
E-mail: leukroth.rich@epa.gov



DRAFT #5 TO PFOA ECA PROCESS DRAFTING COMMITTEE

**ENFORCEABLE CONSENT AGREEMENT
FOR
THE LABORATORY-SCALE INCINERATION
TESTING OF FLUOROPOLYMERS**

Docket No. OPPT - [YEAR] - [EDOCKET NO.]

**[DRAFT 1/13/04]
[Month Year]**

NOTE TO DRAFTING COMMITTEE:

This 1/13/04 draft incorporates changes as discussed at the 1/6/04 meeting.

- 1) Red text indicates places where suggested revisions or **new** text has been inserted since the last discussions. Strikeout shows text to be deleted.
- 2) ***** Follow-on Discussion** indicates areas for further discussion. This includes original text, proposed changes, and, in some cases, alternative text.
- 3) ***** IMPASSE DISCUSSION POINT** Provides a summary of differing views, original text, proposed changes, and in some cases, alternative language.

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ENFORCEABLE CONSENT AGREEMENT FOR THE LABORATORY SCALE
INCINERATION TESTING OF FLUOROPOLYMERS

Docket No. [OPPT-?YEAR-EDOCKET NO. XXXX?]

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1 **I. INTRODUCTION**

2
3 Under the authority of section 4 of the Toxic Substances Control Act (TSCA), 15 U.S.C.
4 2603, and 40 CFR Part 790 of the Agency's implementing regulations, the United States
5 Environmental Protection Agency (EPA) and Asahi Glass Fluoropolymers USA, Inc., Daikin America,
6 Inc., Dyneon, LLC, and E.I. du Pont de Nemours and Company (hereinafter collectively "the
7 Companies") enter into this enforceable consent agreement (ECA). This ECA will take effect on the
8 date of publication of the notice in the Federal Register announcing the issuance of the testing consent
9 order (Order) that incorporates this ECA.

10
11 On April 16, 2003, EPA initiated a public process to negotiate enforceable consent agreements
12 (ECAs) under section 4 of TSCA concerning perfluorooctanoic acid (PFOA) and fluorinated telomers
13 to develop environmental fate and transport information, as well as relevant information to enhance
14 understanding of the sources of PFOA in the environment and the pathways by which human exposure
15 to PFOA is occurring (68 FR 18626; April 16, 2003). The goal of the ECAs resulting from these
16 public discussions is to develop data relevant to identifying the pathway or pathways that result in
17 exposures to PFOA by air, water, soil, or food; and to characterize how PFOA gets into those
18 pathways (including the products or processes that are responsible for the presence of PFOA in the
19 environment). EPA anticipates that the data to be developed under such ECAs will be beyond or
20 supplemental to that of ongoing testing efforts described under industry letters of intent (LOIs) (Refs 1-
21 4). [OPPT-2003-0012-0007,0012,0013,0016]

22
23 In preparation for the June 6, 2003, public meeting, EPA developed a preliminary framework
24 document outlining data needs that the Agency deemed appropriate to address the outstanding PFOA
25 source and exposure questions identified in the *Federal Register* notice of April 16, 2003 (Ref
26 5)[OPPT-2003-0012-0056]. The intent of EPA's preliminary framework document was to serve as a
27 discussion guide for the June 6, 2003, public meeting and to aid in distinguishing between outstanding
28 EPA data needs and industry LOI commitments. The preliminary framework document was not a
29 predetermined list of information needs defining the outcome of the ECA process.

30
31 This ECA provides for a laboratory-scale incineration testing program of fluoropolymers, which
32 is one of the data needs identified in EPA's preliminary framework document for PFOA. On June 6,
33 2003, the PFOA Plenary Group (consisting of EPA and all interested parties) acknowledged such a
34 testing program as an opportunity for ECA development and tasked the Fluoropolymer Technical
35 Workgroup to work out the details that could be incorporated into an ECA between test sponsors and
36 EPA. On July 9, 2003, the Fluoropolymer Technical Workgroup received proposals from the
37 Companies and EPA for incineration testing of fluoropolymers. Details of this testing program were
38 developed by members of the Fluoropolymer Incineration Subgroup of the Fluoropolymer Technical

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1 Workgroup during subsequent meetings. On [Month/Date], 2003, the Fluoropolymer Technical
2 Workgroup acknowledged that this testing program had sufficient merit for consideration by the Plenary
3 Group. On [Month/Date], 2003, the Plenary Group discussed the merit of this testing program and
4 recommended that EPA consider entering into an ECA with test sponsors. The official record for the
5 development of this ECA, including the public version, is established under EPA docket control number
6 [OPPT-2003-0012]. The procedures for ECA negotiations are described at 40 CFR 790.22(b). The
7 official record for the testing conducted under this ECA is Docket No. [OPPT-YEAR-?? XXXX?]
8
9

10 **II. TEST SUBSTANCES**

11
12 ~~The chemicals subject to this ECA are the fluoropolymers listed in Appendix A.1.~~
13 For the purposes of testing under this ECA the chemicals listed in Appendix A.1¹ will be combined
14 formulated to form four composites (see Appendix A.3 and A.4). ~~These four composites are the~~
15 ~~subject test substances under this ECA.~~ These composites are representative of fluoropolymer products
16 manufactured by the Companies that are currently available in the marketplace. The Companies will
17 provide the fluoropolymers specified in Appendix A.1 for incorporation into the composites that will be
18 tested under this ECA.² Criteria for the selection of each composite to be tested under this ECA are
19 described in Appendix A.2 of this ECA¹. ~~The component composition of each composite is described~~
20 ~~in Appendix A.3 of this ECA¹.~~ The four composites to be tested are defined for purposes of this ECA
21 as:

- 22
23 (A) Dry Non-Melt PTFE Resin Composite: Ethene, tetrafluoro-,
24 homopolymer, CAS No. 9002-84-0,
25
26 (B) Dry Melt Fluoropolymer Resin Composite: (containing: 1-Propene,
27 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene), CAS No.
28 25067-11-2; Propane, 1,1,1,2,2,3,3-heptafluoro-3-
29 [(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene, CAS No.
30 26655-00-5; Ethene, tetrafluoro-, polymer with
31 trifluoro(pentafluoroethoxy)ethene, CAS No. 31784-04-0; 1-Propene,

¹ There is a Public and CBI version of Appendices A.1, ~~A.2, A.3, and A.4~~ [To be determined] because some of the Companies have asserted that details describing one or more of the chemicals subject to this ECA are entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

² See the Tables in Part XXIV. of this ECA for the chemicals to be supplied by each Company.

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1 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and
2 tetrafluoroethene, CAS No. 25190-89-0; 1-Hexene,
3 3,3,4,4,5,5,6,6,6-nonafluoro-, polymer with ethene and
4 tetrafluoroethene, CAS No. 68258-85-5; and, 1-Propene,
5 1,1,2,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene,
6 CAS No. 35560-16-8),
7

8 (C) Dry Non-Melt Fluoroelastomer Gum Composite: (containing: 1-
9 Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene,
10 CAS No. 9011-17-0; 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer
11 with 1,1-difluoroethene and tetrafluoroethene, CAS No. 25190-89-0;
12 1-Propene, polymer with 1,1-difluoroethene and tetrafluoroethene,
13 CAS No. 54675-89-7; 1-Propene, polymer with tetrafluoroethene,
14 CAS No. 27029-05-6; Ethene, tetrafluoro-, polymer with
15 trifluoro(trifluoromethoxy) ethene, CAS No. 26425-79-6; and, Ethene,
16 chlorotrifluoro-, polymer with 1,1-difluoroethene, CAS No. 9010-75-
17 7; and ??generic name??. **Accession No. ???????**, and
18

19 (D) Aqueous Fluoropolymer Dispersions Composite: (containing: Ethene,
20 tetrafluoro-, polymer with trifluoro(pentafluoroethoxy) ethene, CAS
21 No. 31784-04-0; Ethene, tetrafluoro-, homopolymer, CAS No.
22 9002-84-0; 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with
23 tetrafluoroethene), CAS No. 25067-11-2; Propane, 1,1,1,2,2,3,3-
24 heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene,
25 CAS No. 26655-00-5; Ethene, tetrafluoro-, polymer with
26 trifluoro(pentafluoroethoxy)ethene, CAS No. 31784-04-0; and 1-
27 Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and
28 tetrafluoroethene, CAS No. 25190-89-0.
29

30 The procedure for constructing each composite is described in Appendix A.4 to this ECA¹.
31 The polymer components for each composite will be unfilled first quality product polymer, substantially
32 free of inorganic constituents. Each component of the four composites to be tested under this ECA will
33 be accompanied by a certificate of analysis showing it to meet applicable product specifications.
34

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1 **III. OBLIGATION OF SIGNATORY COMPANIES**

2
3 A. The Companies are bound by the terms of this ECA as specified below.

4
5 B. Each Company shall be responsible for supplying the test substance(s) it manufacturers
6 for incorporation into the composite(s) to be tested under this ECA, as specified on each Company
7 signature page and in Appendix A.3. The schedule for the testing program includes the deadline date
8 by which the Companies must submit their contribution(s) to the facility(ies) that will be assembling the
9 composites to be tested under this ECA. Any Company failing to comply with this ECA requirement
10 will be in violation of this ECA as described in 40 CFR 790.65 (see part XII of this ECA). In the event
11 that one or more of the Companies are in violation as described above then the remaining Companies
12 will inform EPA of the problem and request an EPA determination on how to proceed with the testing
13 program described under this ECA. Each Company required to contribute to a particular composite is
14 obligated to complete the testing required by this ECA for that composite. A Company shall not be
15 responsible for any failure to perform its obligation under this ECA that is caused by circumstances
16 beyond ~~their~~ its control, that the Company could not have prevented through the exercise of due
17 diligence. Under such circumstances the Company will consult with EPA to reach agreement on what
18 modifications, if any, are needed in the test plan or scope of testing (see Part X of this ECA regarding
19 modification to this ECA as contained in 40 CFR 790.68).

20
21 C. The Companies recognize that to implement this ECA, EPA will issue an Order under
22 section 4 of TSCA that incorporates the terms of this ECA (see Appendix G). The Companies agree
23 that all terms of this ECA will take effect on the date of publication of the notice in the Federal Register
24 announcing the issuance of the Order that incorporates this ECA, and all time periods that begin on the
25 effective date, will be treated as beginning on that publication date.

26
27
28 **IV. PRINCIPAL TEST SPONSOR**

29
30 The Companies have identified the Fluoropolymer Manufacturers Group (FMG), to
31 communicate with EPA about schedules, study plans, protocols, test standards, and other aspects of
32 the testing program. EPA and the Companies agree that FMG has no legal responsibility for complying
33 with this ECA. Responsibility for complying with the ECA rests at all times with the Companies.

34
35
36 **V. PURPOSE OF THE TESTING PROGRAM**

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1 The purpose of the testing program specified by this ECA is to assess the potential for waste
2 incineration of fluoropolymers (see Part II and Appendix A.1 of this ECA) to emit PFOA, based on
3 quantitative determination of potential exhaust gas levels of PFOA that may emanate from laboratory-
4 scale combustion testing under conditions representative of typical municipal waste combustor
5 operations in the United States.
6

7 EPA believes that these incineration studies of fluoropolymers will develop data needed by the
8 Agency to determine whether municipal and/or medical waste incineration of fluoropolymers is a
9 potential source of PFOA that may contribute as a pathway to environmental and human exposures.
10 The data may also be used to inform screening level human and environmental exposure assessments.
11 In addition, the data may also be used by other Federal agencies (e.g., the Agency for Toxic
12 Substances and Disease Registry (ATSDR), the National Institute for Occupational Safety and Health
13 (NIOSH), the Occupational Safety and Health Administration (OSHA), and the Consumer Product
14 Safety Commission (CPSC), the Food and Drug Administration (FDA)) in assessing chemical risks and
15 in taking appropriate actions within their programs. It is intended that the data generated under this
16 ECA will identify whether the incineration of fluoropolymers contributes to the sources and pathways of
17 environmental and human exposure to PFOA.
18

19
20 **VI. SCOPE OF THE PROGRAM**

21
22 The scope of this testing program is described in Paragraphs VII and VIII below and will
23 consist of the testing listed in Table 1 in accordance with the test standards specified in Table 1 and
24 described in Appendix B.1 and C.1 - C.2.5 as annotated by Appendix D.1- D.4 to this ECA ("Test
25 Standards") and submitting the reports and documents specified in Table 1 in accordance with the
26 deadlines set forth in Table 1 and described in Appendices C.1 - C.2.5 and E.1- E.2.
27

28
29 **VII. DESCRIPTION OF THE TESTING PROGRAM**

30
31 The program has two segments as follows: Phase I PFOA Transport Testing and Phase II
32 Fluoropolymer Incineration Testing.
33

34 A. Phase I PFOA Transport Testing: Phase I will consist of quantitative transport
35 efficiency testing for PFOA. Phase I testing for PFOA transport efficiency is specified in the Phase I
36 PFOA Transport Testing segment of Table 1 and described in Appendix C.1 as annotated by
37 Appendix D.1 and D.2. At the conclusion of Phase I testing, the Companies, will provide EPA with a
38 letter report summarizing the results. In the event that the transport efficiency of PFOA or total fluorine

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1 (as determined by the formulas in Appendix C.1) is equal to or greater than 70%, testing will proceed
2 to Phase II Fluoropolymer Incineration Testing. In the event the transport efficiency of PFOA or total
3 fluorine (as determined by the formulas in Appendix C.1) is less than 70%, the Companies will initiate a
4 technical consultation with EPA (see Part VII. B. and Part VIII of this ECA).

5
6 B. Phase II Fluoropolymer Incineration Testing: This testing, specified in the Phase II
7 Fluoropolymer Incineration Testing segment of Table 1 and described in Appendix C.2.1 - C.2.6 as
8 annotated by Appendices B.1, D.1, D.2, and E.2; and will include the following for each fluoropolymer
9 composite to be tested under this ECA: 1) elemental analysis, 2) combustion stoichiometry, 3)
10 thermogravimetric analysis, 4) laboratory-scale combustion testing, and, 5) if required under this ECA,³
11 release assessment reporting.

12
13
14 **VIII. PHASE I TECHNICAL CONSULTATION**

15
16 A. Following completion of Phase I and prior to the initiation of Phase II, the Companies will
17 submit a letter report to EPA with the results for the recovery across the laboratory-scale thermal
18 reactor system, as determined from Phase I testing.

19
20 B. If the recovery for either PFOA or Total Fluorine (as determined by the formulas in
21 Appendix C.1) is greater than or equal to 70%, the Companies will proceed to Phase II testing.

22
23 C. If the recovery for both PFOA and Total Fluorine (as determined by the formulas in
24 Appendix C.1) is less than 70%, a Technical consultation will be held between the Companies and
25 EPA. The objective of the Technical Consultation will be to reach agreement on how to proceed. The
26 technical consultation will review the outcomes of the Phase I PFOA Transport Efficiency Testing,
27 discuss the feasibility of proceeding with Phase II Testing as described in this ECA, and discuss
28 whether additional modifications are needed to the test standards and/or protocols described in
29 Appendices B, C and D for Phase I PFOA Transport Testing and/or Phase II Fluoropolymer
30 Incineration Testing. Specifically, the technical consultation will address: (1) whether the data from the

³ In the event that Phase II Fluoropolymer Incineration Testing identifies measurable levels of PFOA (where measurable PFOA is defined to be at or above the limit of quantitation (LOQ) as defined in Appendix D.3) resulting from the incineration testing for any or all of the fluoropolymer composites tested under this ECA (see Part II and Appendix A.1 - A.4 to this ECA), the Companies will prepare a release assessment report (see Table 1 and Appendix E.2 to this ECA) to place in perspective the relevance of such measurable levels in the laboratory-scale incineration testing results with respect to full-scale municipal and/or medical waste incinerator operations in the United States.

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1 Phase I PFOA Transport Testing segment provide a sufficient basis for conducting the laboratory-scale
2 incineration testing specified in the Phase II Fluoropolymer Incineration Testing segment; (2) the nature
3 and scope of any additional Phase I work that may be required prior to the commencement of Phase II
4 Testing and reporting (e.g., modifications to the Advanced Thermal Reactor System) as described in
5 Part VII. B. of this ECA), and/or (3) the nature and scope of modifications to the protocols and test
6 standards for Phase I and/or Phase II testing, ~~or the identification of additional testing,~~ that may be
7 needed to complete the testing under this ECA.

8
9 Possible outcomes of the Technical Consultation include, ~~but are not limited to,~~ the following:

- 10 1. An agreement to conduct additional Phase I testing,
11 and the schedule and standards for such testing, to
12 inform whether and under what conditions to conduct
13 Phase II testing.
- 14
15 2. An agreement to proceed into Phase II testing with or
16 without agreed-to modifications to plans, test standards
17 and schedules for Phase II testing.
- 18
19 3. ~~An agreement to conduct such other testing, and the~~
20 ~~schedule and standards for such testing, in Phase II that~~
21 ~~the Companies and EPA agree may be appropriate, in~~
22 ~~light of Phase I results, to assist in determining the~~
23 ~~potential for release of PFOA from fluoropolymers~~
24 ~~during incineration.~~
- 25
26 4. No agreement on a path forward, in which case the Companies' obligations to
27 conduct testing or reporting beyond Phase I PFOA Transport Testing as
28 described in this ECA are terminated.

29
30 D. EPA shall place in the ~~record for this action~~ docket (~~OPPT-YEAR-??XXXX??~~) a
31 summary of any Technical Consultation that is held under this paragraph. In the event modifications to
32 ~~the scope of the testing program~~ are agreed to, EPA and the Companies will revise this ECA, as well
33 as Table 1 and the Appendices, as appropriate. ~~If EPA determines that any changes to the scope of~~
34 ~~the testing program are significant, an opportunity for public participation will be provided. EPA will~~
35 ~~publish a request for public comments and/or announce a public meeting in the Federal Register.~~
36 Following the comment period, EPA will place in the record for this action a summary of the Technical
37 Consultation, a copy of comments received, a copy of the letter sent to the Companies explaining the

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1 ~~decisions and outcomes of the technical consultation, and a copy of the modified ECA. This process is~~
2 ~~in lieu of the modification procedures described in 40 CFR 790.68 (see Part X of this ECA).~~

3
4
5 **IX. STANDARDS FOR CONDUCTING TESTING**

6
7 A. Testing for the laboratory-scale incineration of ~~the four fluoropolymer test substance~~
8 ~~composites described in Part II of this ECA and containing the fluoropolymers described in Part II and~~
9 ~~listed in Appendix A.1 of this ECA must be conducted in accordance with the~~ Test Standards listed in
10 Table 1 and described in Appendices B.1 and C.1 - C.2 as annotated in Appendices D.1- D.3 to this
11 ECA. Certain provisions of these Test Standards are considered to **be mandatory** and are referred to
12 as "requirements." These requirements are identified by the use of the word "shall" in the text of the
13 Test Standard. For the purpose of this ECA, the words "will" and "must," if they appear in the Test
14 Standards, are considered equivalent to the word "shall" and therefore delineate a test requirement to
15 be followed or met.

16
17 Provisions that are not mandatory, and are therefore only recommended, are identified by the
18 use of "should" statements. In the event such "should" provisions are not followed, the Companies will
19 not be deemed by EPA to be in violation of this ECA and will not be subject to penalties or other
20 enforcement actions, as described in Part XII. of this ECA. However, in such cases, EPA will use its
21 professional judgement to determine the scientific adequacy of the test results and any repeat testing
22 that is determined by EPA to be necessary will be required either under a separate ECA or pursuant to
23 a rule promulgated under section 4(a) of TSCA, 15 U.S.C. 2603(a).

24
25 B. The Companies and EPA will consult in a good faith effort to consider the need for Test
26 Standard modifications if either EPA or the Companies desire such modifications. Modifications to this
27 ECA will be governed by 40 CFR 790.68 (see Part XI. of this ECA).

28
29 ***** IMPASSE DISCUSSION POINT:**

30 [SUMMARY: The FMG will provide a table demonstrating how the QAPjP will address the
31 GLPS requirements under 40 CFR part 792. FMG indicates that the University of Dayton
32 laboratory can not comply with GLPS requirements for testing under this ECA. In addition,
33 FMG expresses concern about duplication between QAPjP and study plan requirements. EPA
34 maintains that 1) study plan(s) are required, 2) all studies must be conducted in accordance
35 with GLP and 3) a separate QAPjP must be submitted.]

36
37 {original text}

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1 C. All testing required by this ECA must be conducted in accordance with the EPA Good
2 Laboratory Practice Standards (GLPS) found at 40 CFR part 792.

3
4 {12/22/03 Revised EPA placeholder text with supplemental text in red}

5 C. All testing required by this ECA must be conducted in accordance with the
6 EPA Good Laboratory Practice Standards (GLPS) found at 40 CFR part 792, except ~~as~~
7 ~~provided in Appendix F~~ as follows: ~~..... (list to be developed from FMG table).~~

8
9 {11/24/03 FMG proposed revisions}

10 C. All testing required by this ECA must be conducted in accordance with the EPA Good
11 Laboratory Practice Standards (GLPS) found at 40 CFR part 792: a Quality Assurance Project
12 Plan prepared in accordance with Appendix YYY.

13
14
15 **X. STUDY PLANS**

16
17 The Companies will submit a study plan to EPA for each test conducted pursuant to this ECA
18 prior to the initiation of testing in accordance with 40 CFR 790.62. (For this ECA, EPA will not
19 require the plans under this Part of the ECA to be submitted "no later than 45 days prior to the initiation
20 of testing," as specified at 40 CFR 790.62(a)). The content of the study plan plans submitted to EPA
21 will comply with 40 CFR 790.62(b). ~~The A study plan may cross reference those specific portions of~~
22 ~~Table 1 and/or the Appendices. This ECA and/or its appendices satisfy the requirements of 40 CFR~~
23 ~~790.62(b)(2), (8), (9), and (10). A study plan may cross reference the applicable provisions of the~~
24 ~~ECA and/or its appendices to satisfy these~~
25 ~~requirements.~~ Also pursuant to Part IX. (C) of this ECA, the Companies must submit ~~a~~ Quality
26 Assurance Project Plan Plan(s) (QAPjP) prepared in accordance with Appendix F EPA guidance.⁴
27 Modifications to the study plan(s) under this part of the ECA will be governed by the procedures of 40
28 CFR 790.62(c) except that the 15 day time periods in 40 CFR 790.62(c) (2) and (3) will be 45 day
29 time periods. All study plan(s) will become part of the official record (Docket Control Number
30 [OPPT-YEAR-?? XXXX ??]).

31
32
33 **XI. MODIFICATIONS TO THIS ENFORCEABLE CONSENT AGREEMENT**

⁴ Guidance for developing Quality Assurance Project Plans can be found in the EPA document EPA QA/G-5: *Guidance for Quality Assurance Project Plans*, prepared by: Office of Environmental Information, EPA, December 2002. This is also available from the EPA website at <http://epa.GOV/Quality/qs-docs>.

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1 Except as provided in this agreement, modifications to this ECA, if any, will be made
2 according to the procedures contained in 40 CFR 790.68.
3
4
5
6
7
8

9 **XII. FAILURE TO COMPLY WITH THE ENFORCEABLE CONSENT AGREEMENT**

10
11 ***** IMPASSE DISCUSSION POINT:**

12 [FMG views that EPA boilerplate text referring to what constitutes a failure to comply,
13 citizen's civil action, fines, and injunction to compel exceed the 40 CFR 790.60(a)(13)
14 requirements and are unnecessary. EPA could agree provided that an additional clarification
15 sentence be added (see red inserted).]
16

17 {Original text}

18 The Companies acknowledge that a violation of the requirements of this ECA will constitute a
19 "prohibited act" under section 15(1) of TSCA, 15 U.S.C. 2614(1), and will trigger all provisions
20 applicable to a section 15 violation. In addition, the Companies acknowledge that noncompliance with
21 any term of this ECA by any Company will constitute conduct "in violation of this Act" under section
22 20(a)(1) of TSCA, 15 U.S.C. 2619(a)(1), and could result in a citizen's civil action.
23

24 Under the penalty provisions of section 16 of TSCA, 15 U.S.C. 2615, and the Federal Civil
25 Penalties Inflation Adjustment Act of 1990, 28 U.S.C. 2461 note, as amended by the Debt Collection
26 Improvement Act of 1996, 31 U.S.C. 3701 note, as implemented by 61 FR 69360 (December 31,
27 1996), a non-complying Company could be subject to a civil penalty of up to \$27,500 per violation,
28 with each day in violation potentially constituting a separate violation under section 15. Knowing or
29 willful violations may lead to the imposition of criminal penalties, or a fine of not more than \$27,500 for
30 each day of violation, or imprisonment for not more than one year, or both.
31

32 In addition, EPA could enforce this ECA pursuant to section 17 of TSCA, 15 U.S.C. 2616, by seeking
33 an injunction to compel adherence to the requirements of this ECA.
34

35 {1/6/04 FMG proposed strikeout with additional sentence provided by EPA in red}

36 The Companies acknowledge that a violation of the requirements of this ECA will
37 constitute a "prohibited act" under section 15(1) of TSCA, 15 U.S.C. 2614(1), and will trigger
38 all provisions applicable to a section 15 violation. Further information regarding the

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1 ~~implications of failure to comply with the consent agreement is provided in 40 CFR 790.65.~~
2 ~~In addition, the Companies acknowledge that noncompliance with any term of this ECA by any~~
3 ~~Company will constitute conduct "in violation of this Act" under section 20(a)(1) of TSCA, 15~~
4 ~~U.S.C. 2619(a)(1), and could result in a citizen's civil action.~~

5
6 ~~Under the penalty provisions of section 16 of TSCA, 15 U.S.C. 2615, and the Federal~~
7 ~~Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. 2461 note, as amended by the~~
8 ~~Debt Collection Improvement Act of 1996, 31 U.S.C. 3701 note, as implemented by 61 FR~~
9 ~~69360 (December 31, 1996), a non-complying Company could be subject to a civil penalty of~~
10 ~~up to \$27,500 per violation, with each day in violation potentially constituting a separate~~
11 ~~violation under section 15. Knowing or willful violations may lead to the imposition of criminal~~
12 ~~penalties, or a fine of not more than \$27,500 for each day of violation, or imprisonment for not~~
13 ~~more than one year, or both. In addition, EPA could enforce this ECA pursuant to section 17~~
14 ~~of TSCA, 15 U.S.C. 2616, by seeking an injunction to compel adherence to the requirements~~
15 ~~of this ECA.~~

16
17
18 **XIII. EPA MONITORING OF ENFORCEABLE CONSENT AGREEMENT TESTING**

19
20 EPA may conduct monitoring activities of the testing conducted under this ECA such as
21 laboratory inspections and study audits, as permitted under section 11 of TSCA, 15 U.S.C. 2610.

22
23
24 **XIV. SUBMISSIONS TO EPA AND CONFIDENTIALITY OF INFORMATION**

25 ***** IMPASSE DISCUSSION POINT:**

26 [Summary - EPA considered the 12/10/03 FMG proposed language and provided clarification
27 text on 12/22/03. FMG rejected EPAs clarification and asked EPA to reconsider. On 1/6/04
28 EPA again rejected the FMG language. EPA considers this to be boilerplate language
29 consistent with past practice.]

30
31 {Original text with 12/22/03 EPA addition in red}

32 A. All final reports must be submitted by the Companies to EPA by the dates specified in
33 Table 1 unless otherwise authorized by EPA pursuant to 40 CFR 790.68. A report will be deemed
34 submitted when it is date stamped on the day it is received in the Agency's Office of Pollution
35 Prevention and Toxics (OPPT) Document Control Office (see part ~~XIII-B~~ of this ECA).

36
37 {FMG proposed 12/10/03 additional text insert}

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1 **A. A paper copy of a document shall be deemed submitted when it is either**
2 **postmarked or placed in the hands of a commercial courier service for delivery to EPA at the**
3 **appropriate address specified above. Hand-delivered documents are deemed submitted upon**
4 **receipt. Electronically transmitted documents are deemed delivered upon transmission.**
5

6 In accordance with 40 CFR 790.62 (d), the Companies will submit interim progress reports to
7 EPA informing the Agency of any proposed changes in standards for the development of data, study
8 plans, or test schedules, and communicating with the Agency about laboratory inspections and other
9 matters affecting the progress of testing. The schedule for interim progress reports is specified in Table
10 1 of this ECA. ~~The information required in interim progress reports is specified in Appendix E.1.~~
11

12 **B. All documents submitted to EPA under this ECA must be identified by the Docket ID**
13 **Number (OPPT- Year - ?? XXXX ??) and the name: ECA on Laboratory-Scale Incineration Testing**
14 **of Fluoropolymers. Submissions made by mail should be sent to: Document Control Office (7407M),**
15 **Office of Pollution Prevention and Toxics (OPPT), Environmental Protection Agency, 1200**
16 **Pennsylvania Avenue, NW, Washington, DC 20460-0001. Submissions made by hand delivery or**
17 **courier should be delivered to: OPPT Document Control Office (DCO) in the EPA East Building,**
18 **Room 6428, 1201 Constitution Avenue, NW, Washington, DC and marked Attention: Docket ID**
19 **Number ~~OPPT- Year - ??XXXX??~~. The DCO is open from 8 a.m. to 4 p.m., Monday through**
20 **Friday, excluding legal holidays. The telephone number for the DCO is (202) 564-8930.**
21

22 ~~?? Do we need additional text regarding non-CBI electronic submissions??~~
23

24 **C. The Companies must submit six (6) paper copies of each version (Public and CBI) for**
25 **all reports described in Table 1 and Part VI A. and B. of this ECA. In addition, an electronic file of all**
26 **documents submitted under this ECA (marked as CBI where appropriate and in text-searchable, PDF**
27 **format) will be provided to EPA.**
28

29 **D. Any document submitted to EPA that contains data or information for which a**
30 **Signatory Company makes a claim of confidentiality (see Part XV of this ECA), must be submitted as**
31 **two separate versions. One version must be complete, with the information being claimed as**
32 **confidential marked in the manner described under 40 CFR 790.7. The other, public version must be**
33 **identical in all respects except that all of the information claimed as confidential shall be redacted. EPA**
34 **will place the public version in the Agency's docket. The complete version will be treated in**
35 **accordance with EPA confidentiality regulations in 40 CFR part 2 and 40 CFR 790.7.**
36

37 Data or other information that are considered to be CBI must not be submitted through EPA's
38 electronic public docket or by e-mail. Any part or all of data or other information claimed as CBI must

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1 be so marked. If the CBI submission is on diskette or CD ROM, mark the outside of the diskette or
2 CD ROM as CBI and then identify electronically within the diskette or CD ROM the specific
3 information that is CBI. Information marked as CBI will not be disclosed except in accordance with
4 procedures set forth in 40 CFR part 2 (see Part XV of this ECA).
5

6 Any claims of confidentiality for information submitted under this ECA will be made under the
7 terms of 40 CFR 790.7. If no claim of confidentiality is made by the submitter of the information at the
8 time of submission, the information will be deemed by EPA, in accordance with 40 CFR 790.7, to be
9 public, and may be made available to the public without further notice to the submitter. Information
10 claimed as confidential will be treated in accordance with the procedures in 40 CFR part 2 established
11 pursuant to section 14 of TSCA, 15 U.S.C. 2613.
12

13
14 **XV. PUBLICATION AND DISCLOSURE OF TEST RESULTS**

15
16 ***** Follow-on DISCUSSION POINT**

17 [Summary - FMG proposed 11/24/03 additional text to clarify conditions under which EPA can
18 share a CBI Document with another government agency. EPA struck this addition on
19 12/22/03 citing laws governing such distribution adequately addressed FMG concerns. During
20 further discussion, it became clear that additional clarification could be provided to meet
21 FMG's needs. Excerpt text from the OPPTS CBI manual was provided to FMG and
22 alternative language is suggested in red.]
23

24 All results of testing conducted pursuant to this ECA will be announced to the public by EPA in
25 accordance with the procedures specified in section 4(d) of TSCA, 15 U.S.C. 2603(d). Disclosure
26 by EPA of data generated by such testing to the public or other government agencies will be governed
27 by section 14(b) of TSCA, 15 U.S.C. 2613(b), and 40 CFR part 2. The CBI version of a document
28 will only be provided to another U.S. government organization in compliance with the procedures
29 described in the OPPTS TSCA CBI Procedure Manual.
30

31
32 {FMG 11/24/03 proposed additional text / struck by EPA 12/22/03}

33 The CBI version of a document will not be provided to another government agency unless that agency
34 has certified that it affords equivalent protection.
35

36
37 **XVI. OTHER RESPONSIBILITIES OF THE COMPANIES**
38

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1 A. The Companies will comply with the notification requirements of section 12(b)(1) of
2 TSCA, 15 U.S.C. 2611(b)(1), and 40 CFR part 707, subpart D, if they export or intend to export any
3 of the fluoropolymer chemicals listed in Appendix A.1 to this ECA ethene, tetrafluoro-homopolymer
4 (PTFE) (CAS No. 90002-84-0) or any of the composite test substances described in Part II and
5 Appendix A.3 of this ECA. Any other person who exports or intends to export any of the
6 fluoropolymer chemicals listed in Appendix A.1 to this ECA ethene, tetrafluoro-homopolymer (PTFE)
7 (CAS No. 90002-84-0) or any of the composite test substances described in Part II and Appendix
8 A.3 of this ECA is subject to the above cited export notification requirements
9

10 B. If any of the fluoropolymer chemicals listed in Appendix A.1 to this ECA become
11 subject to a rule promulgated under TSCA section 5(a)(2), 15 U.S.C. 2604(a)(2), governing significant
12 new uses of any of the fluoropolymer chemicals listed in Appendix A.1 to this ECA, then the
13 Companies will be subject to the data submission requirements imposed by section 5(b)(1)(A) of
14 TSCA, 15 U.S.C. 2604(b)(1)(A), as if the testing under this ECA had been required by a TSCA
15 section 4 test rule.
16

17
18 **XVII. SEVERABILITY OF ENFORCEABLE CONSENT AGREEMENT PROVISIONS**
19

20 In the event that one or more provisions of this ECA are determined by a court decision to be
21 unenforceable, the remaining provisions of this ECA will not be presumed to be valid, and EPA will
22 either initiate a rulemaking proceeding to require testing or publish in the Federal Register the reasons
23 for not initiating such a proceeding.
24

25
26 **XVIII. FINAL AGENCY ACTION**
27

28 For purposes of 5 U.S.C. 704, publication of the FR notice announcing the issuance of the
29 Order incorporating this ECA constitutes final agency action..
30

31
32 **XIX. PUBLIC RECORD**
33

34 EPA has established a public record which will contain this ECA, the Order that incorporates
35 this ECA, the Federal Register notice announcing issuance of the Order incorporating this ECA, and
36 any and all relevant information, subject to the confidentiality provisions of section 14(b) of TSCA and
37 40 CFR part 2. The official record for this ECA, including the public version, which does not include

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1 any information claimed as CBI, has been established under Docket Control Number [OPPT-YEAR-
2 ?? XXXX ??].
3

4 An electronic version of the public docket is available through EPA's electronic public docket
5 system, EPA Dockets. EPA Dockets may be accessed at <http://www.epa.gov/edocket/> to access the
6 index listing of the contents of the official public docket, and to access those documents in the public
7 docket that are available electronically. Although not all docket materials may be available
8 electronically, (for example the materials in the original dockets for this action, [AR-226 and OPPTS-
9 2003-0012], or materials under copyright), can be access any of the publicly available docket materials
10 through the EPA Docket Center, Rm. B102-Reading Room, EPA West, 1301 Constitution Ave.,
11 NW., Washington, DC. For materials available in the electronic docket, once in the system, select
12 "search," then key in the appropriate docket ID number [(OPPT-YEAR- ??XXXX??.)]
13

14
15 **XX. EFFECTIVENESS**
16

17 This ECA may be signed in separate counterparts. This ECA will not be effective unless signed
18 by each of the Companies and by EPA. This ECA will take effect on the date of publication of the
19 Federal Register notice announcing the issuance of the Order that incorporates this ECA.
20

21
22 **XXI. RIGHTS OF THE COMPANIES**
23

24 By signing this ECA, the Companies waive their right to challenge EPA's authority to assess
25 penalties for violations of the terms of this ECA. This waiver does not affect any other rights that the
26 Companies may have under TSCA, including the right to dispute the amount of any penalty or to
27 dispute factually whether a violation of the terms of this ECA has occurred, or to seek judicial review of
28 any rule that may be adopted by EPA that imposes requirements to test any of the fluoropolymer
29 chemicals listed in Appendix A.1 to this ECA.
30

31 ~~By signing this ECA, the Companies are not admitting that the requirements of TSCA Section 4~~
32 ~~have been satisfied for promulgating a test rule to generate the data required by this ECA. {Note:~~
33 ~~This block of text has been moved to Part XXII, see below}~~
34

35
36 **XXII. RESERVATION OF RIGHTS BY COMPANIES**
37

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1 By signing this ECA, the Companies are not admitting that the requirements of TSCA Section 4
2 have been satisfied for promulgating a test rule to generate the data required by this ECA.

3
4 The Companies contend that the documents generated for the incineration testing program
5 under this ECA are protected from public disclosure under 5 U.S.C. section 552(b)(4) and 15 U.S.C.
6 section 2613(a) and do not constitute studies subject to disclosure under 15 U.S.C. section 2613(b).
7 Accordingly, the public information disclosure provisions of this ECA are, in the view of the
8 Companies, a waiver of legal rights.

1 **XXIII. IDENTITY OF THE COMPANIES AND PRINCIPAL TEST SPONSOR**

2
3 The Principal Test Sponsor is:

4
5 Consortium for Incineration Testing (CIT) Fluoropolymer Manufacturers Group
6 **[? Name of technical contact person ?]**
7 **[? ADDRESS ?]**
8 **[? Phone Number ?]**
9

10
11 The Companies subject to this ECA are:

12
13
14 Asahi Glass Fluoropolymers USA, Inc.
15 **[? ADDRESS ?]**

16
17
18 Daikin America, Inc.
19 **[? ADDRESS ?]**

20
21
22 Dyneon, LLC
23 **[? ADDRESS ?]**

24
25
26 E.I. du Pont de Nemours and Company
27 **[? ADDRESS ?]**

28

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Special Page Header: ECA Copy # 3 Asahi Glass Fluoropolymers USA, Inc.

XXIV. SIGNATURE

TEST SPONSOR

Asahi Glass Fluoropolymers USA, Inc.¹

ECA Subject Chemicals for Asahi Glass Fluoropolymers USA, Inc.		
CAS No.	Chemical Name	Composite(s)

Company technical contact person for handling correspondence marked as "Confidential"

Name: _____
Title: _____
Address: _____
Phone Number: _____

Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]

¹ Data in the table lists the chemical(s) and composite contributions for which Asahi Glass Fluoropolymers USA, Inc. is responsible. The Company developed these data in response to EPA's letter of January 6, 2004. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

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Asahi Glass Fluoropolymers USA, Inc.
[? ADDRESS ?]

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Special Page Header: ECA Copy # 4

Daikin America, Inc.

XXIV. SIGNATURE

TEST SPONSOR

Daikin America, Inc.¹

CAS No.	Chemical Name	Composite(s)

Company technical contact person for handling correspondence marked as "Confidential"

Name: _____
Title: _____
Address: _____
Phone Number: _____

Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]
Daikin America, Inc.

¹ Data in the table lists the chemical(s) and composite contributions for which Daikin America, Inc. is responsible. The Company developed these data in response to EPA's letter of January 6, 2004. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information) .

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1

[? ADDRESS ?]

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1 Special Page Header:

ECA Copy # 5

Dyneon, LLC

2
3 **XXIV. SIGNATURE**

4 **TEST SPONSOR**

5
6 **Dyneon, LLC¹**

7

ECA Subject Chemicals for Dyneon, LLC		
CAS No.	Chemical Name	Composite(s)

8
9
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16
17 Company technical contact person for handling correspondence marked as "Confidential"

18
19 Name: _____
20 Title: _____
21 Address: _____
22 Phone Number: _____

23
24
25
26 Date: _____

27 **[? NAME ?]**
28 **[? TITLE ? e.g., Senior Vice President]**
29 **Dyneon, LLC**

¹ Data in the table lists the chemical(s) and composite contributions for which Dyneon, LLC is responsible. The Company developed these data in response to EPA's letter of January 6, 2004. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

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1

[? ADDRESS ?]

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FLUOROPOLYMER ECA DRAFTING COMMITTEE**

Special Page Header: ECA Copy # 6 E.I. du Pont de Nemours and Company

XXIV. SIGNATURE

TEST SPONSOR

E.I. du Pont de Nemours and Company¹

ECA Subject Chemicals for E. I. du Pont de Nemours and Company		
CAS No.	Chemical Name	Composite(s)

Company technical contact person for handling correspondence marked as "Confidential"

Name: _____
Title: _____
Address: _____
Phone Number: _____

Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]

¹ Data in the table lists the chemical(s) and composite contributions for which E.I. du Pont de Nemours and Company is responsible. The Company developed these data in response to EPA's letter of January 6, 2004. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information) .

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E.I. du Pont de Nemours and Company
[? ADDRESS ?]

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1 Special Page Header:

2 ECA Copy # 1 EPA PUBLIC VERSION
3 CONTAINS NO CONFIDENTIAL BUSINESS INFORMATION
4

5 Special Page Header:

6 ECA Copy # 2 EPA CBI VERSION
7 CONTAINS CONFIDENTIAL BUSINESS INFORMATION
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10 **XXIV. SIGNATURE**
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18 **UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
19
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30 Date: _____

31 Stephen L. Johnson
32 Assistant Administrator
33 Office of Prevention, Pesticides, and Toxic Substances
34

35
36 Address:

U.S. Environmental Protection Agency
Office of Prevention, Pesticides, and Toxic Substances
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
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1
2 Table 1 REQUIRED TESTING, TEST STANDARDS, REPORTING AND OTHER
3 REQUIREMENTS FOR THE LABORATORY-SCALE INCINERATION TESTING OF
4 FLUOROPOLYMERS

Phase I PFOA Transport Testing	Test Standard	Deadline for Final Report (Months) ¹
Study Plan(s)	40 CFR 790.62 (b)	?TBD ?
QAPIP submission	see Guidance Manual	?TBD ?
Quantitative PFOA transport analysis ²	See appendix C.1 as annotated in appendix D.?)	?TBD "4" ? ³

¹ Number of months after the effective date of the Order that incorporates this ECA when final report is due. Interim status reports, describing the status of all testing to be performed under this ECA, must be submitted by the Companies, through the FMG, to EPA every 6 months beginning six months from the effective date of this ECA until the end of the ECA testing program. (see Part XIV. of this ECA).

² As described in Part VII. A. of this ECA, at the conclusion of Phase I PFOA transport efficiency testing, and prior to initiation of Phase II, the Companies, will provide a letter/report to EPA summarizing the results of Phase I testing. In the event that the transport efficiency of PFOA or of total fluorine (as determined by the formulas in Appendix C.1) is greater than or equal to 70% then testing will proceed to Phase II Incineration Testing. In the event that the transport efficiency of PFOA or of total fluorine (as determined by the formulas in Appendix C.1) is less than 70% then the Companies will initiate a Technical Consultation with EPA to determine under what conditions Phase II testing can proceed. The outcomes of the Technical Consultation are described in Part VIII of this ECA.

³ In the event that the transport efficiency of PFOA or of total fluorine (as determined by the formulas in Appendix C.1) is less than 70% and the Technical Consultation concludes that testing can not proceed to Phase II, then the Companies will submit a complete report for Phase I testing within 60 days following notification of the Technical Consultation outcome. In the event that the outcome of the Technical Consultation indicates that testing can proceed to Phase II Testing then the final report for Phase I will be incorporated into the final report for Phase II Testing.

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Phase II Fluoropolymer Incineration Testing⁴	Test Standard	Deadline for Final Report (Months)⁵
Study Plan(s)	40 CFR 790.62 (b)	?TBD?
QAPjP submission	see Guidance Manual	?TBD?
Elemental analysis	See Appendix C.2.1 of the ECA	?TBD "4"?
Combustion stoichiometry	See Appendix C.2.2 of the ECA	?TBD "4"?
Thermogravimetric analysis	ASTM E 1868-02 (as modified by Appendix B.1 of the ECA)	?TBD "6"?
Laboratory-scale combustion testing	See Appendix C.2.4 of the ECA (as annotated by Appendix D.1, D.2 and D.3 of the ECA)	?TBD "18"?
Release assessment report ⁶	(see Appendix E.2 of the ECA)	?TBD "20"?

⁴ Phase II testing will begin ??TBD??

⁵ Number of months after initiation of Phase II testing when final report for this testing is due (see footnotes 2 and 3).

⁶ In the event that Phase II Testing identifies measurable levels of PFOA (where measurable PFOA is defined to be at or above the limit of detection (LOD) and, where LOD is identified to be 10 ppt under standard temperature and pressure (see also Appendix D.2)) resulting from the combustion testing for any or all of the fluoropolymer composites to be tested under this ECA, then the Companies will prepare a release assessment report to put into perspective the relevance of the laboratory-scale incineration testing data with respect to municipal and/or medical incineration operations in the United States (see Appendix E.2 to this ECA).

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APPENDIX A

TEST SUBSTANCES

- A.1 List of Chemicals Subject to this ECA**
- A.2 Rationale for Selecting Composites to be Tested**
- A.3 Composition of Composites to be Tested**
- A.4 Preparation of Composites to be Tested**

PUBLIC VERSION - CONTAINS NO CBI

APPENDIX A.1

LIST OF CHEMICALS SUBJECT TO THIS ECA¹

The following table lists the thirteen fluoropolymer chemicals that are the subject to this ECA.

The identities of the fluoropolymers subject to this ECA were provided to EPA as support documentation of the Companies' LOI commitments. Some of this documentation, including certain aspects related to the identity of the test substance as described in Part II of this ECA and the table below, may contain Confidential Business Information (CBI). In such instances EPA creates a comprehensive database for evaluation and comparison, and, when possible, provides a public version sanitized of CBI.

Subsequent analysis of the list of fluoropolymers received by EPA supported the conclusion that the individual chemicals listed below are representative of all known fluoropolymer chemicals and the basic chemistries are represented by the four composite test substances that are subject to testing under this ECA (i.e., dry melt fluoropolymer resin, dry non-melt PTFE homopolymer resin/gum, dry non-melt fluoroelastomer resin/gum, aqueous fluoropolymer dispersions) (see ECA Appendix A.2 and A.3). The fluoropolymer structure is predominantly -(CF₂)_x- which is a potential source of PFOA. For all fluoropolymer products used in commerce, the -(CF₂)- moiety is common to all polymers and the composites to be tested under this ECA testing program (see Appendix A.2-A.4) are representative of the individual component and non-component fluorochemicals.

FLUOROPOLYMERS SUBJECT TO THIS ECA		
No.	CAS No.	Chemical Name
1	9002-84-0	Ethene, tetrafluoro-, homopolymer
2	25067-11-2	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene)
3	26655-00-5	Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene
4	25190-89-0	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and tetrafluoroethene
5	68258-85-5	1-Hexene, 3,3,4,4,5,5,6,6,6-nonafluoro-, polymer with ethene and tetrafluoroethene

¹ There is a Public and CBI version of Appendix A.1 because the Companies have asserted that details describing their chemical(s) are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XIV of this ECA regarding confidentiality of information).

PUBLIC VERSION - CONTAINS NO CBI

1		35560-16-8	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene
2		9011-17-0	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene
3		54675-89-7	1-Propene, polymer with 1,1-difluoroethene and tetrafluoroethene
4	9	27029-05-6	1-Propene, polymer with tetrafluoroethene
5	10	26425-79-6	Ethene, tetrafluoro-, polymer with trifluoro(trifluoroethoxy)ethene
6	11	9010-75-7	Ethene, chlorotrifluoro-, polymer with 1,1-difluoroethene
7	12	31784-04-0	Ethene, tetrafluoro-, polymer with trifluoro(pentafluoroethoxy)ethene
8	13	CBI Accession No. ????	??generic name??
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PUBLIC VERSION - CONTAINS NO CBI

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APPENDIX A.2

RATIONALE FOR SELECTING COMPOSITES TO BE TESTED

PUBLIC VERSION - CONTAINS NO CBI

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APPENDIX A.3

COMPOSITION OF COMPOSITES TO BE TESTED¹

¹ There is a Public and CBI version of Appendix A.3 because the Companies have asserted that details describing their chemical(s) are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XIV of this ECA regarding confidentiality of information).

PUBLIC VERSION - CONTAINS NO CBI

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APPENDIX A.4

PREPARATION OF COMPOSITES TO BE TESTED¹

¹ There is a Public and CBI version of Appendix A.4 because the Companies have asserted that details describing their chemical(s) as a component of the composite(s) is considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XIV of this ECA regarding confidentiality of information).

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APPENDIX B

TEST STANDARDS

B.1 ASTM E 18680-02 Loss-on-Drying by Thermogravimetry

* To be provided by FMG

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APPENDIX C

PROTOCOLS AS TEST STANDARDS

- C.1 Transport Efficiency Testing**
- C.2 Incineration Testing**
 - C.2.1 Elemental Analysis**
 - C.2.2 Combustion Stoichiometry**
 - C.2.3 Thermogravimetric Analysis**
 - C.2.4 Combustion Testing**
 - C.2.5 Study Reporting**

* To be provided by the FMG

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APPENDIX D

ATTACHMENTS AND REFERENCED MATERIALS

- D.1 Exhaust Gas Sampling
- D.2 PFOA Analysis Method
- D.3 Wickbold Torch Method
- D.4 Waste Incineration and Operation Conditions

* To be provided by the FMG

APPENDIX E

**OUTLINES FOR
INTERIM STATUS REPORTING
AND
RELEASE ASSESSMENT REPORT**

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First Draft of Discussion and Comment

APPENDIX E.1

OUTLINE FOR INTERIM REPORTING

Title : **Enforceable Consent Agreement for the Laboratory-Scale Incineration Testing of Fluoropolymers**

OPPT Docket ID No: **OPPT-Year-XXXXX**

Date of Interim Report:

This Report covers the period from [date] to [date]

1) List of significant ECA Test Program milestones during this six month period:

2) Description of difficulties : (If none indicate N/A)

3) Actions taken in response to difficulties: (If none indicate N/A)

1 **APPENDIX E.2**

2 **Outline for Release Assessment Report**

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4 {Note: Robert Giraud to consider the need to incorporate the following, as appropriate:

- 5 - PFOA results from this testing program reported per Section C.2.5.4.3.2,
6 estimated concentration of subject material in feed to applicable type(s) of full-scale waste
7 incinerators (based on such information as Appendix A.2, supplemental information on material
8 applications, and available information on hydrogen fluoride concentration in waste incineration
9 exhaust as upper bound), and
10 use and abatement effectiveness of common post-combustion air pollution control equipment (e.g.,
11 lime scrubbing, carbon adsorption) employed by typical operating full-scale waste incinerators.}

12
13 As described in Part VI C., footnote 2, and Table 1 footnote 5 of this document, if the
14 results of Phase II Fluoropolymer Incineration Testing show that PFOA is quantitated at
15 greater than the LOD (Limit of Detection), the Companies, through the FMG, will provide a
16 release assessment report to put the data into perspective relevant to municipal waste
17 incineration practices in the United States. The objective of this release report is to place the
18 results of the laboratory-scale incineration test as described in Part VI C. and Table 1 of this
19 ECA in context with the process of municipal waste incineration in the United States and to
20 provide sufficient quality information to inform human and environmental exposure
21 assessments. At a minimum, the report will follow the general outline described below and will
22 state assumptions, verify the validity of the assumptions made, and evaluate and characterize
23 the variability and uncertainty of calculated estimates:

24
25 **1.0 Introduction**

- 26 • Statement of objective for combustion testing of fluoropolymers
27 •
28 • Applicability of the laboratory-scale combustion testing to municipal waste
29 incinerators in the United States.

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31 **2.0 Summary of study results**

- 32 • A listing of compounds collected at the targeted temperature

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34
35 **3.0 Discussion**

- 36 • Description of the typical municipal incineration process being modeled
37 including the rationale for selecting targeted temperatures, describe typical
38 operational parameters, and potential occupational exposures.

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40 **4.0 Extrapolation of laboratory test results to the typical municipal incinerator described in**
41 **section 3.0 (above) for each composite.**

- 42 • A description of the extrapolation
43 • A description of any assumptions used
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- Any unique qualitative or quantitative descriptors of the test, the testing equipment, and the results deemed necessary for informative review of the test and test results.

5.0 Sensitivity Analysis

- Assessment of the impact of variability/uncertainty (quantitative and qualitative) in each parameter on the modeling results.

6.0 Conclusions

7.0 References

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APPENDIX F

**COPY OF EPA ORDER INCORPORATING THIS
ENFORCEABLE CONSENT AGREEMENT**

APPENDIX F

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

TESTING CONSENT ORDER FOR THE LABORATORY-SCALE INCINERATION
TESTING OF FLUOROPOLYMERS

Docket No. OPPT - ?? xxxxxxxx ??

Under the authority of section 4 of the Toxic Substances Control Act (TSCA), 15 U.S.C. 2603, the United States Environmental Protection Agency (EPA) issues this testing consent order (Order) to take effect on the date of publication of the notice in the Federal Register announcing the issuance of this Order. This Order incorporates the enforceable consent agreement (ECA) for the laboratory-scale incineration testing of the fluoropolymers listed in Appendix A.1 of the ECA.

Date

Stephen L. Johnson,
Assistant Administrator
for Prevention, Pesticides,
and Toxic Substances