

Part I: Introduction and CBI Information

United States ENVIRONMENTAL PROTECTION AGENCY Washington, DC 20460 TSCA/SNAP ADDENDUM for Significant New Alternatives		AGENCY USE ONLY OMB Control No.: 2060-0226 Expires: XX/XX/2017 Date of Receipt:
When completed send CBI and public versions of this form and attachments electronically via CD or USB drive (preferred), or print to:		
Via US Postal Service: SNAP Document Control Officer U.S. EPA Mail Code: 6205T 1200 Pennsylvania Ave, NW Washington DC 20460	Via Delivery Service: SNAP Document Control Officer U.S. EPA Stratospheric Protection Division 4th Floor (MC 6205T) 1201 Constitution Ave., NW Washington, DC 20004	Case Number:

Part I: Introduction and CBI Information

Section A: Introduction

GENERAL INSTRUCTIONS

This form may be used in conjunction with the Premanufacture Notice (PMN) for new chemical substances (EPA Form 7710-25 (Rev. 1-19)) to submit chemicals for review under the Significant New Alternatives Policy program as alternatives to Class I and II ozone-depleting substances. In addition to the information provided in the Premanufacture Notice, the Agency is requesting submitters provide information on the following topics. This information will assist EPA in assessing the acceptability of the chemical as an alternative to ozone-depleting substances as required by Section 612 of the Clean Air Act. Please see the Instructions for the TSCA/SNAP Addendum ("Instructions") for guidance on completing this form. The Instructions document is available at <http://www.epa.gov/ozone/snap/submit/index.html>.

To facilitate Agency review of alternatives, both this form and the complete PMN form (including the physical and chemical properties worksheet) must be filled out as completely as possible. Please provide all information requested to the extent that it is known or reasonably ascertainable. Make reasonable estimates if actual data are unavailable.

Section B: Identification of Alternatives

1. Name of Alternative. Note: Additional information about the proposed substitute must be provided in Part III, Section A CBI

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2. Indicate the sector and end-use for which you are submitting this SNAP Information Notice.

Sector(s)	End-Use(s)	If you chose "Other" as an end use, please specify here.	CBI

Section C: CONFIDENTIALITY CLAIMS

NOTE: Please [Bracket] the information you wish to claim as confidential

Part I: Introduction and CBI Information

Anyone submitting data which are to be treated as Clean Air Act Confidential Business Information (CBI), must assert and substantiate a claim of confidentiality at the time of the initial submission.. All information claimed as CBI will be treated in a manner consistent with 40 CFR Part 2, Subpart B. Failure to assert a claim of confidentiality at the time of submission may result in disclosure of information by the Agency without further notice.

To assert a claim on this form, [bracket] the information you claim as confidential and mark the confidential box in the column on the right-side of the page in the corresponding row. Provide substantiation of all CBI claims below. If any information is claimed as confidential, you must provide a "sanitized" version of this notice, including attachments, to EPA at the time of the initial submission.

For any portion of a submission that you claim as confidential, the following information must be included in a Statement of Data Confidentiality Claims. The confidential information must also be clearly marked within the submission. If you do not provide the required substantiation when submitting information claimed as confidential, EPA may make the complete submitted information available to the public without further notice or may determine that the submission is incomplete.

- Identify specifically by page and line number(s) each portion of the document for which you claim confidentiality.
- Give the reasons why the cited passage qualifies for confidential treatment.
- If you assert that disclosure of this information would be likely to result in substantial harmful effects to you, describe those harmful effects and explain why they should be viewed as substantial.
- Indicate the length of time - until a specific date or event, or permanently - for which the information should be treated as confidential.
- Identify the measures you have taken to guard against undesired disclosure of this information.
- Describe the extent to which the information has been disclosed, and what precautions have been taken in connection with these disclosures.
- Enclose copies of any determinations of confidentiality previously made by EPA, other Federal agencies, or courts concerning this information.

Information submitted as CBI may be accessed by companies designated as Authorized Representatives of the United States Environmental Protection Agency (EPA) under an EPA contract for the purpose of assisting EPA in the development and implementation of national regulations for the protection of stratospheric ozone, including the evaluation of SNAP Information Notices. These Authorized Representatives may have access to any information received by the Stratospheric Protection Division within the EPA's Office of the Atmospheric Programs. Access to such information is necessary to ensure that these companies can complete the work required by the contract. Such Authorized Representatives of the Administrator are subject to the provisions of 42 U.S.C. 7414(c) respecting confidential business information as implemented by 40 CFR 2.301(h).

STATEMENT OF DATA CONFIDENTIALITY CLAIMS

NOTE: Please [Bracket] the information you wish to claim as confidential

Part II: Contact Information

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 Washington, DC 20460

TSCA/SNAP ADDENDUM

Part II: Contact Information

Section A - Submitter Contact Information

1. Person Submitting Notice (in U.S.): Enter information for the official who signs the certification in **Part XIV Certification**.

Name of Authorized Official	Title	CBI
Company/Organization		CBI
Mailing Address	Telephone Number	CBI
Email Address		CBI

2. Agent (if applicable): Complete only if you authorize an agent to assist you in preparing this notice. The agent must also sign the certification.

Name of Authorized Official	Title	CBI
Company/Organization		CBI
Mailing Address	Telephone Number	CBI
Email Address		CBI
Is this person granted full access to Confidential Business Information?		

3. Technical Contact (in U.S.): If applicable, identify a person who can provide EPA with additional technical information on the substitute during the review period. If the authorized agent is also the technical contact, include that person's information in both locations.

Name of Authorized Official	Title	CBI
Company/Organization		CBI
Mailing Address	Telephone Number	CBI
Email Address		CBI
Is this person granted full access to Confidential Business Information?		

4. Joint Submitter (if applicable): Identify the joint submitter, if any, who is authorized by the primary submitter to provide some of the information required in the notice.

Name of Authorized Official	Title	CBI

NOTE: Please [Bracket] the information you claim as confidential

Part II: Contact Information

Company/Organization		CBI
Mailing Address		Telephone Number
Email Address		CBI
Is this person granted full access to Confidential Business Information?		

CONFIDENTIALITY CLAIMS: All contacts listed on this page will be granted access to CBI, unless otherwise noted.

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NOTE: Please [Bracket] the information you claim as confidential

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Part III: General Information

Section A: Alternative-Specific Information

1. Identify Proposed Substitute

(a) Chemical name (preferably IUPAC nomenclature)	(b) Percent composition (by weight)	(c) Chemical Abstracts Service (CAS) registry number	(d) Molecular formula	CBI

2. Commercial/trade name(s) of alternative:

	CBI
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3. Generic name: If the name of the proposed substitute is claimed as Confidential Business Information, provide a generic name. The name should reveal the chemical identity or alternative process description to the maximum extent possible

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4. Ozone-depletion potential (ODP): Provide the 100-year ODP of the proposed substitute relative to CFC-11. If the substitute is a blend, provide the ODPs of the individual constituents. Reference the source for each ODP.

Proposed substitute (If blend, include ODP of each constituent)	(a) ODP relative to CFC-11	Information sources	CBI

(b) Provide any additional data on the ODP of the proposed substitute (e.g. chlorine or bromine loading potentials). Reference the source of this information and attach any supporting documentation.	Supporting documentation attached?	Attachment name	CBI

5. Global Warming Characteristics: Provide the alternative's global warming potential relative to carbon dioxide over a 100-year time horizon and atmospheric lifetime. Reference the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR4). Alternate sources may include the 2010 World Meteorological Organization (WMO) Scientific Assessment of Ozone Depletion or the peer-reviewed literature. If the substitute is a blend, provide the GWP's of the individual constituents and an estimate of the blend at its nominal composition.

Proposed substitute (If blend, include GWP of each constituent)	(a) 100-year GWP (Relative to carbon dioxide)	(b) Atmospheric lifetime	Information sources	CBI

(c) Provide any additional data on the GWP of the alternative, including infrared absorption spectrum and infrared absorption capacity.	Supporting documentation attached?	(d) If the proposed substitute or any components of a blend is captured as a byproduct of another manufacturing or industrial process, indicate the source of the alternative.	Supporting documentation attached?	CBI

Section B: End-Use and Application Information

1. Specific End-Use(s): Identify each end-use that may be reasonably anticipated for the alternative. If the alternative is a refrigerant, indicate whether the refrigerant is a candidate for use in retrofits of existing equipment, for use in new equipment only, or both. Identify the ODS and other alternatives used in the end-use or application and the quantity of proposed substitute needed to replace it for each end use (i.e., the replacement ratio).

Note: If the proposed substitute can be used both as a retrofit and in new equipment, these uses should be treated as separate end-uses throughout this form. The applications listed below are not meant to be all-inclusive and do not reflect regulatory requirements. The purpose of defining these applications is to inform the Agency's understanding of how the alternative being submitted to SNAP will be used.

Sector	End-Use	Application	Mark all end-uses and applications that apply	(a) New (N) Equipment, Retrofit (R) Equipment, or both (N,R)? Please disregard if proposed substitute is not a refrigerant.	(b) ODS and other substances being replaced	(c) Replacement ratio (lb: lb)	CBI
	Chillers (Commercial Comfort AC)	Centrifugal					
		Positive Displacement Chillers (Includes Reciprocating, Screw, Scroll, Rotary Compressors)					
	Industrial Process Refrigeration (IPR)						
	Industrial Process Air Conditioning						
	Ice Skating Rinks						
	Cold Storage Warehouses						
	Refrigerated Transport	Refrigerated Trailers (Reefers)					
	Refrigerated Shipping Containers						

Refrigeration and Air Conditioning		Refrigeration Equipment within Motorized Vehicle (e.g., food delivery, ice cream truck, ship hold)					
	Retail Food Refrigeration	Remote Rack System, Direct					
		Remote Rack System, Indirect					
		Stand-alone Units (self-contained equipment such as individual reach-in coolers, glass door merchandisers, etc.)					
		Remote Condensing Units for Walk-in Coolers or Multiple Reach-in Coolers					
		Beverage Dispensers (e.g., fountain beverage dispenser, frozen beverage dispenser)					
	Vending Machines						
	Drinking Water Coolers	Built-in Water Fountain					
		Stand-alone Water Coolers					
	Commercial Ice Machines	Self-contained Ice Machines					
		Remote Ice Machines					
	Household Refrigerators and Freezers	Household Refrigerator and Freezers					
		Small Refrigerated Household Appliances (e.g., chilled kitchen drawers, wine coolers, and mini-fridges)					
	Residential and Light Commercial Air Conditioning and Heat Pumps	Room Air Conditioners (such as window units, packaged terminal air conditioners (PTAC) and heat pumps (PTHP), and portable self-contained air conditioners)					
		Mini-Splits, Non-Ducted					
		Multi-Splits, Non-Ducted					
		Split-Systems, Ducted, Household (Central A/C)					
		Split-Systems, Ducted, Light Commercial (Central A/C)					
		Packaged Rooftop Units					
		Water-Source Air Conditioning and Heat Pumps					
		Ground-Source Air Conditioning and Heat Pumps					
	Residential Dehumidifiers						
	Motor Vehicle Air Conditioning	Light-duty Vehicles (e.g., passenger cars)					
		Light-duty Trucks (e.g., minivans, full size pick-up trucks, and full-size SUVs)					
		Heavy-duty Vehicles (e.g., heavy duty pickup trucks and vans, and commercial medium and heavy-duty on-highway vehicles)					
		Off-road Vehicles (e.g., farm and construction equipment)					
		Buses and Passenger Rail					
Non-mechanical Heat Transfer	Thermosiphon						
	Recirculating Coolers						
Mechanical Heat Transfer	Organic Rankine Cycle (ORC)						
Very Low Temperature Refrigeration							
Other (specify)	Uranium Isotope Separation Processing						
	Ice Cream Makers						
Foam Blowing	Rigid Polyurethane: Appliance						
	Rigid Polyurethane: Spray						
	Rigid Polyurethane: Commercial Refrigeration						
	Rigid Polyurethane: Sandwich Panels						
	Rigid Polyurethane: Slabstock and Other						
	Rigid Polyurethane & Polyisocyanurate Laminated Boardstock						
	Flexible Polyurethane						
	Integral Skin Polyurethane						
	Polystyrene: Extruded Sheet						
	Polystyrene: Extruded Boardstock & Billet						

	Polyolefin					
	Phenolic Insulation Board & Bunstock					
	Other (specify)					
Cleaning Solvents	Metal cleaning					
	Electronics cleaning					
	Precision cleaning					
Fire Suppression and Explosion Protection	Total Flooding Agents	Normally Occupied Areas				
	Streaming Applications	Normally Unoccupied Areas				
Aerosols	Propellants	Consumer				
		Technical				
		Medical				
	Solvents	Consumer				
Technical						
Medical						
Sterilization	Sterilant					
Adhesives, Coatings, and Inks	Adhesives					
	Coatings					
	Inks					
Tobacco Expansion	Tobacco Expansion					

2. End-Use Specific Standards: List any standard-setting organizations (U.S. or ANSI/ISO) that will evaluate the proposed substitute and/or equipment in the proposed end-use(s) and identify the associated standard.

Standard-Setting Organization	End-Use	Application	Standard number and title	Status (e.g., under development, final)	CBI
American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) (e.g., ASHRAE 15)					
Underwriters Laboratories (UL) (e.g., UL 484, UL 250)					
Society of Automotive Engineers (SAE) International					
Other (e.g., International Electrochemical Commission (IEC), International Organization for Standardization (ISO)), National Fire Protection Association (NFPA)					

3. Technology Changes and Costs: Describe any new equipment technology changes and associated costs that will be necessary in order to use the proposed substitute.

End-Use	Application	(a) Technology changes to use alternative and address material compatibility issues when retrofitting	(b) Capital costs associated with proposed substitute, alternative process, new equipment, and/or new materials	(c) Changes in labor and energy costs	(d) Ongoing operational costs of equipment	CBI

4. Production and Market Share: Provide estimated information on production of the proposed substitute by end-use. If possible, estimate the percentage of the market held by the ODS being replaced that will be captured by this proposed substitute.

End-Use	Application	(a) Year proposed substitute or technology will be available (or note if currently available)	(b) Anticipated first year annual production for end-use (kg)	(c) Years until maximum market penetration	(d) Maximum annual production at market penetration	(e) Anticipated market share at market penetration (%)	CBI

5. Energy Efficiency: Provide the alternative's impact on energy efficiency relative to the substance it is replacing in similar applications for refrigeration, air conditioning, or foam blowing. Attach documentation, if available.

End-Use	Application	Energy efficiency (+/- X%) relative to substance(s) being replaced	Supporting documentation attached?	CBI

Section C: Flammability

1. Flammability-Related Physical and Chemical Properties. Provide information on the physical and chemical properties relevant to evaluating the flammability of the proposed substitute. Please note: If a property is only required for specific sectors, it is noted in parentheses. Also, if any parameter has also been provided in the PMN form, it does not need to be repeated here.

Property	Value	Units	CBI
(a) Lower flammability limit (LFL) (using ASTM E681)		ppm or %	
(b) Upper flammability limit (UFL) (using ASTM E681)		ppm or %	
(c) Flashpoint		°C	
(d) Heat of combustion		kJ/kg	
(e) Maximum pressure of combustion (refrigeration and air conditioning, and cleaning solvents only)		atm	
(f) Maximum rate of pressure increase during combustion (refrigeration and air conditioning only)			
(g) Minimum ignition energy (refrigeration and air conditioning only)		Joules	
(h) Critical temperature (refrigeration and air conditioning only)		°C	
(i) Critical pressure (refrigeration and air conditioning only)		atm	

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Part IV: Sector-Specific Information

Section A: Refrigeration and Air Conditioning

1. **Application of Proposed Substitute.** If the substitute is proposed for use in the refrigeration and air-conditioning sector (as specified in Part III, Section B, Number 1), please provide information on the equipment lifetime, charge size, associated room size, and associated equipment size anticipated. *Note: If personal monitoring data is provided, you are not required to respond to questions (d) through (f) below.*

End-Use	Application	(a) Equipment Lifetime (years)	(b) Typical charge size (kg)	(c) Maximum charge size (kg)	(d) Equipment capacity (kWh, tons)	CBI	
End-Use	Application			(d) Typical room size (m ³)	(e) Minimum room size (m ³)	(f) Anticipated room air exchange rate (ACH)	CBI

2. **Additional End-Use Description:** Please describe the specific uses for which you are applying. For example, what is the equipment layout and where is the refrigerant located? Is it a direct expansion unit and/or does it use a secondary loop? In what types of locations will the equipment be used (e.g., for refrigeration this could include supermarkets, convenience stores, and/or restaurants)? Is the equipment for low, medium or high temperature refrigeration or air conditioning? Is air conditioning for the purpose of human comfort cooling or another application?

	CBI
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3. **Compressor Oil:** If the proposed substitute is a refrigerant, provide information on the chemical class of refrigerant oil you anticipate will be used (e.g., polyalkylene glycol, polyolester, mineral oil, etc.) and information on refrigerant/oil solubility.

	CBI
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Section B: Foam Blowing

1. **Application of Proposed Substitute.** If the substitute is proposed for use in the foam blowing sector (as specified in Part III, Section B, Number 1), please provide information on the amount of blowing agent, associated room size, and associated equipment size anticipated. *Note: If you provide personal monitoring data, you are not required to respond to questions (c) through (e) below.*

End-Use	(a) Typical amount of blowing agent (kg)	(b) Maximum amount of blowing agent (kg)	(c) Typical room size (m ³)	(d) Minimum room size (m ³)	(e) Anticipated room air exchange rate (ACH)	CBI

2. **Additional End-Use Description:** Please describe the specific uses for which you are applying. For example, what type of material will be blown? What method or type of equipment is used for foam blowing? Who will be using the foam blowing agent/equipment? Will the foam blowing agent be used by consumers or restricted to commercial use? For spray foams, how many components are used? Will the alternative be used in high or low pressure spray foam?

	CBI
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Section C: Cleaning Solvents

1. **Application of Proposed Substitute.** If the substitute is proposed for use in the cleaning solvent sector (as specified in Part III, Section B, Number 1), please provide information on the following. *Note: If you provide personal monitoring data, you are not required to respond to questions (a) through (b) below.*

End-Use	(a) Provide information on the leak-tightness of the equipment (e.g., typical and maximum leak rate of equipment)	(b) Anticipated room air exchange rate (ACH)	CBI

2. **Additional End-Use Description:** Please describe the specific uses for which you are applying. For example, what type of work pieces will be cleaned? What type of equipment will be used to perform cleaning (e.g., open top vapor degreaser, vacuum sealed equipment, conveyORIZED equipment)? Where will the cleaning occur (e.g., commercial or industrial setting)? Please note that this end-use does not include manual cleaning or textile cleaning.

	CBI
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3. **Compatibility:** Provide information on the compatibility of the proposed substitute with metals and plastics.

	CBI
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Section D: Fire Suppression

Part IV: Sector-Specific Information

1. Application of Proposed Substitute. If the substitute is proposed for use in the fire suppression and explosion protection sector (as specified in Part III, Section B, Number 1), please provide information on the charge size, associated room size, and associated equipment size anticipated. *Note: If personal monitoring data is provided, you are not required to respond to questions (d) through (f) below.*

End-Use	Application	(a) Typical charge size (kg)	(b) Maximum charge size (kg)	(c) Identify the discharge rate (g/s) of the fire extinguishing device	CBI
End-Use	Application	(d) Typical room size (m ³)	(e) Minimum room size (m ³)	(f) Anticipated room air exchange rate (ACH)	CBI

2. Additional End-Use Description: Please describe the specific uses for which you are applying. For example, what is the method of distribution (e.g., localized, sprinkler system, handheld, gaseous)? Is it a clean agent? Is the agent aerosolized? Where will the fire suppression system be installed (e.g., marine, aviation, data center)? Where will handheld extinguishers be intended for use (e.g., residential, commercial, aviation)?

					CBI
					X

Section E: Aerosols

1. Application of Proposed Substitute. If the substitute is proposed for use in the aerosols sector (as specified in Part III, Section B, Number 1), please provide information on the charge size and associated aerosols can size anticipated.

End-Use	Application	(a) Typical amount of substitute per can (g)	(b) Maximum amount of substitute per can (g)	(c) Typical total weight of aerosol Can (g)	(d) Maximum total weight of aerosol can (g)	CBI

2. Additional End-Use Description: Please describe the specific uses for which you are applying. For example, in what type of products will the substitute be used (e.g., personal care, automotive, electrical contact cleaner, degreaser, medical adhesive spray, MDI)?

					CBI
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3. Consumer Use: Please indicate whether the proposed substitute will be used for consumer use. If yes, describe the anticipated consumer applications.

					CBI
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Section F: Sterilants

1. Application of Proposed Substitute. If the substitute is proposed for use in the sterilants sector (as specified in Part III, Section B, Number 1), please provide information on the amount and associated room size anticipated.

End-Use	(a) Provide information on the leak-tightness of the equipment (e.g., maximum and typical leak rate of equipment)	(b) Anticipated room air exchange rate (ACH)	CBI

2. Additional End-Use Description: Please describe the specific uses for which you are applying. For example, how is the sterilant applied (e.g., sterilization chambers)?

			CBI
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Section G: Adhesives, Coatings & Inks

1. Application of Proposed Substitute. If the substitute is proposed for the adhesives, coatings, and inks sector (as specified in Part III, Section B, Number 1), please provide information on the associated dispenser size anticipated for the proposed substitute in the proposed end-use(s).

End-Use	Application	(a) Typical amount per dispenser (g or %)	(b) Maximum amount per dispenser (g or %)	(c) Typical total weight of dispenser (g)	(d) Maximum total weight of dispenser (g)	CBI

2. Additional End-Use Description: Please describe the specific use for which you are applying. For example, in what type of products will the substitute be used for adhesives (e.g., laminate, hardwood flooring, flexible foam, tire patch, metal to rubber, marine); coatings (e.g., metal coatings, wood stains, aerospace coating), or inks (e.g., flexographic printing, rotogravure printing)? What is the application method (e.g., spray gun, aerosol can, dip tank)?

						CBI
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3. Consumer Use: Please indicate whether the proposed substitute will be used for consumer use. If yes, describe the anticipated consumer applications.

						CBI
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Note: Information claimed as confidential should be placed in [brackets] and marked as CBI. If information is claimed as CBI, then a public version of the submission must be submitted with the bracketed information redacted or removed.

Part VII: Certification

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Washington, DC 20460

TSCA/SNAP ADDENDUM

Part VII: Certification

I certify to the best of my knowledge and belief that:

1. All information provided in this notice is complete and truthful as of the date of the submission.
2. I am submitting with this notice all test data in my possession or control and a description of all other data known to or reasonably ascertainable by me.
3. If this is a submission of a new alternative, the company named in Part I, Question 1a of this notice:
(a) intends to manufacture, formulate, import, market, or use a new alternative to a Class I or Class II ozone-depleting substance which is identified in Part I, Section B, Question 2.
(b) seeks an acceptability determination on a new alternative(s) to a Class I or Class II ozone-depleting substance, which is identified in Part I, Section B, Question 2.
4. The accuracy of the statements made in this notice reflects my best prediction of the anticipated facts regarding the alternative described herein. Any knowing and willful misinterpretation is subject to criminal penalty pursuant to section 113(c) of the Clean Air Act and 18 U.S.C. §1001.

A printed copy of this signature page, with original signature, must be submitted with CD or paper submission.

Signature of Authorized Official (Original Signature Required):	Date
Print Name and Title of Authorized Official:	Date
Signature of Agent (Where Applicable):	Date
Print Name and Title of Authorized Official:	Date

