# **Schema Conformance Report**

# **Flow Documentation Status and Contact Information**

#### Flow Name:

State Air Stationary Source Compliance & Enforcement Activities

### **Schemas/Versions included in Conformance Report**: Draft 1.0

AIR\_Common\_v1.0.xsd

AIR\_Key\_Elements\_v1.0.xsd

AIR\_Facility\_v1.0.xsd

AIR\_AirProgram\_v1.0.xsd

AIR\_PollutantAirProgram\_v1.0.xsd

AIR\_Action\_v1.0.xsd

AIR\_Header\_v1.0.xsd

AIR AirPermit v1.0.xsd

AIR\_AirPermitEvent\_v1.0.xsd

AIR\_CMS\_v1.0.xsd

AIR\_AFS\_v1.0.xsd

Conformance Report Author: Data Vision Consulting, LLC

**Contact Information:** 

Schema Developer: Data Vision Consulting, LLC

**Contact Information:** 

# Flow Owner or Other Point of Contact for Flow Documentation Package:

### **Contact Information**:

Betsy Metcalf Media Systems Support Section Air, RCRA and Data Flows Team ETDD, OC, OECA (202) 564-5962 FAX (202) 564-0032

### **Date Flow Documentation Package Submitted:**

# **W3C Conformance and Validation**

W3C's XSV Tool Output:  [X] yes [] no Output pasted in the last sec  [X] yes [] no Zero errors identified by XS	±	
Explanation of Warnings Listed in XSV Too	l Output:	
Warning	Explanation	
None		
Schema and Instance Document Validation:  Names of XML parser(s) intended for use in conjunction with the flow and development tool(s) used to validate the schema and instance documents:		
*Instance files could, in the future, potentiall (UI)	y be validated using the Universal Interface	
*The UI is anticipated to be modified to supple based on the schemas. This effort is not curre	<u>.</u>	
The schemas were also validated using FRS approduced.	and Altova's XMLSPY with no errors	
[X] yes [] no All schema files validate using all parsers and tools listed above		
[] yes [X] no All sample instance documlisted above Reason: UI not XML ready at this time	nents validate using all parsers and tools	
service	nents validate using the CDX validator	
Reason: No CDX Validator exists for this data stream		

# **Design Rules and Conventions Conformance**

**Explanation of DRC Violations Identified:** 

DRC Rule ID	Schema Filenames	Explanation

# **Shared Schema Components Conformance**

**High Level of SSC Integration:** 

Element Name	Schema Path
SICCode	SC_FacilitySIC_v2.0.xsd
SICPrimaryIndicator	SC_FacilitySIC_v2.0.xsd
NAICSCode	SC_FacilityNAICS_v2.0.xsd
NAICSPrimaryIndicator	SC_FacilityNAICS_v2.0.xsd

**Medium Level of SSC Integration:** 

rectain Level of 550 integration.			
Element Name	Complex SSC Element or Data Type	Derived By	
StateCode	SC_StateIdentity_V2.0.xsd	Restriction	
CountyCode	SC_CountyIdentity_V2.0.xsd	Restriction	
FacilitySiteIdentifier	SC_FacilitySiteIdentity_v2.0.xsd	Restriction	
FacilitySiteName	SC_FacilitySiteIdentity_v2.0.xsd	Restriction	
LocationAddressText	SC_LocationAddress_v2.0.xsd	Restriction	
LocalityName	SC_LocationAddress_v2.0.xsd	Restriction	
AddressPostalCode	SC_LocationAddress_v2.0.xsd	Restriction	
AgencyCode	SC_AgencyIdentity_v2.0.xsd	Restriction	
CASRegistryNumber	SC_ChemicalSubstanceIdentity_v2.0.xsd	Restriction	
ViolationTypeCode	SC_SimpleContent_v2.0.xsd	Extension	

**Low Level of SSC Integration:** 

Element Name	Simple SSC Element or Data Type	

# **Explanation for Not Integrating Available SSCs:**

### General observation

The XML schemas for this data grouping essentially needed to plant a foot in each of two territories. First, the intention was to create a skeleton on which future data reporting requirements could build, and second, it must match to as great a degree possible the data stream as it exists today. This data stream is necessarily confined in its flexibility by the constraints of a) the requirements as defined in the Code of Federal Regulations and even more by b) the current data repository and existing processes in place nationally.

Schema Name	Element or Type	SSC Element or Type	Explanation
AIR_AirProgramData_V1.0.xsd	CFRSubpart	ApplicableEnvironmentalCitation	In air Compliance & Enforcement, AFS contains only the CFR part/subpart values, not the actual text. There are multiple occurrences for a given air program (up to 12). This meant that the element also needs to redefined as a recurring element inside a container element (as required by the NOB DRC). It was therefore more sensible to define the element from scratch.
AIR_Key_Elements_V1.0.xsd	AIRSPollutantCode	ChemicalSubstanceSynonym	The term "AIRS Pollutant Code" is how the SRS sees the AFS pollutant records and OECA determined that providing an element called "AIRSPollutantCode" would be the most recognizable term. Since the pollutant codes are stored in an AFS cross-reference table, they also may differ from other cross-referenced tables in other media. This made it prudent to use a different moniker.
AIR_Action_v1.0.xsd	AirActionIdentifier	Action Identifier: ComplianceMilestoneIdentifier EnforcementActionIdentifier InjunctiveReliefIdentifier ComplianceScheduleIdentifier InjunctiveReliefIdentifier ReportIdentifier PenaltyIdentifier	In AFS "Action number" is the identifier that targets a specific record. SSC has a number of identifier candidates, but breaks down to specific types of actions.  It was necessary to develop the data structure in a manner that was similar in nature to that of the existing reporting structure in order for the air community to be able to convert their current MDR stream. This current

AIR_Action_v1.0.xsd	AirRegionalAction TypeCode Also AirNationalAction TypeCode	Action Type: EnforcementActionTypeCode EnforcementActionResolution TypeCode ReportTypeCode ComplianceMilestoneTypeCode	structure uses a generic action record format for virtually any type of action. Therefore none of the identifiers found in the SSC made sense since they indicated an identifier very specific to a given action type.  The same logic as action identifiers applies to action type codes. It was necessary to develop the data structure in a manner that was similar in nature to that of the existing reporting structure in order for the air community to be able to convert their current MDR stream. This current structure uses a generic action record
AIR_Action_v1.0.xsd	AirActionSchedule dDate	Scheduled Date: ComplianceMilestoneScheduledDate ReturnToComplianceScheduleDate	format for virtually any type of action. Therefore none of the action types found in the SSC made sense as they indicated a very specific type.  The same logic as action identifiers applies to Scheduled Dates. It was necessary to develop the data structure in a manner that was similar in nature to that of the existing reporting structure in order for the air community to be able to convert their current MDR stream. This current structure uses a generic action record format for virtually any type of
AIR_Action_v1.0.xsd	AirActionAchieved Date	Date Achieved: ComplianceMilestoneCompletedDate ReturnToComplianceActualDate EnforcementActionDate	action. Therefore none of the scheduled dates found in the SSC made sense as they targeted a specific action type.  The same logic as action identifiers applies to Achieved Dates. It was necessary to develop the data structure in a manner that was similar in
AIR_Action_v1.0.xsd	AirAssessedCashPe	PenaltyAmountSought	manner that was similar in nature to that of the existing reporting structure in order for the air community to be able to convert their current MDR stream. This current structure uses a generic action record format for virtually any type of action. Therefore none of the achieved dates found in the SSC made sense as they targeted a specific action type.  None of the existing SSC

nalty	PenaltyAmountRequired	penalty amounts have the same
	StipulatedPenaltyAmountRequired	definition as the one needed
	SupplementalEnvironmentalProjectV	
	alueAmount	
	TotalPenaltyValueAmount	

#### **Candidates for New SSCs:**

Schema Name	Element or Type Name	CRM data block

## **Recommendations** (optional)

- 1.
- 2.
- 3.

# **W3C's XSV Tool Output**

## Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target: http://www.dvcllc.com/Schemas/AIR\_Common\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_Common\_v1.0.xsd Length: 17237 bytes

Lengui. 17237 bytes

Last Modified: Fri, 03 Nov 2006 21:07:32 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- **docElt**: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target:

http://www.dvcllc.com/Schemas/AIR\_Key\_Elements\_v1.0.xs d

 $(Real\ name:\ http://www.dvcllc.com/Schemas/AIR\_Key\_Elements\_v1.0.xsd$ 

Length: 7647 bytes

Last Modified: Wed, 08 Nov 2006 16:31:34 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

### • Target:

http://www.dvcllc.com/Schemas/AIR\_Facility\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_Facility\_v1.0.xsd Length: 3513 bytes

Last Modified: Fri, 03 Nov 2006 16:46:19 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

#### • Target:

http://www.dvcllc.com/Schemas/AIR\_AirProgram\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_AirProgram\_v1.0.xsd Length: 2540 bytes

Last Modified: Fri, 03 Nov 2006 14:25:22 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- **docElt**: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

#### • Target:

http://www.dvcllc.com/Schemas/AIR\_PollutantAirProgram\_ v1.0.xsd (Real name:

http://www.dvcllc.com/Schemas/AIR\_PollutantAirProgram\_v1.0.xsd

Length: 3765 bytes

Last Modified: Fri, 03 Nov 2006 14:25:39 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target: http://www.dvcllc.com/Schemas/AIR\_Action\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_Action\_v1.0.xsd Length: 6059 bytes

Last Modified: Fri, 03 Nov 2006 21:14:58 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b

PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

## Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target: http://www.dvcllc.com/Schemas/AIR\_Header\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_Header\_v1.0.xsd

Length: 3014 bytes

Last Modified: Fri, 03 Nov 2006 14:25:36 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

### Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

# • Target:

http://www.dvcllc.com/Schemas/AIR\_AirPermit\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_AirPermit\_v1.0.xsd Length: 2954 bytes

Last Modified: Wed, 08 Nov 2006 16:31:30 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

## Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

#### • Target:

http://www.dvcllc.com/Schemas/AIR\_AirPermitEvent\_v1.0.
xsd

(Real name: http://www.dvcllc.com/Schemas/AIR\_AirPermitEvent\_v1.0.xsd Length: 2389 bytes

Last Modified: Wed, 08 Nov 2006 16:31:31 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod auth pam external/0.1 FrontPage/4.0.4.3 mod perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target: http://www.dvcllc.com/Schemas/AIR\_CMS\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_CMS\_v1.0.xsd Length: 5195 bytes

Last Modified: Wed, 08 Nov 2006 16:31:32 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- docElt: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

# Schema validating with XSV 2.10-1 of 2005/04/22 13:10:49

• Target: http://www.dvcllc.com/Schemas/AIR\_AFS\_v1.0.xsd (Real name: http://www.dvcllc.com/Schemas/AIR\_AFS\_v1.0.xsd

Length: 3785 bytes

Last Modified: Wed, 08 Nov 2006 16:31:30 GMT

Server: Apache/1.3.20 Sun Cobalt (Unix) mod\_ssl/2.8.4 OpenSSL/0.9.6b PHP/4.0.6 mod\_auth\_pam\_external/0.1 FrontPage/4.0.4.3 mod\_perl/1.25)

- **docElt**: {http://www.w3.org/2001/XMLSchema}schema
- Validation was strict, starting with type [Anonymous]
- The schema(s) used for schema-validation had no errors
- No schema-validity problems were found in the target

## **Additional Validation Tool Outputs**

### Validation verification using XMLSPY as of November 9, 2006:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_Key\_Elements\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_Action\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_AirPermit\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_AirPermitEvent\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_AirProgram\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_CMS\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_Facility\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Testing\AIR\_Header\_v1.0.xsd is valid.

#### Additional Validation verification using XMLSPY as of November 16, 2006:

The following were retested after one slight adjustment to key elements for Permit Events:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\ AIR\_Key\_Elements\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR

Schemas\Versions Run Against Validators\AIR\_AirPermitEvent\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\ AIR\_AFS\_v1.0.xsd is valid.

The following were tested after one slight adjustment to the full level content global element reference:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_CMS\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AFS\_v1.0.xsd is valid.

### Additional Validation verification using XMLSPY as of November 17, 2006:

The following were retested after inclusion of SIC and NAICS Primary Flag elements:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_Common\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_Facility\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR AFS v1.0.xsd is valid.

The following were retested after addition of a global pollutant element to facilitate multiple pollutants per submission:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_PollutantAirProgram\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AFS\_v1.0.xsd is valid.

The following were retested after addition of a permit element to facilitate multiple permits per submission:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AirPermit\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AFS\_v1.0.xsd is valid.

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AirPermit\_v1.0.xsd is valid.

The following were retested after addition of a permit element to facilitate multiple permit events per submission:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_AirPermitEvent\_v1.0.xsd is valid.

The following were retested after addition of a permit element to facilitate multiple CMS records per submission:

File C:\Documents and Settings\All Users\Documents\UI4\Products of our work\Draft AIR Schemas\Versions Run Against Validators\AIR\_CMS\_v1.0.xsd is valid.

### Additional Validation verification using FRS Schema Design Validator Tool

See the following addendum files:

FRS Schema Design Tool Results Air\_Header.pdf

FRS Schema Design Tool Results Air\_Common.pdf

FRS Schema Design Tool Results Air KeyElements.pdf

FRS Schema Design Tool Results Air\_Facility.pdf

FRS Schema Design Tool Results Air AirProgram.pdf

FRS Schema Design Tool Results Air\_PollutantAirProgram.pdf

FRS Schema Design Tool Results Air Action.pdf

FRS Schema Design Tool Results Air\_CMS.pdf

FRS Schema Design Tool Results Air\_AirPermit.pdf

FRS Schema Design Tool Results Air AirPermitEvent.pdf

FRS Schema Design Tool Results Air\_AFS.pdf