

Engines and Vehicles Compliance Information System (EV-CIS)

Log of XML Schema Changes Made for Heavy-Duty Vehicle GHG Release 28.0 – 10/18/2019

Purpose

This document identifies modifications for Release 28.0 to the EV-CIS Heavy-Duty Vehicle Greenhouse Gas (GHG) family of schemas.

Modified XML Files

EN_VER_HDV_GreenhouseGasDataElements_v0.95.xsd

EN_VER_HDV_GreenhouseGasSubmissionRootElement_v0.95.xsd

EN_VER_HDV_SharedDataElements_v0.95.xsd

EN_VER_HDV_GreenhouseGasDataElements_v0.95.xsd

- The complex data type `AdvancedTechnologyDetailsType` was changed as follows:
 - Data element `AdvancedTechnologyTypeOtherDescriptionText` (HDV-49) was removed.
- The complex data type `AirConditioningDataDetailsType` was changed as follows:
 - Data element `HighEfficiencyAirConditioningCompressorIndicator` [1 character (HDV-258)] was added with cardinality (0,1).
- The complex data type `AirConditioningSystemDetailsType` was changed as follows:
 - Data element `RefrigerantGlobalWarmingPotentialValue` (HDV-123) cardinality was modified from (0,1) to (1,1).
 - Data element `HighCapacityHFCLeakageComplianceMethodIdentifier` [1 character (HDV-164)] was added with cardinality (0,1).
 - Data element `AlternateHighCapacityHFCLeakageComplianceMethodDescriptionText` [4000 characters (HDV-165)] was added with cardinality (0,1).
 - Data element `R134aRefrigerantIndicator` (HDV-120) cardinality was modified from (1, ∞) to (1,1).
- The complex data type `DesignBasedNonGEMStandardDetailsType` was added with following elements:
 - Data element `WorstCaseTireConfigurationSteerTireTRRLMeasure` [Decimal (4, 2) (HDV-141)] was added with cardinality (1,1).
 - Data element `WorstCaseTireConfigurationDriveTireTRRLMeasure` [Decimal (4, 2) (HDV-142)] was added with cardinality (1,1).
 - Data element `WorstCaseTireConfigurationCombinedTireTRRLValue` [Decimal (3, 1) (HDV-143)] was added with cardinality (1,1).
 - Data element `TirePressureSystemIndicator` [1 character (HDV-144)] was added with cardinality (0,1).

- Data element DesignSpecificationPassFailIdentifier [1 character (HDV-145)] was added with cardinality (0,1).
- The complex data type GreenhouseGasEmissionModelingDataDetailsType was changed as follows:
 - Data element IntelligentControlsIndicator [1 character (HDV-259)] was added with cardinality (1,1).
 - Data element PredictiveCruiseControlWithGPSIndicator [1 character (HDV-260)] was added with cardinality (0,1).
 - Data element PredictiveCruiseControlWithGPSDescriptionText [4000 characters (HDV-261)] was added with cardinality (0,1).
 - Data element DieselAPUPMComplianceIndicator [1 character (HDV-155)] was added with cardinality (0,1).
 - Data element DieselAPUPMComplianceDescriptionText [4000 characters (HDV-156)] was added with cardinality (0,1).
 - Data element IdleReductionIndicator [1 character (HDV-281)] was added with cardinality (0,1).
 - Complex data type IdleReductionDetails was added with cardinality (0,1).
 - Complex data type InnovativeTechnologyWeightReductionDataDetails was removed.
- The complex data type IdleReductionDetailsType was added with following elements:
 - Data element IdleReductionTechnologyTypeIdentifier [1-3 characters (HDV-154)] was added with cardinality (1, ∞).
 - Data element Phase2AESSystemTypeIdentifier [1-8 characters (HDV-157)] was added with cardinality (0, ∞).
 - Data element NeutralIdleEnableConditionsDescriptionText [4000 characters (HDV-160)] was added with cardinality (0,1).
 - Data element NeutralIdleOverrideConditionsDescriptionText [4000 characters (HDV-161)] was added with cardinality (0,1).
 - Data element StopStartEnableConditionsDescriptionText [4000 characters (HDV-162)] was added with cardinality (0,1).
 - Data element StopStartOverrideConditionsDescriptionText [4000 characters (HDV-163)] was added with cardinality (0,1).
- The complex data type InnovativeTechnologyDetailsType was changed as follows:
 - Data element InnovativeTechnologyImprovementFactorValue (HDV-73) cardinality was modified from (0,1) to (0, ∞).
 - Data element InnovativeTechnologyEmissionRateSeparateCreditValue (HDV-74) cardinality was modified from (0,1) to (0, ∞).
 - Data element OffCycleVocationalVehicleDeltaCdAValue [Decimal (3,2) (HDV-151)] was added with cardinality (0, ∞).
 - Data element OffCycleWeightReductionValue [5 digit (HDV-152)] was added with cardinality (0, ∞).
- The complex data type InnovativeTechnologyWeightReductionDataDetailsType was removed.

- The complex data type Phase2EngineFamilyDetailsType was added with following elements:
 - Data element EngineFamilyName [12 characters (HDV-153)] was added with cardinality (1,1).
 - Data element EngineFamilyModelYear [4 digit (HDV-256)] was added with cardinality (1,1).

- The complex data type SpecialTechnologyDetailsType was changed as follows:
 - Data element EPAPredefinedOffCycleTechnologyIdentifier (HDV-147) was added with cardinality (0, ∞).
 - Data element VocationalAerodynamicIndicator [1 character (HDV-148)] was added with cardinality (0, ∞).
 - Data element VocationalAerodynamicTechnologyTypeIdentifier [4 characters (HDV-149)] was added with cardinality (0,1).
 - Data element VocationalAerodynamicVehicleDescriptionText [4000 characters (HDV-150)] was added with cardinality (0,1).

- The complex data type VehicleFamilyDetailsType was changed as follows:
 - Data element RunningChangeTypeOtherDescriptionText [4000 characters (HDV-263)] was added with cardinality (0,1).
 - Data element SmallBusinessIndicator [1 character (HDV-137)] was added with cardinality (1,1).
 - Data element ApplicableRegulationTypeIdentifier [4 character (HDV-138)] was added with cardinality (1,1).
 - Data element SpecialVocationalCreditIndicator [1 character (HDV-139)] was added with cardinality (0,1).
 - Data element SpecialtyVehicleIndicator [1 character (HDV-280)] was added with cardinality (0,1).
 - Complex data type Phase2EngineFamilyDetails (HDV-GRP-39) was added with cardinality (0,∞).
 - Data element SmallBusinessAltFuelDelayedStandardsIndicator [1 character (HDV-279)] was added with cardinality (0,1).
 - Data element AxleEfficiencyTestIndicator [1 character (HDV-265)] was added with cardinality (0,1).
 - Data element PowertrainTestIndicator [1 character (HDV-228)] was added with cardinality (1,1).
 - Data element DesignSpecificationIndicator [1 character (HDV-140)] was added with cardinality (0,1).
 - Complex data type DesignBasedNonGEMStandardDetails (HDV-GRP-26) was added with cardinality (0,1).
 - Data element NHTSAEarlyProgramCreditIndicator (HDV-133) was removed.
 - Data element HigherVehicleServiceClassCertificationTypeIdentifier [8 characters (HDV-146)] was added with cardinality (0,1).

- Data element CO2EmissionStandardValue (HDV-13) cardinality was modified from (1,1) to (0,1).
- Data element LowestProjectedCO2FamilyEmissionLimitValue (HDV-15) cardinality was modified from (1,1) to (0,1).
- Data element HighestProjectedCO2FamilyEmissionLimitValue (HDV-16) cardinality was modified from (1,1) to (0,1).
- Data element HighestProjectedSalesVolumeCO2FamilyEmissionLimitValue (HDV-17) cardinality was modified from (1,1) to (0,1).
- Complex data type VehicleSpeedLimiterConfigurationDetailsType was changed as follows:
 - Data element DefaultSpeedLimitValue (HDV-79) cardinality was modified from (0,1) to (1,1).
 - Data element SoftTopIndicator (HDV-80) cardinality was modified from (0,1) to (1,1).
 - Data element VehicleSpeedLimiterExpirationIndicator (HDV-84) cardinality was modified from (0,1) to (1,1).
 - Data element VocationalVehicleEffectiveSpeedLimitMeasure [Decimal (3,1) (HDV-275)] was added with cardinality (0,1).
- Complex data type HDVGreenhouseGasDataDetailsType was changed as follows:
 - Data element ManufacturerCertificationApplicationCompleteIndicator [1 character (HDV-282)] was added with cardinality (1,1).
 - Data element EPACertificationApplicationCompleteIndicator [1 character (HDV-283)] was added with cardinality (1,1).
- The complex data type TireConfigurationDetailsType was removed.

EN_VER_HDV_GreenhouseGasSubmissionRootElement_v0.95.xsd

- The complex data type HDVGreenhouseGasDataDetailsType was changed as follows:
 - Data group SpecialTechnologyDetails was modified from (1,1) to (0,1).
 - Data group hdv:GreenhouseGasEmissionModelingDataDetails was modified from (1,1) to (0,1).

XML Shared Data Element and Data Type File Modifications

The annotation following the data element name references the corresponding data element identifiers in the data requirements (DR) spreadsheet. Note that some data elements may be used in more locations in the schemas than defined in the DR spreadsheet.

EN_VER_HDV_SharedDataElements_v0.95.xsd

The following data element updates were implemented:

- The data type for data element AdvancedTechnologyTypeIdentifier [1 to 4 digits (HDV-48)] was changed to String1To4CharType.
- The data element AdvancedTechnologyTypeOtherDescriptionText was removed.

- The data type for data element AlternateHighCapacityHFCLeakageComplianceMethodDescriptionText [4000 characters (HDV-165)] was added with data type String1To4000CharType.
- The data element ApplicableRegulationTypeIdentifier [4 characters (HDV-138)] was added with data type String1To4CharType.
- The data type for data element AveragingSetIdentifier [1 to 9 digits (HDV-10)] was changed to String1To9CharType.
- The data element AxleEfficiencyTestIndicator (HDV-265) was added with data type YesNoIndicatorType.
- The data type for data element CO2EmissionStandardValue [Decimal (4,1) (HDV-13)] was changed to Decimal4Point1NonNegativeType.
- The data element DesignSpecificationIndicator (HDV-140) was added with data type YesNoIndicatorType.
- The data element DesignSpecificationPassFailIdentifier (HDV-145) was added with data type Alphanumeric1CharType.
- The data element DieselAPUPMComplianceDescriptionText (HDV-156) was added with data type String1To4000CharType.
- The data element DieselAPUPMComplianceIndicator (HDV-155) was added with data type YesNoIndicatorType.
- The data type for data element EffectiveSpeedLimitValue [Decimal (3,1) (HDV-86)] was changed to Decimal3Point1NonNegativeType.
- The data element EngineFamilyModelYear (HDV-256) was added with data type Integer4DigitPositiveType.
- The data element EngineFamilyName (HDV-153) was added with data type NormalizedAlphanumericFixed12CharType.
- The data element EPAPredefinedOffCycleTechnologyIdentifier [4 characters (HDV-147)] was added with data type String1To4CharType.
- The data element HighCapacityHFCLeakageComplianceMethodIdentifier (HDV-164) was added with data type Alphanumeric1CharType.
- The data element HighEfficiencyAirConditioningCompressorIndicator (HDV-258) was added with data type YesNoIndicatorType.
- The data element HigherVehicleServiceClassCertificationTypeIdentifier [8 characters (HDV-146)] was added with data type String1To8CharType.
- The data type for data element HighestProjectedCO2FamilyEmissionLimitValue [Decimal (4,1) (HDV-16)] was changed to Decimal4Point1NonNegativeType.
- The data type for data element HighestProjectedSalesVolumeCO2FamilyEmissionLimitValue [Decimal (4,1) (HDV-17)] was changed to Decimal4Point1NonNegativeType.
- The data element IdleReductionIndicator (HDV-281) was added with data type YesNoIndicatorType.
- The data element IdleReductionTechnologyTypeIdentifier [3 characters (HDV-154)] was added with data type String1To3CharType.
- The data type for data element InnovativeTechnologyImprovementTypeIdentifier [3 characters (HDV-72)] was changed to String1To3CharType.

- The data element IntelligentControlsIndicator (HDV-259) was added with data type YesNoIndicatorType.
- The data element InnovativeTechnologyWeightReductionComponentName (HDV-115) was removed.
- The data element InnovativeTechnologyWeightReductionEPAApprovalNumberText (HDV-116) was removed.
- The data element InnovativeTechnologyWeightReductionValue (HDV-117) was removed.
- The data type for data element LowestProjectedCO2FamilyEmissionLimitValue [Decimal (4,1) (HDV-15)] was changed to Decimal4Point1NonNegativeType.
- The data element NeutralIdleEnableConditionsDescriptionText [4000 characters (HDV-160)] was added with data type String1To4000CharType.
- The data element NHTSAEarlyProgramCreditIndicator (HDV-133) was removed.
- The data element NeutralIdleOverrideConditionsDescriptionText [4000 characters (HDV-161)] was added with data type String1To4000CharType.
- The data element OffCycleVocationalVehicleDeltaCdAValue [Decimal (3,2) (HDV-151)] was added with data type Decimal3Point2NonNegativeType.
- The data element OffCycleWeightReductionValue [5 digit (HDV-152)] was added with data type Integer5DigitNonNegativeType.
- The data element Phase2AESSystemTypeIdentifier [8 characters (HDV-157)] was added with data type String1To8CharType.
- The data element PowertrainTestIndicator (HDV-228) was added with data type YesNoIndicatorType.
- The data element PredictiveCruiseControlWithGPSDescriptionText [4000 characters (HDV-261)] was added with data type String1To4000CharType.
- The data element PredictiveCruiseControlWithGPSIndicator (HDV-260) was added with data type YesNoIndicatorType.
- The data element RunningChangeTypeOtherDescriptionText [4000 characters (HDV-263)] was added with data type String1To4000CharType.
- The data element SmallBusinessAltFuelDelayedStandardsIndicator (HDV-279) was added with data type YesNoIndicatorType.
- The data element SmallBusinessIndicator (HDV-137) was added with data type YesNoIndicatorType.
- The data element SpecialtyVehicleIndicator (HDV-280) was added with data type YesNoIndicatorType.
- The data element SpecialVocationalCreditIndicator (HDV-139) was added with data type YesNoIndicatorType.
- The data element StopStartEnableConditionsDescriptionText [4000 characters (HDV-162)] was added with data type String1To4000CharType.
- The data element StopStartOverrideConditionsDescriptionText [4000 characters (HDV-163)] was added with data type String1To4000CharType.
- The data element TirePressureSystemIndicator (HDV-144) was added with data type YesNoIndicatorType.

- The data element TireRevolutionsPerMileMeasure [3 digit (HDV-159)] was added with data type Integer3DigitPositiveType.
- The data type for data element TireRollingResistanceCoefficientMeasure [Decimal (3,1) (HDV-101)] was changed to Decimal3Point1NonNegativeType.
- The data type for data element VehicleSubcategoryTypeIdentifier [9 characters (HDV-7)] was changed to String1To9CharType.
- The data element VocationalAerodynamicIndicator (HDV-148) was added with data type YesNoIndicatorType.
- The data element VocationalAerodynamicTechnologyTypeIdentifier [4 characters (HDV-149)] was added with data type String1To4CharType.
- The data element VocationalAerodynamicVehicleDescriptionText [4000 characters (HDV-150)] was added with data type String1To4000CharType.
- The data type for data element VocationalVehicleEffectiveSpeedLimitMeasure [Decimal (3,1) (HDV-275)] was changed to Decimal3Point1NonNegativeType.
- The data type for data element WorstCaseTireConfigurationCombinedTireTRRLValue [Decimal (3,1) (HDV-143)] was changed to Decimal3Point1NonNegativeType.
- The data type for data element WorstCaseTireConfigurationDriveTireTRRLMeasure [Decimal (4,2) (HDV-142)] was changed to Decimal4Point2PositiveType.
- The data type for data element WorstCaseTireConfigurationSteerTireTRRLMeasure [Decimal (4,2) (HDV-141)] was changed to Decimal4Point2PositiveType.
- The data element ManufacturerCertificationApplicationCompleteIndicator (HDV-282) was added with data type YesNoIndicatorType.
- The data element EPACertificationApplicationCompleteIndicator (HDV-283) was added with data type YesNoIndicatorType.
- The data type for data element GEMResultBValue [Decimal (4,1) (HDV-62)] was changed to Decimal4Point1NonNegativeType.
- The data type for data element EngineFamilyName [12 characters (HDV-153)] was changed to NormalizedStringFixed12CharType.
- The data element TireManufacturerName (HDV-100) was removed.
- The data element TireRollingResistanceCoefficientMeasure (HDV-101) was removed.
- The data element TireModelName (HDV-102) was removed.
- The data element TireSizeText (HDV-103) was removed.
- The data element TireTypeIdentifier (HDV-104) was removed.
- The data element TireRevolutionsPerMileMeasure (HDV-159) was removed.

The following data types were implemented:

- Data type Decimal3Point2NonNegativeType was added.
- Data type Decimal4Point2PositiveType was added.
- Data type String1To9CharType was added.