This document identifies the data validation and data consistency processing checks that are performed on XML file submissions for the OHMS Incident Report (Form 5800.1). Data submissions that violate the XML schema are rejected automatically by processing. E-mail messages are returned to the submitter indicating that the submission has violated the schema constraints. The checks described below are performed in addition to the processing that validates the submission's conformance with the XML schema. Data validation and data consistency checks may result in one of two error types – 'minor' and 'reject'.

Minor errors are allowed where the data submitted does not affect the overall quality of the report, or where the reporter has provided data in non-required fields that do not pass validation edits. The submission will be accepted with warnings sent via e-mail to the submitter. For minor errors, the submitted data will be modified automatically as noted in the table below. The report in OHMS records will be marked to denote that data from the original submission was changed. While filers may submit supplemental reports to update the information changed by the XML processor for minor errors for greater clarity, they are not always obligated to do so. **Supplemental report filing is governed by 49 CFR Regulations for submitting Supplemental Reports**, **and is not governed by the acceptance of a report for XML processing due to minor errors.**

Examples of minor errors "passed" by the XML processor include the following:

- a response to Question 27 regarding package capacity and quantity is not required in the XML schema. When this information is provided, the data validation process calculates the overall package capacity for Question 27 and compares that amount to the quantity released reported in Question 19. If the quantity released is greater than the reported package capacity, there is a discrepancy in the report. Rather than reject the report, the information provided for Question 27 is ignored, but only because a response to Question 27 is not required currently.

- for data standardization, U.S. address city, state, and zip code values are validated against data provided by the United States Postal Service (USPS) when provided. The program first validates the zip code and state combination. When that combination is valid, the program next validates that the reported city matches a USPS city for that zip code. If the reported city does **not** match a USPS city value for the zip code, the city value provided by the reporter is **not** used; instead, a minor error is reported, and the USPS city value is used in the Incident Report. (Reported city entries might be invalid due to data entry errors – e.g., Pittsburg vs. Pittsburgh, Flint vs. Fline – or the use of colloquial address city locations not 'sanctioned' by the USPS for a zip code – 'East Somerville' vs. 'Somerville'.)

Reject errors result from discrepancies in the submission of required data that cannot be resolved programmatically. The filer must resubmit the report and address all of the missing or ambiguous data in its subsequent submission. Examples of reject errors include the following:

- the response to report type in Question 1 is 'B', indicating an undeclared shipment with no release, but a non-zero quantity is provided for the quantity released in Question 19. The two answers are inconsistent, and the correct response for either required entry cannot be evaluated.
- for data standardization, U.S. address state and zip code values are validated against data provided by the United States Postal Service (USPS). The program first validates the zip code and state combination. If the combination is not valid, the program cannot determine which field contains the correct value (e.g., the submitter enters 'MA' for a state value and '94210' as the corresponding zip code).

The tables below identify the minor and major errors that may be returned from XML processing of the OHMS Incident Report Form (Form 5800.1):

Changes from March 16, 2005 Version 1.0 of this document:
In the tables below, the 'Questions Validated' and 'Rule Description' columns are identified in italics to facilitate the identification of changes from version 1.0 of this document.

- **Data Rejection:** *Total changes: one (1) new item in Rejections table.* Data submissions in response to question 26 a., *Package Identification Markings,* that cannot be mapped electronically to packaging standards defined in 49 CFR Section I, SubChapter C, Part 178, are likely to be rejected. Some leeway is provided for durable package types (e.g., CTMVs, portable tanks, tank cars) identified in question 24 that are not defined in the new CFR standards but which are still widely in use; however, text entries such as "Can't Read", "Don't know", "None", and "Unknown" provided in this field will not map to available standards and will be rejected. In these latter cases, the submitter should respond to question 26 b. Valid markings include entries such as the following:
  - MC300 and DOT 406 for CTMV
  - DOT 39 and DOT 4AA480 for cylinders
  - 2C2 and 6HA2 for non-bulk and non-bulk composite packages, respectively
  - USA-DOT-21PF-1, USA-DOT-21PF-1A, and USA-DOT 21WC for RAM packages
  - 11A and 11HA2 for IBC and IBC composite packages, respectively
  - 112A and 109AALW for tank cars
  - 53, 51X, and MIL ORD for portable tanks

- **Minor Errors:** *Total changes: five (5) new entries in Minor Errors table.* For optional responses to question 27, inner package capacity volumes, failure quantities, and total amounts provided by the submitter are compared to corresponding capacity volumes, failure quantities, total amounts and units of measures reported for outer packages. Violations of mathematical logical regarding package capacity volumes, failure quantities, and units of measure across different mediums or physical states will result in a rejection of the submission (e.g., calculated capacity of outer container is 4 liters; inner capacity is calculated at 5 liters; failure quantity calculated exceeds reported quantity of containers; outer capacity unit of measure is a solid, inner capacity unit of measure is a gas).

Minor Errors:

Note: in the table below, error message values indicated in brackets <> are replaced with the data supplied for the field from the submitter's report. For example, the error message in the table below for question #24 reads:
"Package type <Package Type - Question 24> should not have Inner Packaging. The Inner Packaging for package no. <package number> of material <material name> is excluded from the data submission."
The actual message returned to the user would be of the following form (items below are shown in bold font only for explanatory and emphasis purposes in this document – the values will not be in bold font in the returned message):
"Package type **Cylinder** should not have Inner Packaging. The Inner Packaging for package no. **1** of material **steel** is excluded from the data submission."

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
1 & 23	Report type is selected as 'B' (undeclared shipment with no release), and answer to question 23 (is this an undeclared shipment) is 'No'.	Minor	You selected B (An undeclared shipment with no release) for Question 1, but you do not select 'Yes' on Question 23. Question 23 will be set to 'Yes'.	The answer to Question 23 will be set to 'Yes'. The response is changed only when q.19 (release quantity) also = 0, indicating no material release.
7	For U. S. Incident Location's address: Validate the City, county and zip combination.	Minor	Incident Location's city, county, and zip combination is invalid.	Submission will be accepted, but the zip code will be cleared. OHMS internal staff will determine the correct zip code. The response is changed only

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
				when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)
7	For U. S. Incident Location's address: Validate the Incident location's county and zip combination.	Minor	Incident Location's county and zip combination is invalid.	Submission will be accepted, but the zip code will be cleared. OHMS internal staff will determine the correct zip code. The response is changed only when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)
10	For Carrier US address: Validate Carrier's City and zip code combination.	Minor	Carrier's city and postal code combination does not match.	Submission will be accepted. The Carrier's city will be changed to reflect the US Postal Service's city name for the zip code. The response is changed only when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)
11	For Shipper US address: Validate City and zip code combination.	Minor	Shipper's city and postal code combination does not match.	Submission will be accepted. The Shipper's city will be changed to reflect the US Postal Service's city name for the zip code. The response is changed only when the entered state and zip code match (if state and zip

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
				don't match, a reject error is returned – see below.)
12	For Origin City US address: Validate City and zip code combination.	Minor	Shipper origin's city and postal code combination does not match.	Submission will be accepted. The Origin city will be changed to reflect the US Postal Service's city name for the zip code. The response is changed only when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)
12	For US address: Shipper Origin state and zip submitted must be valid.	Minor	Shipper origin's state and postal code combination is invalid.	This is a minor error because package origin information is not required. The package origin information will be omitted from the submission.
12	For US address: Valid US zip code is required for shipper.	Minor	Shipper origin's postal code is invalid.	This is a minor error because package origin information is not required. The package origin information will be omitted from the submission.
13	For US address: Package destination state and zip combination submitted must be valid.	Minor	Package destination's state and postal code combination of package no. <package number> of material <material name> is invalid.	This is a minor error because package destination information is not required. The package destination information will be omitted from the submission.
13	For US address: Valid US zip code is required.	Minor	Package destination's postal code of package no. <package number> of material <material name> is invalid.	This is a minor error because package destination information is not required. The package

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
				destination information will be omitted from the submission.
19 & 27	Quantity released unit of measure should match package capacity unit of measure in Question 27	Minor	<Quantity released unit of measure> + unit entered for quantity released in Question 19, but <Package Capacity Unit of Measure in Question 27> unit entered for package capacity for the Single Packaging of package no. <package number>. Measurement units must be of the same physical state. Data for question 27 for the <Single/Outer/Inner> Packaging are excluded from data submission.	Data for question 27 for the <Single/Outer/Inner> packaging will be excluded from the data submission because it is not required.
19 & 27	Quantity released should be less than equal to the total package capacity.	Minor	Quantity released entered in Question 19 exceeds the cumulative capacity of the packages.	Data for question 27 for the <Single/Outer/Inner> packaging will be excluded from the data submission because it is not required.
13	For Package destination US address: Validate City and zip code combination.	Minor	Package destination's city of package no. <package number> of material <material name> is invalid.	Submission will be accepted. The Package destination city will be changed to reflect the US Postal Service's city name for the zip code. The response is changed only when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)
24	If the package type is not 'Non-Bulk', 'IBC' or 'Other',	Minor	Package type <Package Type - Question 24> should not have Inner Packaging. The Inner	Data will be modified by the XML processor. The Inner

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
	inner package information is not required.		Packaging for package no. <package number> of material <material name> is excluded from the data submission.	Packaging data is not allowed, and will be excluded from the submission since it is not required
27	Inner package capacity information cannot be submitted if there is no outer package.	Minor	Inner Packaging capacity and quantity data cannot be submitted if there is no data supplied for Outer Packaging. The Inner Packaging capacity and quantity data of package no. <package number> of material <material name> is excluded from the data submission.	Data will be modified by the XML processor. The Inner Packaging data is not allowed, and will be excluded from the submission since it is not required.
27	Inner package capacity can not be greater than the outer package capacity	Minor	Inner Packaging capacity exceeds Outer Packaging capacity for package no. <package number> of material <material name>.	Data will be modified by the XML processor. The Inner Packaging data is not required, and will be excluded from the submission.
27	Outer Package number in shipment value must be 1 if the package type is Tank Car or CTMV	Minor	The number in shipment in the Outer Packaging for package type <package type> must be '1'. The number in shipment of Outer Packaging of package no. <package number> of material <material name> is set to '1'	Data will be modified by the XML processor.
27	Outer package number failed in shipment value must be 1 if the package type is Tank Car or CTMV.	Minor	The number failed in the Outer Packaging for package type <package type> must be '1'. The number failed of Outer Packaging of package no. <package number> of material <material name> is set to '1'.	Data will be modified by the XML processor. The number failed of Outer Packaging items will be set to '1'.
27	Single Package number in shipment value must be 1 if the package type is Tank	Minor	The number in shipment in the Single Packaging for package type <package type> must be '1'. The number in shipment of	Data will be modified by the XML processor. The number of shipped items will be set to '1'.

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
	Car or CTMV		Single Packaging of package no. <package number> of material <material name> is set to '1'.	
27	Single package number failed in shipment value must be 1 if the package type is Tank Car or CTMV.	Minor	The number failed in the Single Packaging for package type " & <package type> must be '1'. The number failed of Single Packaging of package no. <package number> of material <material name> is set to '1'."	Data will be modified by the XML processor. The number of failed items will be set to '1'.
27	Package capacity must be greater than or equal to amount in the package.	Minor	<Single/Outer/Inner package> amount exceeds package capacity for package no. <package number> of material <material name>.	Package capacity data is not consistent. The package capacity data will be excluded from the submission.
27	Number failed must be less than or equal to number in the shipment.	Minor	<Single/Outer/Inner package> number failed exceeds number in shipment for package no. <package number> of material <Material name>.	Package failure data is not consistent. The package failure data in response to package capacity will be excluded from the submission.
27	*The unit of measure physical state (solid, liquid, gas, RAM) for the package capacity does not match the physical state for the package amount unit of measure.*	Minor	<Outer/Inner> Package Capacity UOM physical state of package no. <package number> of material <material name> does not match with <outer/inner> package amount UOM physical. <Outer/Inner> Package Capacity and Amount data is excluded from submission.	Package data is inconsistent in the same layer. The data will be excluded from the submission.
27	*The physical state (solid, liquid, gas, RAM) units of measure for the package capacity provided for the*	Minor	Inner Package Capacity UOM physical state of package no. <package number> of material <material name> does not match with outer package capacity UOM physical.	Package capacity data is inconsistent across layers. The data will be excluded from the submission.

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
	inner and outer layers do not match.		Inner Package Capacity and Amount data is excluded from submission.	
27	*The physical state (solid, liquid, gas, RAM) units of measure for the package amounts provided for the inner and outer layers do not match.*	Minor	Inner Package Amount UOM physical state of package no. \<package number\> of material \<material name\> does not match with outer package amount UOM physical. Inner Package Capacity and Amount data is excluded from submission.	Package amount quantity data is inconsistent across layers. The data will be excluded from the submission.
27	*The inner package capacity exceeds the calculated outer package capacity.*	Minor	Inner Package total capacity (capacity * number in shipment) of package no. \<package number\> of material \<material name\> cannot exceed outer package total capacity. Inner Package Capacity and Amount data is excluded from submission.	Package amount quantity data is inconsistent across layers. The data will be excluded from the submission.
27	*The inner package amount exceeds the outer package amount.*	Minor	Inner Package total amount (amount * number in shipment) of package no. \<package number\> of material \<material name\> cannot exceed outer package total amount. Inner Package Capacity and Amount data is excluded from submission.	Package amount total data is inconsistent across layers. The data will be excluded from the submission.
28	Material of construction information is not required for package type 'Non-Bulk', 'IBC' and 'Other'.	Minor	\<Single/Outer/Inner\> Packaging of package type \<package type\> could not have material of construction data for question 28. The material of construction data for \<Single/Outer/Inner\> Packaging of package no. \<package number\> of material \<material name\> is excluded from data submission.	Data will be modified by the XML processor. The packaging data is optional, so it will be excluded from the submission.
28	Inner package construction and test information data	Minor	Inner Packaging construction and test information data cannot be submitted if there	Data will be modified by the XML processor. The Inner

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
	can not be submitted if there is no outer package.		is no data supplied for Outer Packaging. Inner Packaging construction and test information data for package no. <package number> of material <material name> is excluded from data submission.	Packaging data is not allowed, and will be excluded from the submission since it is not required.
28	Design Pressure data is not required for package type 'Non-Bulk', 'IBC' and 'Other'.	Minor	<Single/Outer/Inner> Packaging of package type <package type> could not have design pressure data. Design pressure data for <Single/Outer/Inner> Packaging of package no. <package number> of material <material name> is excluded from data submission.	Data will be modified by the XML processor. The design pressure data will be excluded from the submission.
28	Shell thickness data is not required for package type 'Non-Bulk', 'IBC' and 'Other'.	Minor	<Single/Outer/Inner> Packaging of package type <package type> could not have shell thickness data. Shell thickness data for <Single/Outer/Inner> Packaging of package no. <package number> of material <material name> is excluded from data submission.	Data will be modified by the XML processor. The shell thickness data will be excluded from the submission.
28	Head thickness data is not required for package type 'Non-Bulk', 'IBC' and 'Other'.	Minor	<Single/Outer/Inner> Packaging of package type <package type> could not have head thickness data. Head thickness data for <Single/Outer/Inner> Packaging of package no. <package number> of material <material name> is excluded from data submission.	Data will be modified by the XML processor. The head thickness data will be excluded from the submission.
28	Service Pressure data is not required for package type 'Non-Bulk', 'IBC' and 'Other'.	Minor	<Single/Outer/Inner> Packaging of package type <package type> could not have service pressure data. Service Pressure data for <Single/Outer/Inner> Packaging of package no. <package number> of material <material name> is excluded from data submission.	Data will be modified by the XML processor. The service pressure data will be excluded from the submission.

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
32	Check for consistency between 'damages over $500' indicator and dollar amounts reported for individual elements and reported dollar total.	Minor	'Yes' check for 'Damages over $500', but cost total is under $500 in response to Question 32 and the sum of the individual elements is under $500 and matches the total presented in the report.	Data will be modified by the XML processor. Damages flag will be set to 'no'. Damages data are excluded from data submission.
32	Check for consistency between 'damages over $500' indicator and dollar amounts reported for individual elements and reported dollar total.	Minor	'No' checked for 'Damages over $500', but cost is reported and cost total is under $500 in response to Question 32 and the sum of the individual elements is under $500 and matches the total presented in the report.	Data will be modified by the XML processor. Damages flag will be set to 'no'. Damages data are excluded from data submission.
32	Check for consistency between 'damages over $500' indicator and dollar amounts reported for individual elements and reported dollar total.	Minor	'Yes' checked for 'Damages over $500', but cost is reported and cost total is under $500 in response to Question 32 and the sum of the individual elements is under $500 and matches the total presented in the report.	Data will be modified by the XML processor. Damages flag will be set to 'no'. Damages data are excluded from data submission. (Note: this condition should not pass the schema validation check.)
35	Check for consistency between detail elements and total reported for individuals evacuated.	Minor	Total Evacuated number does not match the total of Employees and General Public Evacuated numbers.	Data will be modified by the XML processor. The total evacuated will be set to the sum of the reported elements.
VIII	Validate the date submitted in Section VIII.	Minor	Contact date is in the future. Future dates are illegal. Contact date is excluded from data submission.	Data will be modified by the XML processor. Contact date is excluded from data submission.
VIII	Validate the Contact's city and postal code combination.	Minor	Contact's city and postal code combination does not match.	Submission will be accepted. The Contact's city will be changed to reflect the US Postal

Question(s) Validated	Rule Description	Severity	Error Message	Action Taken by XML Processor
				Service's city name for the zip code. The response is changed only when the entered state and zip code match (if state and zip don't match, a reject error is returned – see below.)

Rejection Errors:

Question(s) Validated	Rule Description	Severity	Error Message	Solution
1 & 19	If the report type is 'B' (undeclared shipment with no release), then the reported quantity released should be zero. An error will be generated if the quantity released isn't 0.	Reject	You selected B (An undeclared shipment with no release) for Question 1, but you provide a quantity released on Question 19.	Re-file report ensuring consistency between these two fields.
2	Report number and Tracking number is required to file supplemental report.	Reject	Tracking and Report Numbers are required for Supplemental Report.	Send the XML data with report and tracking number. If report and tracking number is not available then call 1-202-366-1517 to get the Tracking and Report Numbers
2	Invalid Report Number	Reject	Report Number is in illegal format.	Report number should have format of 1 alpha + '-' + 10 numeric digit (total 12 characters)
2	Supplemental report can be filed only after 48 business hours of last submission date and time to allow validation and verification by in-house staff.	Reject	Your report is currently being reviewed by internal staff and should be available to process a supplemental report in 48 hours. Please try again later.	Resubmit the report after 48 business hours of first submission.
2	No incident report found for the supplied report number and tracking number.	Reject	No Incident Report found for the tracking number and report number you provided.	Check your data for valid report and tracking number. If needed, call 1-202-366-1517 to get the Tracking and Report Numbers.

Question(s) Validated	Rule Description	Severity	Error Message	Solution
3	Date of Incident can not be future date.	Reject	Date of Incident is in the future. Future dates are illegal.	Incident Date can not be future date. Correct your incident date and resubmit the data.
10	For US address: Carrier state and zip combination must be valid if both values are submitted.	Reject	Carrier's state and postal code combination is invalid	Refer to http://www.usps.com/ for valid state and postal code data and resubmit the data.
10	For US address: Valid US zip code is required for Carrier.	Reject	Carrier's postal code is invalid.	Refer http://www.usps.com/ for valid data and resubmit the data.
10	For US address: Carrier Street address is required.	Reject	Carrier's street is missing.	Data is rejected. Data should be rejected automatically by XML schema validation process, since street is a required field in the Carrier address.
11	For US address: Shipper state and zip combination must be valid if both values are submitted.	Reject	Shipper's state and postal code combination is invalid	Refer http://www.usps.com/ for valid data and resubmit the data.
11	For US address: Valid US zip code is required for the shipper.	Reject	Shipper's postal code is invalid.	Refer http://www.usps.com/ for valid data and resubmit the data.
11	For US address: Shipper's Street address is required.	Reject	Shipper's street is missing.	Data is rejected. Data should be rejected automatically by XML schema validation process, since street is a required field in the Shipper address.
24	If the package type is	Reject	Package type required for each package	Data is rejected. Data should be

Question(s) Validated	Rule Description	Severity	Error Message	Solution
	'Other', then a package description is required.		submission. Package type missing for package no. <package number> of material <material name>.	rejected by XML schema validation process, since if 'Other' is checked, a package description should be required.
26a	*Package identification marking must conform to OHMS marking standards identified in 49 CFR Section I, SubChapter C, Part 178 or earlier.*	Reject	The response to question 26.a. for <package type> packaging cannot be interpreted in accordance with current packaging standards established in 49 CFR Section I, SubChapter C, Part 178. The submission is rejected.	Data is rejected. The program cannot evaluate the package marking provided as a valid marking in conformance with 49 CFR standards.
32	Check for consistency between 'damages over $500' indicator and dollar amounts reported for individual elements and reported dollar total.	Reject	'No' check for 'Damages over $500', and cost data is provided, and total doesn't match sum of the individual elements, and either (1) the sum of individual elements validated by internal program or (2) the cost total reported by the filer is more than $500.	Data is rejected. Data should be rejected by XML schema validation process, since if 'no' is checked, no cost details are permitted.
32	Check for consistency between 'damages over $500' indicator and dollar amounts reported for individual elements and reported dollar total.	Reject	'Yes' check for 'Damages over $500', and cost total doesn't match sum of the individual elements which total more than $500, or reported cost total is less than $500.	The data is internally inconsistent. The program can't determine whether the reported total or the program's calculated sum of the individual elements represents the correct total.
VIII	For Contact's US address: Contact's state and zip combination submitted must be valid.	Reject	Contact's state and postal code combination is invalid.	Refer to http://www.usps.com/ for valid state and postal code data and resubmit the data.
VIII	For Contact's US address: Valid US zip code is required.	Reject	Contact's postal code is invalid.	Refer to http://www.usps.com/ for valid postal code data and resubmit the data.

Question(s) Validated	Rule Description	Severity	Error Message	Solution
VIII	For US address: Contact's Street address is required.	Reject	Contact's street is missing.	Data is rejected. Data should be rejected automatically by XML schema validation process, since street is a required field in the Contact address.