EDGAR

ELECTRONIC DATA GATHERING, ANALYSIS, AND RETRIEVAL

EDGAR® Ownership XML Technical Specification

Version ~~5.3~~5.4
~~September~~ March
~~2021~~2023

DRAFT DISCLAIMER:
This draft EDGARLink Online XML Technical Specification, posted before Commission approval of potential regulatory changes in this release, is provided as a service to our filing community to assist filers, agents, and software developers in their preparation of responses to potential changes the staff anticipates. Since this is a draft technical specification, the SEC retains the right to change any part of the technical specification before the new system release is made final. In addition, the final EDGARLink online XML Technical Specification is subject to Commission approval and may be revised before approval or not approved at all. Similarly, the posting of the draft technical specification does not indicate Commission approval of any pending proposed changes relating to the potential changes reflected in the draft technical specification. The changes outlined in this draft technical specification, if approved, are scheduled to take effect on March 20, 2023. The final version of the technical specification will be made available if approved by the Commission on or about March 20, 2023, on the SEC's Public Website

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1. INTRODUCTION

1.1 Purpose

This document details the valid structure and content of the six Electronic Data Gathering, Analysis, and Retrieval (EDGAR) Ownership Extensible Markup Language (XML) submission types:

Submission Type	Description
3	Initial Statement of Beneficial Ownership of Securities
3/A	Amendment of a previous Form 3
4	Statement of Changes of Beneficial Ownership of Securities
4/A	Amendment of a previous Form 4
5	Annual Statement of Beneficial Ownership of Securities
5/A	Amendment of a previous Form 5

This specification provides, to those filers who are interested, a basis for creating XML submissions without the use of the EDGAR OnlineForms/XML Website. The expectation is that software developers, working on behalf of filers, will construct software that will generate an XML Ownership submission that can be successfully parsed by the EDGAR system.

The Ownership submission file must conform to the EDGAR Ownership Submission Taxonomy. The primary enclosed document for the submission must adhere to the EDGAR Ownership Document XML Taxonomy. These taxonomies are a collection of XML Schema Definition (.xsd.xml) files that define the structures of EDGAR Ownership submissions.

For specific information about the data content of the Ownership submission types, refer to the EDGAR Filer Manual Volume II available on the SEC's Public Website (http://www.sec.gov) and the online help files available on the EDGAR OnlineForms/XML Website.

1.2 Summary of Changes

On ~~September~~ March 2020, ~~2021~~2023, EDGAR Release ~~21.3~~23.1 introduced the following changes:

- ~~Text for Country TAIWAN, PROVICE OF CHINA is changed to TAIWAN in ownershipDocumentCommon.xsd.xml file.~~

- ~~Code F5 is changed to TAIWAN in APPENDIX A.STATE AND COUNTRY CODES.~~

- Table 3.5, Appendix C and D are updated to include element "aff10b5One" to the Submission Form Types 4, 4/A, 5 and 5/A.

2. EDGAR SCHEMA FILES

These are the schema files that the EDGAR system uses to validate Ownership submissions. They are considered part of this specification and are distributed with this document.

XML Schema File	Scope of File
edgarSubmission.xsd.xml	Defines the submission "header" fields that can be included in the submission file for all 6 ownership types
ownershipDocumentCommon.xsd.xml	Defines elements that are common to all ownership primary documents. Each submission-specific schema file includes a reference to this file
ownership3Document.xsd.xml	Defines the structure of the primary document in a submission of type "3"
ownership3ADocument.xsd.xml	Defines the structure of the primary document in a submission of type "3/A"
ownership4Document.xsd.xml	Defines the structure of the primary document in a submission of type "4"
ownership4ADocument.xsd.xml	Defines the structure of the primary document in a submission of type "4/A"
ownership5Document.xsd.xml	Defines the structure of the primary document in a submission of type "5"
ownership5ADocument.xsd.xml	Defines the structure of the primary document in a submission of type "5/A"

These files define the valid data elements for an Ownership submission, the hierarchy and sequencing of these elements, data types, valid values, maximum lengths, number of occurrences, etc.

It is recommended that you download these files and use them for your own validation prior to transmitting a submission. This will greatly reduce the likelihood of receiving an EDGAR Suspense error. These schema files contain several annotations that describe the nature of the content of some of the elements.

EDGAR does perform several validation checks that are not related to the schema files, so it is possible for a submission to meet all the schema constraints and still be SUSPENDED or BLOCKED. For instance, EDGAR verifies that each Reporting Owner Central Index Key (CIK)/ CIK Confirmation Code (CCC) pair is valid.

2.1 Key Schema Indicators

We assume the filer is familiar with the basics of the XML language, Namespaces, and the XML Schema Definition language. If not, you can find numerous references on the World Wide Web. One recommended website that provides several useful tutorials and examples is *http://www.w3schools.com/*.

We would, however, like to highlight the schema language features used most heavily in the EDGAR Ownership submission schema files. These are:

Indicator	Purpose
<sequence>	Specifies that child elements must appear in a specific order. This indicator is used with each element hierarchy. Elements must always appear in the order shown in Sections 3.4 and 3.5.
<choice>	Specifies that either one child element or another can occur
<minOccurs>	Specifies the minimum number of times that an element can occur
<maxOccurs>	Specifies the maximum number of times that an element can occur

The default value for both the <minOccurs> and <maxOccurs> occurrence indicator is 1. An optional field will have a <minOccurs> value of zero.

This excerpt from the ownershipDocumentCommon.xsd.xml schema file includes all four of these indicators:

```
<xs:complexType name="UNDERLYING_SECURITY">
   <xs:sequence>
      <xs:element name="underlyingSecurityTitle" type="SECURITY_TITLE"/>
       <xs:choice>
         <xs:element name="underlyingSecurityShares" type="OPT_NUMBER_WITH_FOOTNOTE"
                                                      minOccurs="0"/>
         <xs:element name="underlyingSecurityValue"  type="OPT_NUMBER_WITH_FOOTNOTE"
                                                      minOccurs="0"/>
       </xs:choice>
   </xs:sequence>
</xs:complexType>
<xs:complexType name="NUMBER_WITH_FOOTNOTE">
   <xs:sequence>
      <xs:element name="value"      type="xs:decimal"  minOccurs="0"/>
      <xs:element name="footnoteId" type="FOOTNOTE_ID" minOccurs="0" maxOccurs="99"/>
   </xs:sequence>
</xs:complexType>
```

This is a section of XML that conforms to the schema definition given above:

```
<underlyingSecurity>
   <underlyingSecurityTitle>
      <value>Underlying Title</value>
   </underlyingSecurityTitle>
   <underlyingSecurityShares>
      <value>123000</value>
      <footnoteId id="F1"/>
      <footnoteId id="F2"/>
      <footnoteId id="F4"/>
   </underlyingSecurityShares>
</underlyingSecurity>
```

3. XML SCHEMAS

This section summarizes the restrictions and constraints imposed on the content of the six Ownership submission types. These rules are enforced by the schema files and by EDGAR submission processing applications.

The schema files cannot enforce all the rules concerning data content, so it is possible for a submission to satisfy all the schema constraints and still be SUSPENDED or BLOCKED by EDGAR.

3.1   Schema Table Column Definitions

The following defines the columns in the two schema summation tables provided in Sections 3.4 and 3.5:

Column Name	Description
Level	Depth of element in the XML node hierarchy
Order	Order in which elements must appear
Data Type	See the Data Type Constraints table for a detailed description
Element Name	Name of the XML element. This is case-sensitive
Max Length	Maximum length for String fields. EDGAR database stores up to this number of characters
Choice List	This name refers to a list of valid values for this field. The Choice List Values section provides the valid value lists
Max Occur	Maximum times a set of elements may be repeated
3	Indicates applicability of this field to this submission type
3/A	Indicates applicability of this field to this submission type
4	Indicates applicability of this field to this submission type
4/A	Indicates applicability of this field to this submission type
5	Indicates applicability of this field to this submission type
5/A	Indicates applicability of this field to this submission type

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3.2   Data Type Constraints

Each entry in the "Data Type" column of these tables will be one of these values:

Data Type	Constraints
boolean	Indicate a "true" value with either a "1" or the word "true." Indicate a "false" value with either a "0" or the word "false." A boolean element may not have a null or blank value. This is a schema violation and will cause a SUSPENSE error.
date	Must be of the format YYYY-MM-DD. A date element may not have a null or blank value. This is a schema violation and will cause a SUSPENSE error. Do not include a date element at all if your goal is to not provide an optional date.
decimal	Only valid characters are 0-9 and a period. Cannot contain commas, a minus sign, a dollar sign, or parentheses. EDGAR stores up to four decimal places. A decimal element may not have a null or blank value. This is a schema violation and will cause a SUSPENSE error. Do not include a decimal element at all if your goal is to not provide an optional number. Minimum allowable value = 0.0 Maximum allowable value = 999999999999.9999
string	Should be no longer than the length shown in the tables in Sections 3.4 and 3.5. EDGAR stores values in the <footnote>, <signatureName>, and <contactEmailAddress> elements exactly as provided. All other values are stored in the database as uppercase. You must use special escape sequences to represent these four characters: For the < character use the escape sequence "<" or "<". For the > character use the escape sequence ">" or ">". For the & character use the escape sequence "&" or "&". For the " character use the escape sequence """ or """.
ID, IDREF	Used for linking footnotes to data fields. Must start with a capital "F," which must be followed by a number from 1 to 99
NV	These fields cannot have a value. They are parent element nodes that contain other XML elements. These elements need to be present for proper validation.

3.3 Applicability of Schema Elements

Each entry in the six submission/document types columns in the tables in Sections 3.4 and 3.5 will have one of these values:

Value	Description
m	Mandatory
cm	Conditional Mandatory. The element is mandatory if its parent element is included. The element cannot be included if its parent is not included. This basic rule applies to next eight rows that detail additional "Conditional Mandatory" rules.
cm(1)	For the <reportingOwnerRelationship> group, at least one of the four boolean child elements must be true.
cm(2)	If <reportingOwnerRelationship.isOfficer> is true, then <officerTitle> becomes mandatory.
cm(3)	If <reportingOwnerRelationship.isOther> is true, then <otherText> becomes mandatory.
cm(4)	If the conditional mandatory <transactionAmounts> group is used for a <derivativeTransaction>, you must provide a value for either <transactionShares> or <transactionTotalValue>. You cannot provide a value for both.
cm(5)	If the value of <directOrIndirectOwnership> is "D," do not supply a <ownershipNature.natureOfOwnership> value. You may either include the tag element with no data value or not include the tag element at all. If you supply a value for the tag element, the submission will be suspended. If the value of <directOrIndirectOwnership> is "I," <ownershipNature.natureOfOwnership> is mandatory. The submission will be suspended if the tag element is not included or the value of the tag element has no value.
cm(6)	In the mandatory <underlyingSecurity> group, you must provide a value for either <underlyingSecurityShares> or <underlyingSecurityValue>. You cannot provide a value for both.
cm(7)	In the mandatory <postTransactionAmounts> group, you must provide a value for either <sharesOwnedFollowingTransaction> or <valueOwnedFollowingTransaction>. You cannot provide a value for both.

Value	Description
cm(8)	If nothing is provided for the <value>, then the element must be footnoted.
o	Optional
o(1)	The <reportingOwner.rptOwnerCcc> is optional in the schemas, but it is truly mandatory for input processing. It is marked as optional so that the CCC can be removed from the version of the document that is disseminated. In this way, the disseminated document will still conform to this specification.
NA	Does not apply to submission type. EDGAR uses this field for server-side processing. Do not provide a value for this element.
(*)	The maximum total number of transactions and/or holdings reported on a form may not exceed 60. The total number of rows in the Non-Derivative Table (Table 1 on the printed form) cannot exceed 30. This would include both <nonDerivativeTransaction> and <nonDerivativeHolding> entries. The total number of rows in the Derivative Table (Table 2 on the printed form) cannot exceed 30. This would include both <derivativeTransaction> and <derivativeHolding> entries.
blank	Does not apply to submission type

3.4   Mapping of Ownership Submission Schemas to Submission Types

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
1	1	NV	edgarSubmission				m	m	m	m	m	m
2	1	string	submissionType	3	SubTypeList		m	m	m	m	m	m
2	2	string	testOrLive	4	TestLiveList		m	m	m	m	m	m
2	3	NV	pointOfContact				o	o	o	o	o	o
3	1	string	contactName	30			o	o	o	o	o	o
3	2	string	contactPhoneNumber	20			o	o	o	o	o	o
3	3	string	contactEmailAddress	80			o	o	o	o	o	o
2	4	boolean	returnCopy				o	o	o	o	o	o
2	5	NV	notificationAddresses				o	o	o	o	o	o
3	1	string	notificationEmailAddress	80		30	o	o	o	o	o	o
2	6	NV	edgarDocument			611	m	m	m	m	m	m
3	1	string	documentName	32			m	m	m	m	m	m
3	2	string	documentType	20	DocTypeList		m	m	m	m	m	m
3	3	string	documentDescription	255			o	o	o	o	o	o
3	4	string	documentMimeBlock	unlimited			m	m	m	m	m	m

3.5 Mapping of Ownership Document Schemas to Document Types

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
1	1	NV	ownershipDocument				m	m	m	m	m	m
2	1	string	schemaVersion	5			NA	NA	NA	NA	NA	NA
2	2	string	documentType	3			m	m	m	m	m	m
2	3	date	periodOfReport	10			m	m	m	m	m	m
2	4	date	dateOfOriginalSubmission	10				m		m		m
2	5	boolean	noSecuritiesOwned				NA	NA				
2	6	boolean	notSubjectToSection16						o	o	o	o
2	7	boolean	form3HoldingsReported								NA	NA
2	8	boolean	form4TransactionsReported								NA	NA
2	9	NV	issuer				m	m	m	m	m	m
3	1	string	issuerCik	10			m	m	m	m	m	m
3	2	string	issuerName	150			NA	NA	NA	NA	NA	NA
3	3	string	issuerTradingSymbol	10			m	m	m	m	m	m
2	10	NV	reportingOwner			10	m	m	m	m	m	m
3	1	NV	reportingOwnerId				m	m	m	m	m	m
4	1	string	rptOwnerCik	10			m	m	m	m	m	m
4	2	string	rptOwnerCcc	8			o(1)	o(1)	o(1)	o(1)	o(1)	o(1)
4	3	string	rptOwnerName	150			NA	NA	NA	NA	NA	NA
3	2	NV	reportingOwnerAddress				o	o	o	o	o	o
4	1	string	rptOwnerStreet1	40			o	o	o	o	o	o
4	2	string	rptOwnerStreet2	40			o	o	o	o	o	o
4	3	string	rptOwnerCity	30			o	o	o	o	o	o

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
4	4	string	rptOwnerState	2	StateCodeList		o	o	o	o	o	o
4	5	string	rptOwnerZipCode	10			o	o	o	o	o	o
4	6	String	rptOwnerStateDescription	50			NA	NA	NA	NA	NA	NA
4	7	boolean	rptOwnerGoodAddress				NA	NA	NA	NA	NA	NA
3	3	NV	reportingOwnerRelationship				m	m	m	m	m	m
4	1	boolean	isDirector				cm(1)	cm(1)	cm(1)	cm(1)	cm(1)	cm(1)
4	2	boolean	isOfficer				cm(1)	cm(1)	cm(1)	cm(1)	cm(1)	cm(1)
4	3	boolean	isTenPercentOwner				cm(1)	cm(1)	cm(1)	cm(1)	cm(1)	cm(1)
4	4	boolean	isOther				cm(1)	cm(1)	cm(1)	cm(1)	cm(1)	cm(1)
4	5	string	officerTitle	30			cm(2)	cm(2)	cm(2)	cm(2)	cm(2)	cm(2)
4	6	string	otherText	30			cm(3)	cm(3)	cm(3)	cm(3)	cm(3)	cm(3)
2	11	boolean	aff10b5One				NA	NA	R	R	R	R
2	1112	NV	nonDerivativeTable				o	o	o	o	o	o
3	1	NV	nonDerivativeTransaction			30(*)			o	o	o	o
4	1	NV	securityTitle						cm	cm	cm	cm
5	1	string	value	60					cm	cm	cm	cm
5	2	IDREF	footnoteId			99			o	o	o	o
4	2	NV	transactionDate						cm	cm	cm	cm
5	1	date	value	10					cm	cm	cm	cm
5	2	IDREF	footnoteId			99			o	o	o	o
4	3	NV	deemedExecutionDate						o	o	o	o
5	1	date	value	10					o	o	o	o
5	2	IDREF	footnoteId			99			o	o	o	o
4	4	NV	transactionCoding						cm	cm	cm	cm

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	1	string	transactionFormType	1	FormTypeList				cm	cm	cm	cm
5	2	string	transactionCode	1	TransCodeList				cm	cm	cm	cm
5	3	boolean	equitySwapInvolved						cm	cm	cm	cm
5	4	IDREF	footnoteId			99			o	o	o	o
4	5	NV	transactionTimeliness						o	o	o	o
5	1	string	value	1	TimelinessList				o	o	o	o
5	2	IDREF	footnoteId			99			o	o		
4	6	NV	transactionAmounts						cm	cm	cm	cm
5	1	NV	transactionShares						cm	cm	cm	cm
6	1	decimal	value						cm	cm	cm	cm
6	2	IDREF	footnoteId			99			cm	cm	cm	cm
5	2	NV	transactionPricePerShare						cm	cm	cm	cm
6	1	decimal	value						cm(8)	cm(8)	cm(8)	cm(8)
6	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
5	3	NV	transactionAcquiredDisposedCode						cm	cm	cm	cm
6	1	string	value	1	AcqDispList				cm	cm	cm	cm
6	2	IDREF	footnoteId			99			o	o	o	o
4	7	NV	postTransactionAmounts						cm	cm	cm	cm
5	1	NV	sharesOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	2	NV	valueOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o
4	8	NV	ownershipNature						cm	cm	cm	cm
5	1	NV	directOrIndirectOwnership						cm	cm	cm	cm
6	1	string	value	1	OwnerTypeList				cm	cm	cm	cm
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	natureOfOwnership						cm(5)	cm(5)	cm(5)	cm(5)
6	1	string	value	100					cm(5)	cm(5)	cm(5)	cm(5)
6	2	IDREF	footnoteId			99			o	o	o	o
3	2	NV	nonDerivativeHolding			30(*)	o	o	o	o	o	o
4	1	NV	securityTitle				cm	cm	cm	cm	cm	cm
5	1	string	value	60			cm	cm	cm	cm	cm	cm
5	2	IDREF	footnoteId			99	o	o	o	o	o	o
4	2	NV	transactionCoding								cm	cm
5	1	string	transactionFormType	1	FormTypeList						cm	cm
5	2	IDREF	footnoteId			99					o	o
4	3	NV	postTransactionAmounts				cm	cm	cm	cm	cm	cm
5	1	NV	sharesOwnedFollowingTransaction				cm(7)	cm(7)	cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value				cm(7)	cm(7)	cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99	o	o	o	o	o	o

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	2	NV	valueOwnedFollowingTransaction				cm(7)	cm(7)	cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value				cm(7)	cm(7)	cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99	o	o	o	o	o	o
4	4	NV	ownershipNature				cm	cm	cm	cm	cm	cm
5	1	NV	directOrIndirectOwnership				cm	cm	cm	cm	cm	cm
6	1	string	value	1	OwnerTypeList		cm	cm	cm	cm	cm	cm
6	2	IDREF	footnoteId			99	o	o	o	o	o	o
5	2	NV	natureOfOwnership				cm(5)	cm(5)	cm(5)	cm(5)	cm(5)	cm(5)
6	1	string	value	100			cm(5)	cm(5)	cm(5)	cm(5)	cm(5)	cm(5)
6	2	IDREF	footnoteId			99	o	o	o	o	o	o
2	~~12~~13	NV	derivativeTable				o	o	o	o	o	o
3	1	NV	derivativeTransaction			30(*)			o	o	o	o
4	1	NV	securityTitle						cm	cm	cm	cm
5	1	string	value	60					cm	cm	cm	cm
5	2	IDREF	footnoteId			99			o	o	o	o
4	2	NV	conversionOrExercisePrice						cm	cm	cm	cm
5	1	decimal	value						cm(8)	cm(8)	cm(8)	cm(8)
5	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
4	3	NV	transactionDate						cm	cm	cm	cm
5	1	date	value	10					cm	cm	cm	cm
5	2	IDREF	footnoteId			99			o	o	o	o
4	4	NV	deemedExecutionDate						o	o	o	o

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	1	date	value	10					o	o	o	o
5	2	IDREF	footnoteId			99			o	o	o	o
4	5	NV	transactionCoding						cm	cm	cm	cm
5	1	string	transactionFormType	1	FormTypeList				cm	cm	cm	cm
5	2	string	transactionCode	1	TransCodeList				cm	cm	cm	cm
5	3	boolean	equitySwapInvolved						cm	cm	cm	cm
5	4	IDREF	footnoteId			99			o	o	o	o
4	6	NV	transactionTimeliness						o	o	o	o
5	1	string	value	1	TimelinessList				o	o	o	o
5	2	IDREF	footnoteId			99			o	o		
4	7	NV	transactionAmounts						cm	cm	cm	cm
5	1	NV	transactionShares						cm(4)	cm(4)	cm(4)	cm(4)
6	1	decimal	value						cm(4)	cm(4)	cm(4)	cm(4)
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	transactionTotalValue						cm(4)	cm(4)	cm(4)	cm(4)
6	1	decimal	value						cm(4)	cm(4)	cm(4)	cm(4)
6	2	IDREF	footnoteId			99			o	o	o	o
5	3	NV	transactionPricePerShare						cm	cm	cm	cm
6	1	decimal	value						cm(8)	cm(8)	cm(8)	cm(8)
6	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
5	4	NV	transactionAcquiredDisposedCode						cm	cm	cm	cm
6	1	string	value	1	AcqDispList				cm	cm	cm	cm
4	8	NV	exerciseDate						cm	cm	cm	cm
5	1	date	value	10					cm(8)	cm(8)	cm(8)	cm(8)

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
4	9	NV	expirationDate						cm	cm	cm	cm
5	1	date	value	10					cm(8)	cm(8)	cm(8)	cm(8)
5	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
4	10	NV	underlyingSecurity						cm	cm	cm	cm
5	1	NV	underlyingSecurityTitle						cm	cm	cm	cm
6	1	string	value	60					cm	cm	cm	cm
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	underlyingSecurityShares						cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	1	decimal	value						cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
5	3	NV	underlyingSecurityValue						cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	1	decimal	value						cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	2	IDREF	footnoteId			99			cm(8)	cm(8)	cm(8)	cm(8)
4	11	NV	postTransactionAmounts						cm	cm	cm	cm
5	1	NV	sharesOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	valueOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o
4	12	NV	ownershipNature						cm	cm	cm	cm
5	1	NV	directOrIndirectOwnership						cm	cm	cm	cm

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Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
6	1	string	value	1	OwnerTypeList				cm	cm	cm	cm
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	natureOfOwnership						cm(5)	cm(5)	cm(5)	cm(5)
6	1	string	value	100					cm(5)	cm(5)	cm(5)	cm(5)
6	2	IDREF	footnoteId			99			o	o	o	o
3	1	NV	derivativeHolding			30(*)	o	o	o	o	o	o
4	1	NV	securityTitle				cm	cm	cm	cm	cm	cm
5	1	string	value	60			cm	cm	cm	cm	cm	cm
5	2	IDREF	footnoteId			99	o	o	o	o	o	o
4	2	NV	conversionOrExercisePrice				cm	cm	cm	cm	cm	cm
5	1	decimal	value				cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
5	2	IDREF	footnoteId			99	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
4	3	NV	transactionCoding								cm	cm
5	1	boolean	transactionFormType	1	FormTypeList						cm	cm
5	2	IDREF	footnoteId			99					o	o
4	4	NV	exerciseDate				cm	cm	cm	cm	cm	cm
5	1	date	value	10			cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
5	2	IDREF	footnoteId			99	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
4	5	NV	expirationDate				cm	cm	cm	cm	cm	cm
5	1	date	value	10			cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
5	2	IDREF	footnoteId			99	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
4	6	NV	underlyingSecurity				cm	cm	cm	cm	cm	cm
5	1	NV	underlyingSecurityTitle				cm	cm	cm	cm	cm	cm
6	1	string	value	60			cm	cm	cm	cm	cm	cm
6	2	IDREF	footnoteId			99	cm	cm	cm	cm	cm	cm

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Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
5	2	NV	underlyingSecurityShares				cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	1	decimal	value				cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	2	IDREF	footnoteId			99	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
5	3	NV	underlyingSecurityValue				cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	1	decimal	value				cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)	cm(6,8)
6	2	IDREF	footnoteId			99	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)	cm(8)
4	7	NV	postTransactionAmounts						cm	cm	cm	cm
5	1	NV	sharesOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o
5	2	NV	valueOwnedFollowingTransaction						cm(7)	cm(7)	cm(7)	cm(7)
6	1	decimal	value						cm(7)	cm(7)	cm(7)	cm(7)
6	2	IDREF	footnoteId			99			o	o	o	o
4	8	NV	ownershipNature				cm	cm	cm	cm	cm	cm
5	1	NV	directOrIndirectOwnership				cm	cm	cm	cm	cm	cm
6	1	string	value	1	OwnerTypeList		cm	cm	cm	cm	cm	cm
6	2	IDREF	footnoteId			99	o	o	o	o	o	o
5	2	NV	natureOfOwnership				cm(5)	cm(5)	cm(5)	cm(5)	cm(5)	cm(5)
6	1	string	value	100			cm(5)	cm(5)	cm(5)	cm(5)	cm(5)	cm(5)
6	2	IDREF	footnoteId			99	o	o	o	o	o	o
2	~~13~~14	NV	footnotes				o	o	o	o	o	o

Level	Order	Data Type	Element Name	Max Length	Choice List	Max Occur	Submission Type 3	Submission Type 3/A	Submission Type 4	Submission Type 4/A	Submission Type 5	Submission Type 5/A
3	1	string	footnote	1000		99	o	o	o	o	o	o
2	~~14~~15	string	remarks	2000			o	o	o	o	o	o
2	~~15~~16	NV	ownerSignature			10	m	m	m	m	m	m
3	1	string	signatureName	255			m	m	m	m	m	m
3	2	date	signatureDate	10			m	m	m	m	m	m

3.6 Choice List Values

3.6.1 AcqDispList

These are the valid values for a <transactionAcquiredDisposedCode> element in the primary document:

Value	Meaning
A	Acquired
D	Disposed

3.6.2 DocTypeList

This list, which is actually a combination of two sets of values, defines the valid entries for a <edgarDocument.documentType> element in the submission file.

The <documentType> of the primary document must match the submission type, so it must be one of these values:

Value for Primary Document
3
3/A
4
4/A
5
5/A

The <documentType> of a supporting document must be one of these values:

Value for Supporting Document
CORRESP
COVER
EX-24
EX-99
GRAPHIC

You can actually append optional text to these DocType values. This optional text must begin with a period. The overall length of the DocType value cannot exceed 20 characters. Some examples of a valid DocType are:

COVER.i_wrote_this
COVER.1
EX-99.myExhibit

3.6.3   FormTypeList

These are the valid values for a <transactionFormType> element in the primary document:

Submission Type	Transaction Value	Holding Value
4, 4/A	4, 5	
5, 5/A	4, 5	3

You can report a "5" <derivativeTransaction> or <nonDerivativeTransaction> via a "4" submission.

You can report a "4" <derivativeTransaction> or <nonDerivativeTransaction> transaction via a "5" submission.

You can report a "3" <derivativeHolding> or <nonDerivativeHolding> via a "5" submission.

3.6.4   OwnerTypeList

These are the valid values for a <directOrIndirectOwnership> element in the primary document:

Value	Meaning
D	Direct
I	Indirect

3.6.5   StateCodeList

EDGAR recognizes 309 two-character designators for the <rptOwnerState> element in the primary document. These are provided in Appendix A. These codes are actually a combination of values for the 50 US states, the Canadian Provinces, and other countries and territories.

3.6.6   SubTypeList

These are the valid values for the <submissionType> element in the submission document and the <documentType> element in the primary document:

Value
3
3/A
4
4/A
5
5/A

3.6.7   TestLiveList

These are the valid values for the <testOrLive> element in the submission file:

Value
LIVE

TEST

3.6.8 TimelinessList

These are the valid values for a <transactionTimeliness> element in the primary document:

Value	Meaning
E	Early
L	Late
empty	On-time

3.6.9 TransCodeList

These are the valid values for a <transactionCode> element in the primary document:

Value	Meaning
A	Grant, award or other acquisition pursuant to Rule 16b-3(d)
C	Conversion of derivative security
D	Disposition to the issuer of issuer equity securities pursuant to Rule 16b-3(e)
E	Expiration of short derivative position
F	Payment of exercise price or tax liability by delivering or withholding securities incident to the receipt, exercise or vesting of a security issued in accordance with Rule 16b-3
G	Bona fide gift
H	Expiration (or cancellation) of long derivative position with value received
I	Discretionary transaction in accordance with Rule 16b-3(f) resulting in acquisition or disposition of issuer securities
J	Other acquisition or disposition (describe transaction)
L	Small acquisition under Rule 16a-6
M	Exercise or conversion of derivative security exempted pursuant to Rule 16b-3
O	Exercise of out-of-the-money derivative security
P	Open market or private purchase of non-derivative or derivative security
S	Open market or private sale of non-derivative or derivative security
U	Disposition pursuant to a tender of shares in a change of control transaction

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Value	Meaning
W	Acquisition or disposition by will or the laws of descent and distribution
X	Exercise of in-the-money or at-the-money derivative security
Z	Deposit into or withdrawal from voting trust

4. BASIC SUBMISSION CONSTRUCTION

4.1 General Formatting of XML Files

These rules apply to both the submission file and the primary document of an XML-format Ownership submission:

1. The filename must end with an ".xml" extension.

2. The file cannot be compressed in any fashion.

3. We strongly recommend you format the submission and document files as shown in the provided sample files. This makes the raw XML files easier to view in a text editor. The submission of ASCII XML files with no line breaks, while legal XML, is strongly discouraged. XML filings are required to be posted on public websites. While usually formatted via style sheets, the raw XML is frequently available for inspection and should be readable by a person. The SEC will not be reformatting XML files for readability. A single line XML file is not viewer-friendly and should be avoided.

4. The <?xml version="1.0"?> declaration line is optional; however, if it is included it must be the first line in the file. Any text before this line, even white space, will cause a SUSPENSE error. The version value must be "1.0." Any other value for version will cause a SUSPENSE error.

5. For an XML element with a data value, keep the begin tag, data value, and end tag on the same line of text. Otherwise, you could get a schema violation error. As an example, for a Reporting Owner CIK value which cannot be longer than 10 characters, this specification is correct:

```
<rptOwnerCik>1212121212</rptOwnerCik>
```

6. The specification below will result in a parsing error because the extraneous white space and line feeds will be counted as part of the length of the data value. In other words, the CIK value will be regarded as longer than 10 characters.

```
<rptOwnerCik>
1212121212
</rptOwnerCik>
```

4.2 XML Submission File Rules

These rules are specific to the submission file:

1. The submission file must contain a single "primary" XML document.

2. The submission file may also contain additional supporting documents.

3. The order of any <notificationEmailAddress> elements does not matter.

4. EDGAR will generate a WARNING for any duplicate values in the single <pointOfContact><contactEmailAddress> and the <notificationEmailAddress> elements.

5. The order of the <edgarDocument> specifications does not matter. The primary XML document does not have to be specified in the first <edgarDocument> block.

6. The names of attached document files must follow the EDGAR file naming convention:

- File names cannot exceed 32 characters, including the file extension.
- Valid characters are lowercase letters, digits 0-9, up to one underscore, up to one hyphen, and up to one period.
- First character must be a letter.
- Spaces are not allowed.
- File name must have a file type extension.
- File extension of the primary document must be .xml.
- File extension of all other documents must be .txt, .htm, .jpg, or .gif.

7. The submission file must conform to the edgarSubmission.xsd.xml XML schema file. Any violation of this schema will result in the suspension of the filing.

4.2.1 Enclosing a Document

The XML for an enclosed document looks like this:

```
<edgarDocument>
    <documentName>cover01.txt</documentName>
    <documentType>COVER</documentType>
    <documentDescription>Cover Document</documentDescription>
    <documentMimeBlock>
        PT09PT09PT09PT09PT09PT09PT09PT09PT09PSAgIGNvdmVyIGxldHRl
        ciAgID09PT09PT09PT09PT09PT09PT09PT09PT0NCg0KVGhpcyBp
        cyBhIHByaXZhdGUgY292ZXIgbGV0dGVyIHRoYXQgZG9lcyBub3QgY29udGFp
        biBhbnkgcmVkbGluZQ0KdGFncy4gVGhpcyBpcyBzdHJpY3RseSBhIHRlc3Qu
        DQoNCj09PT09PT09PT09PT09PT09PT09PT09PT09PT09PT09PT09PT09
        PT09PT09PT09PT09PT09PT09PT09PT09PT09PT09PT09DQo=
    </documentMimeBlock>
</edgarDocument>
```

The <documentDescription> is optional, but all other elements must be present and must have a value.

The <documentMimeBlock> element must contain a MIME encoded document. You can use any standard 64-character set based MIME encoding algorithm to create a MIME document.

You may enclose no more than 611 documents (one primary plus 610 supporting documents).

4.2.1.1 Primary Document

1. The single primary document file must end with an .xml extension.
2. The document type must match the submission type.
3. The file must conform to the ownershipDocument.xsd.xml XML schema file. Any violation of this schema will result in the suspension of the filing.

4.2.1.2 Supporting Documents

1. Allowable file extensions are .txt, .htm, .jpg, and .gif.

    Note: The six Ownership types do not allow the inclusion of Portable Document Format (PDF) documents. EDGAR will discard any attached PDF documents and issue a WARNING to that effect.

2. The allowable document types are shown in the DocTypeList table in Section 3.6.2.

3. The document count limits by type are:

Document Type	Maximum Allowed
CORRESP	100
COVER	10
EXHIBIT (EX-24 or EX-99) plus GRAPHIC	500

4.3   XML Primary Document Rules

The primary document must conform to the ownershipDocument.xsd.xml XML schema file. Any violation of this schema will result in the suspension of the filing.

The table in Section 3.5 provides a detailed summary of the XML elements that apply to each submission type. The following sections reinforce and supplement the contents of this table.

The <schemaVersion> element should not be included. If you do provide a value for this element, EDGAR will generate a WARNING and discard the value. Additionally, if the value you provide does not match the current version of the schema file being used by EDGAR, then EDGAR will generate a second WARNING. EDGAR will insert the correct value for this element into the "document of record" that gets disseminated.

The <documentType> element must have the same value as provided in the <submissionType> element of the submission file.

Do not include the <noSecuritiesOwned> element in a "3" or "3/A" document. EDGAR will determine the value for this element based on the number of entries in the <nonDerivativeTable> and <derivativeTable> sections of the document. If either table has at least one valid entry, EDGAR will set this element to true. Otherwise, it will be set to false. EDGAR will insert this element into the "document of record" that gets disseminated.

Do not include the <form3HoldingsReported> element in a "5" or "5/A" document. EDGAR will determine the value for this element based on the number of <nonDerivativeHolding> and <derivativeHolding> elements with a <transactionFormType> value of "3." If at least one "3" holding is being reported, EDGAR will set this element to true. Otherwise, it will be set to false. EDGAR will insert this element into the "document of record" that gets disseminated.

Do not include the <form4TransactionsReported> element in a "5" or "5/A" document. EDGAR will determine the value for this element based on the number of <nonDerivativeTransaction> and <derivativeTransaction> elements with a <transactionFormType> value of "4." If at least one "4" transaction is being reported, EDGAR will set this element to true. Otherwise, it will be set to false. EDGAR will insert this element into the "document of record" that is disseminated.

In a "4," "4/A," "5," or "5/A" submission, include the <notSubjectToSection16> element with a value of "true" if you are not including any transactions or holdings in the <nonDerivativeTable> or <derivativeTable> blocks. EDGAR will SUSPEND the submission if it has no transactions or holdings and the <notSubjectToSection16> element is not included with a value of "true."

4.3.1 Specifying Issuer

You must provide a CIK and Trading Symbol. The CIK does not have to be conformed with leading zeroes.

Do not provide an Issuer Name. EDGAR will insert the Issuer Name associated with the provided CIK into the "document of record" that is disseminated. If you do include a value for the <issuerName> element, EDGAR will issue a WARNING and discard the provided value.

4.3.2 Specifying a Reporting Owner

You must provide a CIK and CCC. The CIK does not have to be conformed with leading zeroes. EDGAR removes the CCC from the "document of record" that is disseminated.

Do not provide a Reporting Owner Name. EDGAR will insert the Owner Name associated with the provided CIK into the "document of record" that get disseminated. If you do include a value for the <rptOwnerName> element, EDGAR will issue a WARNING and discard the provided value.

The order of multiple Reporting Owners is not important. There is no "primary" owner.

Each Reporting Owner can only be included once. A duplicate Reporting Owner CIK will cause a SUSPENSE error.

The address information is optional. If you provide no address information at all, EDGAR will retrieve the address of record for the provided CIK and insert that address into the "document of record" that is disseminated.

If you provide any one of the <rptOwnerStreet1>, <rptOwnerStreet2>, <rptOwnerCity>, <rptOwnerState>, or <rptOwnerZipCode> elements, EDGAR will not retrieve the address of record. The "document of record" will simply contain the address information you provide. Remember the <rptOwnerState> element is limited to the values provided in Appendix A.

4.3.3 Specifying Non-Derivative Transactions and Holdings

The order of the transactions and holdings does not matter.

You must provide at least one valid <nonDerivativeTransaction> or <derivativeTransaction> specification in a "4," "4/A," "5," or "5/A" submission. If not, EDGAR will SUSPEND the submission. This constraint does not apply if you provide a <notSubjectToSection16> element with a value of "true."

4.3.4 Specifying Derivative Transactions and Holdings

The order of the transactions and holdings does not matter.

You must provide at least one valid <nonDerivativeTransaction> or <derivativeTransaction> specification in a "4," "4/A," "5," or "5/A" submission. If not, EDGAR will SUSPEND the submission. This constraint does not apply if you provide a <notSubjectToSection16> element with a value of "true."

4.3.5 Specifying Footnotes

You may specify up to 99 footnotes.

The format of all Footnote ID's is an uppercase "F" followed by a number between 1 and 99 (e.g., "F1," "F2," "F88"). Any ID not conforming to this format (e.g., "f3," "1," "(5)," "F01," "F99") will cause a SUSPENSE error.

This is a section of XML that defines five footnotes;

```
<footnotes>
    <footnote id="F1">This is a footnote for the Security Title field.</footnote>
    <footnote id="F2">Footnote for number of securities.</footnote>
    <footnote id="F3">Footnote for value of securities.</footnote>
    <footnote id="F4">Footnote for expiration date.</footnote>
    <footnote id="F5">Footnote for exercise price.</footnote>
</footnotes>
```

This example will cause a SUSPENSE error since "F2" is defined twice:

```
<footnotes>
    <footnote id="F1">This is a footnote for the Security Title field.</footnote>
    <footnote id="F2">Footnote for number of securities.</footnote>
    <footnote id="F3">Footnote for value of securities.</footnote>
    <footnote id="F2">Footnote for expiration date.</footnote>
</footnotes>
```

4.3.6 Referencing Footnotes

Practically every element in the <nonDerivativeTransaction>, <derivativeTransaction>, <nonDerivativeHolding>, and <derivativeHolding> structures can reference one or more footnotes.

The linkage between transaction and holding elements and footnotes is made via schema "ID" and "IDREF" tags. The format of all Footnote ID's is an uppercase "F" followed by a number between 1 and 99 (e.g., "F1," "F2," "F88"). Any ID not conforming to this format (e.g., "f3," "1," "(5)," "F01," "F99") will cause a SUSPENSE error.

A single field may be associated with multiple footnotes:

```
<exerciseDate>
    <value>2002-10-31</value>
    <footnoteId id="F1"/>
    <footnoteId id="F2"/>
    <footnoteId id="F3"/>
</exerciseDate>
```

Multiple fields may be associated with the same footnote:

```
<derivativeTransaction>
    <securityTitle>
        <value>Derived Stock</value>
        <footnoteId id="F1"/>
        <footnoteId id="F3"/>
    </securityTitle>
    <exerciseDate>
        <value>2002-10-31</value>
        <footnoteId id="F1"/>
    </exerciseDate>
</derivativeTransaction>
```

A single field cannot reference the same footnote more than once. This example will result in a SUSPENSE error since footnote "F1" is referenced twice by a single <exerciseDate> element:

```
<exerciseDate>
    <value>2002-10-31</value>
    <footnoteId id="F1"/>
    <footnoteId id="F2"/>
    <footnoteId id="F1"/>
</exerciseDate>
```

4.3.7   Specifying Signatures

A signature is not "tied" to a Reporting Owner. So, the order of multiple signatures does not matter.

The number of signatures does not need to be the same as the number of Reporting Owners.

The <signatureName> element will accept up to 255 characters, so you may include a Title for the signatory if you wish.

4.3.8   Specifying Transaction Code

EDGAR will create the actual Transaction Code for a reported <nonDerivativeTransaction> or <derivativeTransaction> based upon the data provided in the <transactionCoding> and <transactionTimeliness> elements.

For a <nonDerivativeHolding> or <derivativeHolding>, you only provide a <transactionCoding> element for the special case of reporting a "late" holding via a "5" submission. In this case, you are reporting a holding on a "5" that should really have been reported earlier via a "3" submission.

This is a section of XML from a "5" submission that shows all the elements pertinent to determining an actual Transaction Code:

```
<transactionCoding>
    <transactionFormType>5</transactionFormType>
    <transactionCode>A</transactionCode>
    <equitySwapInvolved>0</equitySwapInvolved>
</transactionCoding>
<transactionTimeliness>
    <value>L</value>
</transactionTimeliness>
```

4.3.8.1   Submission Types "3" and "3/A"

Holdings reported in "3" and "3/A" submissions do not have <transactionCoding> or <transactionTimeliness> elements.

4.3.8.2   Submission Types "4" and "4/A"

Holdings reported in "4" and "4/A" submissions do not have <transactionCoding> or <transactionTimeliness> elements.

Transactions are subject to these rules:

- The <transactionFormType> is mandatory and must be "4" or "5."
- The <transactionCode> element is mandatory and is limited to the values shown in Section 3.6.9, the TransCodeList choices.
- The <equitySwapInvolved> element is mandatory and must be set to "1" or "true" if the transaction involves an equity swap. EDGAR will add a "K" to the generated transaction code if an equity swap is involved.
- The <transactionTimeliness.value> element is optional and should be left empty.
- By definition, a "4" transaction is on time. Provide no value for this case.
- By definition, a "5" transaction is early. You do not have to provide a value of "E," but you can if you wish. A value other than "E" will cause a SUSPENSE error. EDGAR will add a "V" to the generated transaction code for an early "5" transaction.

Form Type	Transaction Code	Equity Swap	Timeliness
4	See Section 3.6.9	0 or 1	On-time by definition, so leave empty
5	See Section 3.6.9	0 or 1	Early by definition, so leave empty or set to "E"

4.3.8.3   Submission Types "5" and "5/A"

Holdings reported in "5" and "5/A" submissions do not have <transactionCoding> or <transactionTimeliness> elements with one exception. You can report a late "3" holding via a "5" submission. To distinguish such a holding from other holdings, you must provide a <transactionFormType> value of "3."

Transactions are subject to these rules:

- The <transactionFormType> is mandatory and must be "4" or "5."
- The <transactionCode> element is mandatory and is limited to the values shown in Section 3.6.9, the TransCodeList choices.
- The <equitySwapInvolved> element is mandatory and must be set to "1" or "true" if the transaction involves an equity swap. EDGAR will add a "K" to the generated transaction code if an equity swap is involved.
- The <transactionTimeliness.value> element is optional.
- By definition, EDGAR treats a "4" transaction as late. You do not have to provide a value of "L," but you can if you wish. A value other than "L" will cause a SUSPENSE error.
- By definition, EDGAR treats a "5" transaction as timely. To report a late "5" transaction, you must provide a value of "L." A value other than "L" will cause a SUSPENSE error.

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Form Type	Transaction Code	Equity Swap	Timeliness
4	See Section 3.6.9	0 or 1	Late by definition, so leave empty or set to "L."
5	See Section 3.6.9	0 or 1	Leave empty for on time or set to "L" for late.

5. ERROR REPORTING

EDGAR will generate an error for each violation of an XML schema constraint, as well as for each violation of an Ownership filing business rule. The schema files do not enforce all error checks, so it is possible to construct a submission that meets all the schema constraints yet is still SUSPENDED.

This table summarizes the errors that can result from violations of schema constraints and EDGAR business rules. This is not an all-inclusive list.

Error Condition	Severity
Elements not in sequence prescribed in Sections 3.4 and 3.5	SUSPENSE
Inclusion of XML-stylesheet reference or any other Processing Instruction	SUSPENSE
Inclusion of an element not prescribed in the schema	SUSPENSE
String value exceeds maximum length constraint	SUSPENSE
Element constrained by a Choice List has an invalid value	SUSPENSE
Mandatory element has no value or an invalid value	SUSPENSE
Special character (&, <, >) not provided as escape sequence	SUSPENSE
Date, Boolean, or Decimal element does not have a value	SUSPENSE
Duplicate Reporting Owner CIK	SUSPENSE
Duplicate Notification Address	WARNING
Invalid footnote ID (must be "F" followed by number from 1 to 99)	SUSPENSE
Inclusion of a footnote that is never referenced	SUSPENSE
Duplicate footnote ID	SUSPENSE
Multiple references to the same footnote from within a single element	SUSPENSE
"NA" or blank field has a value	WARNING
Invalid Issuer CIK	SUSPENSE
Invalid Reporting Owner CIK and/or CCC	SUSPENSE
Improperly formatted email address	SUSPENSE
Inclusion of a PDF document	WARNING
Exceeding a "Max Occur" limit from Section 3.4 and 3.5 (e.g., more than 10 Reporting Owners or more than 30 Derivative Securities)	SUSPENSE
Invalid content in an enclosed ASCII document. Refer to the EDGAR Filer Manual for details.	SUSPENSE or WARNING
Invalid content in an enclosed HTML document. Refer to the EDGAR Filer Manual for details.	SUSPENSE or WARNING
Enclosed graphic document that is not referenced by an HTML document	SUSPENSE
Any XML schema violation not mentioned in previous table row	SUSPENSE
Inclusion of value for <ownershipNature.natureOfOwnership> when value of <directOrIndirectOwnership> is "D"	SUSPENSE

You may sometimes get multiple error messages reporting the same error. The XML parser EDGAR uses to process an Ownership submission generates messages that are rather technical in nature and require an understanding of the XML schema language. Whenever possible, EDGAR also generates a more "friendly" error message to give a precise description of the error.

6. EXAMPLE OWNERSHIP SUBMISSION FILES

These are examples, for all six Ownership submission types, of a submission file and a primary document:

Submission Type	Submission File	Primary Document
3	filing3.xml	doc3.xml
3/A	filing3a.xml	doc3a.xml
4	filing4.xml	doc4.xml
4/A	filing4a.xml	doc4a.xml
5	filing5.xml	doc5.xml
5/A	filing5a.xml	doc5a.xml

The submission files contain MIME versions of the primary documents. These MIME data blocks were copied from a 64-character set MIME version of the primary document and pasted into the submission file.

APPENDICES

APPENDIX A.   STATE AND COUNTRY CODES

These are the valid designators for the <rptOwnerState> element in the primary document. These codes are actually a combination of values for the 50 U.S. states, the Canadian Provinces, and other countries and territories.

Code	State or Country Name
AL	ALABAMA
AK	ALASKA
AZ	ARIZONA
AR	ARKANSAS
CA	CALIFORNIA
CO	COLORADO
CT	CONNECTICUT
DE	DELAWARE
DC	DISTRICT OF COLUMBIA
FL	FLORIDA
GA	GEORGIA
HI	HAWAII
ID	IDAHO
IL	ILLINOIS
IN	INDIANA
IA	IOWA
KS	KANSAS
KY	KENTUCKY
LA	LOUISIANA
ME	MAINE
MD	MARYLAND
MA	MASSACHUSETTS
MI	MICHIGAN
MN	MINNESOTA
MS	MISSISSIPPI
MO	MISSOURI
MT	MONTANA
NE	NEBRASKA
NV	NEVADA
NH	NEW HAMPSHIRE
NJ	NEW JERSEY
NM	NEW MEXICO
NY	NEW YORK
NC	NORTH CAROLINA
ND	NORTH DAKOTA
OH	OHIO
OK	OKLAHOMA

Code	State or Country Name
OR	OREGON
PA	PENNSYLVANIA
RI	RHODE ISLAND
SC	SOUTH CAROLINA
SD	SOUTH DAKOTA
TN	TENNESSEE
TX	TEXAS
X1	UNITED STATES
UT	UTAH
VT	VERMONT
VA	VIRGINIA
WA	WASHINGTON
WV	WEST VIRGINIA
WI	WISCONSIN
WY	WYOMING
A0	ALBERTA, CANADA
A1	BRITISH COLUMBIA, CANADA
Z4	CANADA (FEDERAL LEVEL)
A2	MANITOBA, CANADA
A3	NEW BRUNSWICK, CANADA
A4	NEWFOUNDLAND, CANADA
A5	NOVA SCOTIA, CANADA
A6	ONTARIO, CANADA
A7	PRINCE EDWARD ISLAND, CANADA
A8	QUEBEC, CANADA
A9	SASKATCHEWAN, CANADA
B0	YUKON, CANADA
B2	AFGHANISTAN
Y6	ALAND ISLANDS
B3	ALBANIA
B4	ALGERIA
B5	AMERICAN SAMOA
B6	ANDORRA
B7	ANGOLA
1A	ANGUILLA
B8	ANTARCTICA
B9	ANTIGUA AND BARBUDA
C1	ARGENTINA
1B	ARMENIA
1C	ARUBA
C3	AUSTRALIA
C4	AUSTRIA
1D	AZERBAIJAN

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Code	State or Country Name
C5	BAHAMAS
C6	BAHRAIN
C7	BANGLADESH
C8	BARBADOS
1F	BELARUS
C9	BELGIUM
D1	BELIZE
G6	BENIN
D0	BERMUDA
D2	BHUTAN
D3	BOLIVIA
1E	BOSNIA AND HERZEGOVINA
B1	BOTSWANA
D4	BOUVET ISLAND
D5	BRAZIL
D6	BRITISH INDIAN OCEAN TERRITORY
D9	BRUNEI DARUSSALAM
E0	BULGARIA
X2	BURKINA FASO
E2	BURUNDI
E3	CAMBODIA
E4	CAMEROON
E8	CAPE VERDE
E9	CAYMAN ISLANDS
F0	CENTRAL AFRICAN REPUBLIC
F2	CHAD
F3	CHILE
F4	CHINA
F6	CHRISTMAS ISLAND
F7	COCOS (KEELING) ISLANDS
F8	COLOMBIA
F9	COMOROS
G0	CONGO
Y3	CONGO, THE DEMOCRATIC REPUBLIC OF THE
G1	COOK ISLANDS
G2	COSTA RICA
L7	COTE D'IVOIRE
1M	CROATIA
G3	CUBA
G4	CYPRUS
2N	CZECH REPUBLIC
G7	DENMARK
1G	DJIBOUTI

Code	State or Country Name
G9	DOMINICA
G8	DOMINICAN REPUBLIC
H1	ECUADOR
H2	EGYPT
H3	EL SALVADOR
H4	EQUATORIAL GUINEA
1J	ERITREA
1H	ESTONIA
H5	ETHIOPIA
H7	FALKLAND ISLANDS (MALVINAS)
H6	FAROE ISLANDS
H8	FIJI
H9	FINLAND
I0	FRANCE
I3	FRENCH GUIANA
I4	FRENCH POLYNESIA
2C	FRENCH SOUTHERN TERRITORIES
I5	GABON
I6	GAMBIA
2Q	GEORGIA (COUNTRY)
2M	GERMANY
J0	GHANA
J1	GIBRALTAR
J3	GREECE
J4	GREENLAND
J5	GRENADA
J6	GUADELOUPE
GU	GUAM
J8	GUATEMALA
Y7	GUERNSEY
J9	GUINEA
S0	GUINEA-BISSAU
K0	GUYANA
K1	HAITI
K4	HEARD ISLAND AND MCDONALD ISLANDS
X4	HOLY SEE (VATICAN CITY STATE)
K2	HONDURAS
K3	HONG KONG
K5	HUNGARY
K6	ICELAND
K7	INDIA
K8	INDONESIA
K9	IRAN, ISLAMIC REPUBLIC OF

Code	State or Country Name
L0	IRAQ
L2	IRELAND
Y8	ISLE OF MAN
L3	ISRAEL
L6	ITALY
L8	JAMAICA
M0	JAPAN
Y9	JERSEY
M2	JORDAN
1P	KAZAKSTAN
M3	KENYA
J2	KIRIBATI
M4	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
M5	KOREA, REPUBLIC OF
M6	KUWAIT
1N	KYRGYZSTAN
M7	LAO PEOPLE'S DEMOCRATIC REPUBLIC
1R	LATVIA
M8	LEBANON
M9	LESOTHO
N0	LIBERIA
N1	LIBYAN ARAB JAMAHIRIYA
N2	LIECHTENSTEIN
1Q	LITHUANIA
N4	LUXEMBOURG
N5	MACAU
1U	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF
N6	MADAGASCAR
N7	MALAWI
N8	MALAYSIA
N9	MALDIVES
O0	MALI
O1	MALTA
1T	MARSHALL ISLANDS
O2	MARTINIQUE
O3	MAURITANIA
O4	MAURITIUS
2P	MAYOTTE
O5	MEXICO
1K	MICRONESIA, FEDERATED STATES OF
1S	MOLDOVA, REPUBLIC OF
O9	MONACO
P0	MONGOLIA

Code	State or Country Name
Z5	MONTENEGRO
P1	MONTSERRAT
P2	MOROCCO
P3	MOZAMBIQUE
E1	MYANMAR
T6	NAMIBIA
P5	NAURU
P6	NEPAL
P7	NETHERLANDS
P8	NETHERLANDS ANTILLES
1W	NEW CALEDONIA
Q2	NEW ZEALAND
Q3	NICARAGUA
Q4	NIGER
Q5	NIGERIA
Q6	NIUE
Q7	NORFOLK ISLAND
1V	NORTHERN MARIANA ISLANDS
Q8	NORWAY
P4	OMAN
R0	PAKISTAN
1Y	PALAU
1X	PALESTINIAN TERRITORY, OCCUPIED
R1	PANAMA
R2	PAPUA NEW GUINEA
R4	PARAGUAY
R5	PERU
R6	PHILIPPINES
R8	PITCAIRN
R9	POLAND
S1	PORTUGAL
PR	PUERTO RICO
S3	QATAR
S4	REUNION
S5	ROMANIA
1Z	RUSSIAN FEDERATION
S6	RWANDA
Z0	SAINT BARTHELEMY
U8	SAINT HELENA
U7	SAINT KITTS AND NEVIS
U9	SAINT LUCIA
Z1	SAINT MARTIN
V0	SAINT PIERRE AND MIQUELON

Code	State or Country Name
V1	SAINT VINCENT AND THE GRENADINES
Y0	SAMOA
S8	SAN MARINO
S9	SAO TOME AND PRINCIPE
T0	SAUDI ARABIA
T1	SENEGAL
Z2	SERBIA
T2	SEYCHELLES
T8	SIERRA LEONE
U0	SINGAPORE
2B	SLOVAKIA
2A	SLOVENIA
D7	SOLOMON ISLANDS
U1	SOMALIA
T3	SOUTH AFRICA
1L	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
U3	SPAIN
F1	SRI LANKA
V2	SUDAN
V3	SURINAME
L9	SVALBARD AND JAN MAYEN
V6	SWAZILAND
V7	SWEDEN
V8	SWITZERLAND
V9	SYRIAN ARAB REPUBLIC
F5	TAIWAN
2D	TAJIKISTAN
W0	TANZANIA, UNITED REPUBLIC OF
W1	THAILAND
Z3	TIMOR-LESTE
W2	TOGO
W3	TOKELAU
W4	TONGA
W5	TRINIDAD AND TOBAGO
W6	TUNISIA
W8	TURKEY
2E	TURKMENISTAN
W7	TURKS AND CAICOS ISLANDS
2G	TUVALU
W9	UGANDA
2H	UKRAINE
C0	UNITED ARAB EMIRATES
X0	UNITED KINGDOM

Code	State or Country Name
2J	UNITED STATES MINOR OUTLYING ISLANDS
X3	URUGUAY
2K	UZBEKISTAN
2L	VANUATU
X5	VENEZUELA
Q1	VIET NAM
D8	VIRGIN ISLANDS, BRITISH
VI	VIRGIN ISLANDS, U.S.
X8	WALLIS AND FUTUNA
U5	WESTERN SAHARA
T7	YEMEN
Y4	ZAMBIA
Y5	ZIMBABWE
XX	UNKNOWN

APPENDIX B.   MAPPING OF FORM 3 XML ELEMENTS TO PRINTED FORM

This table maps the XML elements that have a displayable value to their corresponding fields on a printed Form 3. Not all elements map to the printed form, but the schema definition as provided in Section 3.5 is repeated here for completeness.

XML Element Name	Header Area above Table I
schemaVersion	
periodOfReport	2. Date of Event Requiring Statement
dateOfOriginalSubmission	5. If Amendment, Date Original Filed
noSecuritiesOwned	Text in "Explanation of Responses" area
issuer	
issuerCik	
issuerName	3. Issuer Name and Trading Symbol
issuerTradingSymbol	3. Issuer Name and Trading Symbol
reportingOwner	
reportingOwnerId	
rptOwnerCik	
rptOwnerCcc	
rptOwnerName	
reportingOwnerAddress	
rptOwnerStreet1	1. Name and Address of Reporting Person
rptOwnerStreet2	1. Name and Address of Reporting Person
rptOwnerCity	1. Name and Address of Reporting Person
rptOwnerState	1. Name and Address of Reporting Person
rptOwnerZipCode	1. Name and Address of Reporting Person
rptOwnerStateDescription	
rptOwnerGoodAddress	
reportingOwnerRelationship	
isDirector	4. Relationship to Issuer
isOfficer	4. Relationship to Issuer
isTenPercentOwner	4. Relationship to Issuer
isOther	4. Relationship to Issuer
officerTitle	4. Relationship to Issuer
otherText	4. Relationship to Issuer

XML Element Name	Table I - Non-Derivative Securities Column
nonDerivativeTable	Table I - Non-Derivative Securities
nonDerivativeHolding	
securityTitle	
value	1. Title of Security
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	2. Amount of Securities Beneficially Owned
footnoteId	
valueOwnedFollowingTransaction	
value	2. Amount of Securities Beneficially Owned
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	3. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	4. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Table II - Derivative Securities Columns
derivativeTable	Table II - Derivative Securities
derivativeHolding	
securityTitle	
value	1. Title of Derivative Security
footnoteId	
conversionOrExercisePrice	
value	4. Conversion or Exercise Price
footnoteId	
exerciseDate	
value	2. Date Exercisable and Expiration Date
footnoteId	
expirationDate	
value	2. Date Exercisable and Expiration Date
footnoteId	
underlyingSecurity	
underlyingSecurityTitle	
value	3. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityShares	
value	3. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityValue	
value	3. Title and Amount of Underlying Securities
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	5. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	6. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Footer Area below Table II
footnotes	
footnote	Footer Area
remarks	Footer Area
ownerSignature	
signatureName	Footer Area
signatureDate	Footer Area

APPENDIX C.   MAPPING OF FORM 4 XML ELEMENTS TO PRINTED FORM

This table maps the XML elements that have a displayable value to their corresponding fields on a printed Form 4. Not all elements map to the printed form, but the schema definition as provided in Section 3.5 is repeated here for completeness.

XML Element Name	Header Area above Table I
schemaVersion	
periodOfReport	3. Date of Earliest Transaction
dateOfOriginalSubmission	4. If Amendment, Date Original Filed
notSubjectToSection16	Checkbox in top-left corner
issuer	
issuerCik	
issuerName	2. Issuer Name and Trading Symbol
issuerTradingSymbol	2. Issuer Name and Trading Symbol
reportingOwner	
reportingOwnerId	
rptOwnerCik	
rptOwnerCcc	
rptOwnerName	
reportingOwnerAddress	
rptOwnerStreet1	1. Name and Address of Reporting Person
rptOwnerStreet2	1. Name and Address of Reporting Person
rptOwnerCity	1. Name and Address of Reporting Person
rptOwnerState	1. Name and Address of Reporting Person
rptOwnerZipCode	1. Name and Address of Reporting Person
rptOwnerStateDescription	
rptOwnerGoodAddress	
reportingOwnerRelationship	
isDirector	5. Relationship to Issuer
isOfficer	5. Relationship to Issuer
isTenPercentOwner	5. Relationship to Issuer
isOther	5. Relationship to Issuer
officerTitle	5. Relationship to Issuer
otherText	5. Relationship to Issuer

XML Element Name	Table I - Non-Derivative Securities Column
aff10b5One	Checkbox on top of Table I
nonDerivativeTable	Table I - Non-Derivative Securities
nonDerivativeTransaction	
securityTitle	
value	1. Title of Security
footnoteId	
transactionDate	
value	2. Transaction Date
footnoteId	
deemedExecutionDate	
value	2A. Deemed Execution Date
footnoteId	
transactionCoding	
transactionFormType	3. Transaction Code
transactionCode	3. Transaction Code
equitySwapInvolved	3. Transaction Code
footnoteId	
transactionTimeliness	
value	3. Transaction Code
footnoteId	
transactionAmounts	
transactionShares	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionPricePerShare	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionAcquiredDisposedCode	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	5. Amount owned following Reported Trans
footnoteId	
valueOwnedFollowingTransaction	
value	5. Amount owned following Reported Trans
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	6. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	7. Nature of Indirect Beneficial Ownership

XML Element Name	Table I - Non-Derivative Securities Column
footnoteId	

XML Element Name	Table I - Non-Derivative Securities Column
nonDerivativeHolding	
securityTitle	
value	1. Title of Security
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	5. Amount owned following Reported Trans
footnoteId	
valueOwnedFollowingTransaction	
value	5. Amount owned following Reported Trans
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	6. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	7. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Table II - Derivative Securities Columns
derivativeTable	Table II - Derivative Securities
derivativeTransaction	
securityTitle	
value	1. Title of Security
footnoteId	
conversionOrExercisePrice	
value	2. Conversion or Exercise Price
footnoteId	
transactionDate	
value	3. Transaction Date
footnoteId	
deemedExecutionDate	
value	3A. Deemed Execution Date
footnoteId	
transactionCoding	
transactionFormType	4. Transaction Code
transactionCode	4. Transaction Code
equitySwapInvolved	4. Transaction Code
footnoteId	
transactionTimeliness	
value	4. Transaction Code
footnoteId	
transactionAmounts	

XML Element Name	Table II - Derivative Securities Columns
transactionShares	
value	5. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionTotalValue	
value	5. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionPricePerShare	
value	8. Price of Derivative Security
footnoteId	
transactionAcquiredDisposedCode	
value	5. Securities Acquired (A) or Disposed of (D)
exerciseDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
expirationDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
underlyingSecurity	
underlyingSecurityTitle	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityShares	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityValue	
value	7. Title and Amount of Underlying Securities
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	9. Securities owned following Reported Trans
footnoteId	
valueOwnedFollowingTransaction	
value	9. Securities owned following Reported Trans
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	10. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	11. Nature of Indirect Beneficial Ownership
footnoteId	
derivativeHolding	
securityTitle	
value	1. Title of Derivative Security

XML Element Name	Table II - Derivative Securities Columns
footnoteId	
conversionOrExercisePrice	
value	2. Conversion or Exercise Price
footnoteId	
exerciseDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
expirationDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
underlyingSecurity	
underlyingSecurityTitle	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityShares	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityValue	
value	7. Title and Amount of Underlying Securities
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	9. Securities owned following Reported Trans
footnoteId	
valueOwnedFollowingTransaction	
value	9. Securities owned following Reported Trans
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	10. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	11. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Footer Area below Table II
footnotes	
footnote	Footer Area
remarks	Footer Area
ownerSignature	
signatureName	Footer Area
signatureDate	Footer Area

APPENDIX D.   MAPPING OF FORM 5 XML ELEMENTS TO PRINTED FORM

This table maps the XML elements that have a displayable value to their corresponding fields on a printed Form 5. Not all elements map to the printed form, but the schema definition as provided in Section 3.5 is repeated here for completeness.

XML Element Name	Header Area above Table I
schemaVersion	
periodOfReport	3. Statement for Issuer's Fiscal Year End
dateOfOriginalSubmission	4. If Amendment, Date Original Filed
notSubjectToSection16	Checkbox in top-left corner
form3HoldingsReported	Checkbox in top-left corner
form4TransactionsReported	Checkbox in top-left corner
issuer	
issuerCik	
issuerName	2. Issuer Name and Trading Symbol
issuerTradingSymbol	2. Issuer Name and Trading Symbol
reportingOwner	
reportingOwnerId	
rptOwnerCik	
rptOwnerCcc	
rptOwnerName	1. Name and Address of Reporting Person
reportingOwnerAddress	
rptOwnerStreet1	1. Name and Address of Reporting Person
rptOwnerStreet2	1. Name and Address of Reporting Person
rptOwnerCity	1. Name and Address of Reporting Person
rptOwnerState	1. Name and Address of Reporting Person
rptOwnerZipCode	1. Name and Address of Reporting Person
rptOwnerStateDescription	
rptOwnerGoodAddress	
reportingOwnerRelationship	
isDirector	5. Relationship to Issuer
isOfficer	5. Relationship to Issuer
isTenPercentOwner	5. Relationship to Issuer
isOther	5. Relationship to Issuer
officerTitle	5. Relationship to Issuer
otherText	5. Relationship to Issuer

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XML Element Name	Table I - Non-Derivative Securities Column
aff10b5One	Checkbox on top of Table I
nonDerivativeTable	
nonDerivativeTransaction	
securityTitle	
value	1. Title of Security
footnoteId	
transactionDate	
value	2. Transaction Date
footnoteId	
deemedExecutionDate	
value	2A. Deemed Execution Date
footnoteId	
transactionCoding	
transactionFormType	3. Transaction Code
transactionCode	3. Transaction Code
equitySwapInvolved	3. Transaction Code
footnoteId	
transactionTimeliness	
value	3. Transaction Code
transactionAmounts	
transactionShares	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionPricePerShare	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionAcquiredDisposedCode	
value	4. Securities Acquired (A) or Disposed of (D)
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	5. Securities owned at end of Fiscal Year
footnoteId	
valueOwnedFollowingTransaction	
value	5. Securities owned at end of Fiscal Year
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	6. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	7. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Table I - Non-Derivative Securities Column
nonDerivativeHolding	
securityTitle	

XML Element Name	Table I - Non-Derivative Securities Column
value	1. Title of Security
footnoteId	
transactionCoding	
transactionFormType	3. Transaction Code
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	5. Securities owned at end of Fiscal Year
footnoteId	
valueOwnedFollowingTransaction	
value	5. Securities owned at end of Fiscal Year
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	6. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	7. Nature of Indirect Beneficial Ownership
footnoteId	

XML Element Name	Table II - Derivative Securities Columns
derivativeTable	
derivativeTransaction	
securityTitle	
value	1. Title of Security
footnoteId	
conversionOrExercisePrice	
value	2. Conversion or Exercise Price
footnoteId	
transactionDate	
value	3. Transaction Date
footnoteId	
deemedExecutionDate	
value	3A. Deemed Execution Date
footnoteId	
transactionCoding	
transactionFormType	4. Transaction Code
transactionCode	4. Transaction Code

XML Element Name	Table II - Derivative Securities Columns
equitySwapInvolved	4. Transaction Code
footnoteId	
transactionTimeliness	
value	4. Transaction Code
transactionAmounts	
transactionShares	
value	5. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionTotalValue	
value	5. Securities Acquired (A) or Disposed of (D)
footnoteId	
transactionPricePerShare	
value	8. Price of Derivative Security
footnoteId	
transactionAcquiredDisposedCode	
value	5. Securities Acquired (A) or Disposed of (D)
exerciseDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
expirationDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
underlyingSecurity	
underlyingSecurityTitle	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityShares	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityValue	
value	7. Title and Amount of Underlying Securities
footnoteId	
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	9. Securities owned at end of Fiscal Year
footnoteId	
valueOwnedFollowingTransaction	
value	9. Securities owned at end of Fiscal Year
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	10. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	

XML Element Name	Table II - Derivative Securities Columns
value	11. Nature of Indirect Beneficial Ownership
footnoteId	
derivativeHolding	
securityTitle	
value	1. Title of Derivative Security
footnoteId	
conversionOrExercisePrice	
value	2. Conversion or Exercise Price
footnoteId	
transactionCoding	
transactionFormType	4. Transaction Code
footnoteId	
exerciseDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
expirationDate	
value	6. Date Exercisable and Expiration Date
footnoteId	
underlyingSecurity	
underlyingSecurityTitle	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityShares	
value	7. Title and Amount of Underlying Securities
footnoteId	
underlyingSecurityValue	
value	7. Title and Amount of Underlying Securities
footnoteId	

XML Element Name	Table II - Derivative Securities Columns
postTransactionAmounts	
sharesOwnedFollowingTransaction	
value	9. Securities owned at end of Fiscal Year
footnoteId	
valueOwnedFollowingTransaction	
value	9. Securities owned at end of Fiscal Year
footnoteId	
ownershipNature	
directOrIndirectOwnership	
value	10. Ownership Form: Direct or Indirect
footnoteId	
natureOfOwnership	
value	11. Nature of Indirect Beneficial Ownership
footnoteId	

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XML Element Name	Footer Area below Table II
footnotes	
footnote	Footer Area
remarks	Footer Area
ownerSignature	
signatureName	Footer Area
signatureDate	Footer Area

APPENDIX E. ACRONYMS

Acronym	Description
ASCII	American Standard Code for Information Interchange
CCC	CIK Confirmation Code
CIK	Central Index Key
EDGAR	Electronic Data Gathering, Analysis, and Retrieval
PDF	Portable Document Format
SEC	Securities and Exchange Commission
XML	Extensible Markup Language

APPENDIX F.   EDGAR REDUCED CONTENT XML SCHEMA FILES

Please refer to the "EDGAR Reduced Content XML Schema Files.zip" download for the new XML schema and example files for the Ownership Forms 3, 4, and 5.

APPENDIX G.   EDGAR REDUCED CONTENT XML STYLESHEETS

Please refer to the "EDGAR Reduced Content XML Stylesheets.zip" download for updated examples of the XML stylesheets for use with the Ownership Forms 3, 4, and 5.