

NACS POS/Back Office Interface Guidelines

XML Data Interchange

Version 1.0

(NAXML)

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Prepared by:

John Hervey

Gerke & Associates, Inc.

For the NACS POS/Back Office Standards Committee

National Association of Convenience Stores
1605 King Street
Alexandria, VA 22314
Contact: Robert Swanson
rswanson@cstorecentral.com
703-684-3600

Gerke & Associates, Inc.
2511 Old 63 South
Columbia, MO 65201
Contact: John Hervey
jhervey@gerke.com
270-782-1641

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Chapter 1 – General Information

BACKGROUND

In May 1997, the NACS Point-of-Sale Back Office Standards Committee appointed a Data Table Summit Task Force (DTSTF) to develop a set of common data elements used by both point-of-sale and back office systems in the convenience store industry to exchange data. These common data elements would become the foundation for the exchange of data in a standard manner between disparate systems. In April 1999, the NACS Technology Committee approved Version 1 of the NACS POS Back Office Interface Guidelines – Common Data Elements (ELEMENTS). The continuing work of the Task Force led to a recommendation in August 1999 that Version 2 of the Guidelines be adopted and this was approved by a vote of the NACS POS Back Office Committee in September 1999, in accordance with the rules established in Version 1 for voting.

During the deliberations of the Task Force from mid-1997 until adoption of Version 2 there was no attempt on the part of the Task Force to recommend a transport mechanism, file format, or communications protocol for the exchange of the common data elements. However, in January 1999, at the meeting of the NACS POS Back Office Committee the groundwork was laid for the Task Force to investigate XML (see below for a definition of terms) as a data interchange mechanism.

Beginning in October 1999, the Task Force began a review of XML and its possible use in developing industry guidelines for the interchange of the common data elements. This document, NACS Point-of-Sale Back Office Interface Guidelines – XML Data Interchange (NAXML), represents the initial work product of the Task Force as it pertains to XML for Data Interchange. The use of XML as a transport mechanism is one possible methodology. There are others that may be utilized but at this point will receive no further investigation by the Task Force.

Because the recommendations contained in this document represent a significant advance in the development of convenience store industry guidelines, the Task Force has recommended that this document be treated as a separate set of Guidelines from the NACS Point-of-Sale Back Office Interface Guidelines – Common Data Elements (ELEMENTS) and that it be circulated to all potentially interested parties for public comment. Following a sixty-day public comment period the document will be sent to the NACS Technology Project Steering Committee for approval and forwarding for adoption to the NACS Technology Committee.

CAUTION

Although this document significantly advances the scope of material contained in Common Data Elements Version 2.0 (ELEMENTS), it should not be construed as being all-inclusive or complete. The Task Force and Committee recognize that gaps may exist and that they will be uncovered as implementation by solution providers advances.

Additionally, changes may be required as the various derivatives of XML reach the approved “standards” stage. The continued participation by POS and Back Office solution providers in the work of the Task Force and/or Committee is essential to insure the completion of the task. The committee also believes that early implementers should be aware that changes to the guidelines may be required and that the Committee and Task Force will not be constrained by any existing implementation.

PROVIDING FEEDBACK

NACS POS/Back Office Standards Committee, one of the four working committees of the NACS Technology Standards Project has an open membership policy. Membership is open to anyone desiring to participate. The results of the Committee’s activities are open to feedback and comment by anyone desiring to do so. Feedback and comments are encouraged so that the POS/Back Office Interface Guidelines – XML Data Interchange (NAXML) have the broadest possible support within the industry. See below and Appendix C for procedures for submitting feedback and comments.

RECOMMENDING CHANGES

The NACS Technology Standards Committee has approved the following interim procedures for making changes to the Common Data Elements and XML Data Interchange Guidelines:

1. A Guidelines Maintenance Standing Committee (GMSC) shall be appointed by the NACS Standards Steering Committee. The GMSC shall be composed of all members of the NACS Point-of-Sale Back Office Standards Committee who have attended at least one of the last two meetings of that committee. (See Appendix C).
2. A POS/Back Office Interface Guidelines Change Request shall be submitted to the Guidelines Maintenance Standing Committee (GMSC).
3. Change requests should be submitted electronically at least 30 days in advance of the beginning of each GMSC Discussion Period. The Discussion Periods will begin on February 1, August 1, and November 1 of each year.

4. Fifteen days prior to the start of the Discussion Period members of the Guidelines Maintenance Standing Committee will be provided a copy of each Change Request submitted.
5. An electronic bulletin board will be provided for the discussion of the change requests submitted and a formal vote will be taken at the end of the Discussion Period: March 1, September 1, and December 1 of each year. Approval will require that at least 50% of the eligible voters vote and that at least two-thirds of the number voting agree to the change.
6. Changes approved will be posted on the NACS web site www.cstorecentral.com in the Technology Standards Section.

A physical meeting of the Guidelines Maintenance Standing Committee may not be necessary for it to conduct its business.

FUTURE WORK

The Committee anticipates that as solution providers and retailers gain experience with the use of the NAXML Guidelines, revisions, modifications and enhancements will be required. As these are identified they will be referred to the Task Force for action.

Additional follow-on work is identified elsewhere in this document.

Chapter 2 – Introduction

PURPOSE

This document is intended to describe the recommended data element interchange mechanism and methodology for the NACS Point-of-Sale Back Office Interface Guidelines – Common Data Elements using XML, eXtensible Markup Language, and associated Document Type Definitions (DTDs).

SCOPE

Topics covered by this document include:

- A history of XML
- How XML works
- Why XML
- NAXML framework and design principles
- NAXML Document Type Definitions (DTDs) NAXML sample documents

NAXML

The NACS Point-of-Sale Back-Office Interface Guidelines – XML Data Interchange – Version 1.0 (NAXML) provides a data interchange mechanism that allows disparate systems to exchange data in a standard manner using commonly understood data elements.

Data elements that can be exchanged are listed in NACS POS Back Office Interface Guidelines – Common Data Elements (ELEMENTS). The latest version of the document is available at www.cstorecentral.com. The elements listed in that document are organized in sets of primary, cross-reference, and look-up tables. The primary tables include those shown below. This version of NAXML addresses primary tables only. The cross-reference and look-up tables are considered configuration issues best left to each system to implement in its own manner.

Additional data elements may be exchanged as provided for in the NACS POS Back Office Interface Guidelines – Common Data Elements (ELEMENTS) and as specified elsewhere in this document.

- **Maintenance Tables**

- ◆ *Fuel Grade Maintenance - FGT* - Add, change or delete fuel grades and associated attributes
- ◆ *Fuel Position Maintenance - FOT* - Add, change or delete fuel position information and associated attributes
- ◆ *Fuel Product Maintenance - FPT* - Add, change or delete fuel products and associated attributes
- ◆ *Item Maintenance - ITT* - Add, change or delete resale items and associated attributes
- ◆ *Merchandise Code Maintenance - MCT* - Add, change or delete merchandise codes (commonly referred to as department of category) and associated attributes
- ◆ *Tank Product Maintenance - TPT* - Add, change or delete tank information and associated attributes
- ◆ *Tax Includes Maintenance - TIT* - Add, change or delete tax items and associated attributes
- ◆ *Tax Level Maintenance - TLT* - Add, change or delete tax levels and associated attributes
- ◆ *Tax Strategy Maintenance - TST* - Add, change or delete tax strategy information and associated attributes

- **Movement Tables**

- ◆ *Fuel Grade Movement - FGM* - Summary fuel grade sales
- ◆ *Fuel Product Movement - FPM* - Summary fuel product inventory change
- ◆ *Item Sales Movement - ISM* - Summary item sales
- ◆ *Merchandise Code Movement - MCM* - Summary department-level sales
- ◆ *Miscellaneous Summary Movement - MSM* - Summary tender totals, drops, loans
- ◆ *Tank Product Movement - TPM* - Summary fuel tank inventory
- ◆ *Tax Level Movement - TLM* - Summary taxes collected

REFERENCES

- [1] *NACS POS/Back Office Interface Guidelines – Common Data Elements – Version 2*: Available from NACS at <http://www.cstorecentral.com> go to Technology Standards.
- [2] *Extensible Markup Language (XML[®])*: <http://www.w3.org/XML/>
- [3] *XML.COM*: <http://www.xml.com>
- [4] *IBM XML Web Site*: <http://www.software.ibm.com/xml/>
- [5] *MSDN Online- Web Workshop - XML TOC*:
<http://msdn.microsoft.com/xml/toc.htm/>
- [6] *Commerce One – Conventions* – <http://www.commerceone.com>

Chapter 3 – XML for DATA TRANSFER

NACS POS Back Office Guidelines for XML Data Interchange (NAXML) recommend using the eXtensible Markup Language (XML) as a vendor-neutral data exchange medium. Specifically, XML documents¹ are used to transfer data between the disparate Point-of-Sale and Back-Office systems; the content of these documents is defined and constrained by using document type definitions (or DTDs) as defined in XML 1.0.

XML BACKGROUND

XML is essentially a lighter weight, Web-friendly version of its parent language, the Standard Generalized Markup Language (SGML). Like SGML, XML is a meta-language, and as such it is suitable for defining other languages or data exchange vocabularies. As such, it is an architecture, not an application. In contrast, HTML is one particular vocabulary that has been defined using SGML. The difference is one of extensibility - while HTML has a single, fixed set of tags designed for a single purpose (describing how a document should be rendered for viewing in a browser), XML may be used to describe new document types in almost limitless ways.

XML brings a host of advantages for solving the problem of loose system-to-system integration and data exchange. It is a readily available open standard, which is designed to attach meaning directly to the data it represents, rendering it both “human readable” as well as simple to work with programmatically. Its ability to flexibly represent data sets whose content may often change makes XML a logical choice for a dynamic business environment. As more and more organizations adopt XML as a standard way to represent virtually any kind of structured data, the ability to exchange data using XML becomes increasingly appealing. In summary, XML offers the following features:

- Vendor neutral
- Human and machine readable
- Flexible and easily extensible
- Handles batch and real-time modes of operation
- Can be used for both legacy and the latest object-oriented systems
- Simple to create and read using "Off-the-Shelf" parsers and other tools

• ¹ An “XML document” refers to coherent and complete set of data elements as implied in the original Guidelines and made explicit in the document type definitions presented here.

- Approved and hosted by the World Wide Web Consortium (W3C) <http://www.w3.org>.

HOW XML WORKS

XML uses data elements to hold data. A data element is made up of three parts: a start-tag, content, and end-tag. The start-tag is enclosed in angle brackets (<>) and contains an identifier (sometimes called a generic identifier, or GI), which names the data. The start-tag may also have attributes (hereafter called XML attributes), which are simple name/value pairs, which describe the content data. The end-tag of the element is also enclosed in angle brackets and uses the same identifier as the start-tag, except that it starts with a slash (/). Data between the start-tag and the end-tag is the content of the element.

A typical XML tag is essentially an instruction issued by the sender (SEN) to the receiver (REC) that states, in effect, to treat the data enclosed in the brackets as the tag specifies, i.e., as customer name if the tags are <CustomerName>...</CustomerName>. Both the receiver and sender must have a common understanding of the tag names that are assigned to fields in an XML document. The use of the NACS Common Data Elements assures that both the receiver and sender have agreed on the meaning of the tags. This agreement is assured by the use of an associated Document Type Definition (DTD).

The use of an optional character following an element name in a DTD indicates a usage requirement for the element in the conforming XML document as follows:

- ? indicates the element may be present zero or one time.
- * indicates the element may be present zero or more times.
- + indicates the element may be present one or more times.
- If no character appears after an element name the element is required one time.

A DTD is a formal definition of data elements allowed and expected in a specific XML document. It specifies what names can be used for tags, where they may occur, the allowed value of associated data content and how everything fits together. However, the DTD does not indicate unit-of-measure information; therefore, the sender and receiver must have

reached prior agreement on the unit-of-measure implied by each numerical tag.

The body of work contained in this document includes both the NAXML Document Type Definitions (DTDs) and examples of their corresponding XML documents.

It is possible to design a set of XML documents for the interchange of the NACS Common Data Elements without reference to Document Type Definitions (DTDs). However, to do so could produce a chaotic situation whereby each system (POS/Back Office) could specify its own data elements and document constructs. The result would be vendor specific interfaces likely negating the benefits gained by “standardization” of the interchange.

The Task Force recognizes that not all solution providers will have the capability or desire to reference DTDs in their implementations. However, although the explicit use of DTDs is not required, to satisfy the requirements of these guidelines the XML document must implicitly conform to the DTD.

XML PARSERS

From a programmatic standpoint, XML is very easy to work with, at least in its more basic forms. To generate XML compliant documents, a sending program need only produce standard text in a predefined way. XML receivers typically employ an XML parser to break the incoming document into its constituent data elements.

There are two levels of determining if an XML document is error free. The basic level checks to insure the document is “well-formed”, i.e., it conforms to all of the syntactic rules for an XML document. The second level determines if the document is “valid”, i.e., does it conform to the DTD that has been associated with it. An XML document can be well-formed but not valid. A valid document also must be well-formed (by definition).

Various XML parsers are available depending on the needs of the third-party application. Some parsers check only for well-formedness and others for both well-formedness and validity. Because the NACS POS Back Office Guidelines for XML Data Interchange recommend utilizing DTDs, a validating parser is strongly encouraged and recommended. An up-to-date listing of parsers commonly available can be found at <http://www.xml.com>.

NAMESPACES

In July 1999, the W3C approved the namespaces specification.

Namespaces provides scoping for element and XML attribute names, and its use avoids naming collisions when XML documents are being exchanged in a broader context. Namespaces are a collection of names that are identified by a URI (Uniform Resource Identifier) where the names are used as XML elements and XML attributes. By reference to an XML namespace the same element name such as <bat> can be used with different meaning depending upon its referenced namespace declarations. **Although these NACS Guidelines do not utilize namespaces in this version, solution providers should provide a namespace reference when exchanging these NAXML documents within a broader context that can include element and attribute names from other sources.**

XML SCHEMAS

In September 1999, the W3C issued draft Working Group documents containing the latest versions of their current thinking with regard to schemas. Schemas will extend the capabilities offered by DTDs: they will define data-types (such as string, date, and integer) as well as allow stronger reusable data-structures within documents. Because these documents have not yet been issued as a W3C “Recommendation”, they are still subject to change. For this reason the work in this document does not utilize any “unofficial” schema implementation. While other schema definitions already exist (SOX, XDR, etc.), these are each vendor specific. Implementers of these Guidelines should follow the data formats recommended in the NACS Point-of-Sale Back Office Guidelines – Common Data Elements to ease the transition to the more rigorous type checking Schemas that will allow.

It is anticipated that modification of these Guidelines may be necessary when Schema is issued as a “Recommendation”.

XSL/XSLT

One of the challenges presented to the Task Force is how to specify the transfer of the Common Data Elements in a manner usable by all Point-of-Sale and Back Office Systems. The Task Force recognizes that not all systems will want the elements in the same order or at the same level of detail or summarization.

The use of XSLT (eXtensible Style Sheet Transformations) provides each system the ability to transform a XML document conforming to the NACS Guidelines into a XML document or other format required by that system. It is left to each system to develop the XSLT stylesheets needed to accomplish its own translation/transformation. For information purposes, one example of a XSLT transformation is provided in these Guidelines.

DOCUMENT EXCHANGES

The only requirement imposed by these Guidelines for the exchange of documents is that both Point-of-Sale and Back Office systems should be capable of exporting data either in batch mode, such as triggered at a prearranged time, or in response to real-time requests directly from the other system.

Additional messages may be necessary to provide for choreography between sender and receiver. These will be dealt with at a later time.

Chapter 4 – NAXML Framework

DESIGN PRINCIPLES

For this initial version of the Guidelines it is important to note that they have been designed in accordance with the following principles:

- There is no attempt to specify the communications mechanism by which the documents are exchanged at this time. This may be added at a later time.
- There is no attempt to specify the application interface between systems, only the business documents they exchange. This may be added at a later time.
- There is no attempt to specify the manner by which the sending system produces the documents or to specify what actions will result when they are received.
- Because there is no requirement for a particular transport, many aspects of message security, such as digital signatures and similar issues, do not need to be addressed at this time.
- By keeping the integration on the business level, each business is able to present a clear and stable interface to its business partners despite changes in its internal technology implementation, organization or process.
- The extensibility of XML allows data elements not specified in the NACS Data Element Dictionary to be accommodated. The Task Force intends to provide a means to achieve additional flexibility in a later version.
- Keep the names of elements as close as possible to those in the Common Elements Guidelines.
- Parsed character data (#PCDATA) elements will get more explicit data-types when XML Schemas are introduced.

XML DOCUMENT CONTENT TYPES

These guidelines have defined the following business content types to facilitate the data interchange:

- Maintenance and Movement Tables (PBI)
- Table Request (TRQ) – (May be added in a later version.)
- Configuration Tables (CFG) - (May be added in a later version.)

- Acknowledgments (ACK) - (May be added in a later version.)
- Supplemental Tables (SYS) - These include system specific requirements such as security, audit trails, etc. - (May be added in a later version.)

REPOSITORY

On an interim basis, the DTDs and sample XML documents can be located at <http://208.144.173.70/NACSDTDs/>. The Guidelines will be available at www.cstorecentral.com. Once testing is complete cstorecentral will also be the repository for the DTDs and XML sample documents. The DTDs and sample XML documents shown in this document are hard coded to provide an uri to the above listed server. These should be modified as necessary by implementers and testers.

NAXML DTD USAGE

Although the **explicit** use of a NAXML DTD is not required in a XML document, the XML document **must conform** to the corresponding DTD in order to satisfy the requirements of these Guidelines. If tags corresponding to fields that are not required are absent, the default value listed in the data tables for that field is assumed.

DOCUMENT NAMING

The XML document should contain all information required to completely identify its content without reference to some external transport mechanism.

DOCUMENT CONSTRUCTION

There are 4 DTDs that contain all of the requirements for producing XML documents that provide for the exchange of the Common Data Elements.

These are:

1. PBIDictionary.dtd
This DTD contains declarations for all of the Common Data Elements except those used in all conforming documents. (See PBICCommon.dtd below.) Note that XML attributes are used only in rare instances. Additionally, note that, by convention, all data element tags use the naming structure found in Common Data Elements.
2. PBICCommon.dtd
This DTD contains declarations for Common Data Elements that

are used in all of the XML documents, such as transmission headers.

3. PBIMaintenance.dtd

This DTD defines the structure of all possible XML documents conforming to the maintenance table structures outlined in Common Data Elements.

4. PBIMovement.dtd

This DTD defines the structure of all possible XML documents conforming to the movement table structures outlined in Common Data Elements.

Chapter 5 – NAXML Document Type Definitions (DTD)

An electronic version of the NAXML DTDs is available from www.cstorecentral.com go to Technology Standards and look for NAXML DTDs.

A number of XML tags have been created to simplify document construction and usage. These tag names follow the same naming convention as the Common Data Elements. These elements are declared in the appropriate DTD.

The use of an optional character following an element name in a DTD indicates a usage requirement for the element in the conforming XML document as follows:

- ? indicates the element may be present zero or one time.
- * indicates the element may be present zero or more times.
- + indicates the element may be present one or more times.

If no character appears after an element name the element is required one time.

The DTDs and sample XML documents shown in this document are hard coded to provide an uri to the above listed server. These should be modified as necessary by implementers and testers.

PBIDictionary.DTD

```
<!-- *****-->
<!-- This is Version 1.0 of the PBIDictionary.dtd. -->
<!-- *****-->
<!-- These elements are the data elements contained in the "Data Dictionary" in the NACS Point-of-Sale
Back Office Interface Guidelines - Common Data Elements - Version 2.0 (ELEMENTS).
They are used and reused in a variety of documents. Data Dictionary Elements not included in this dtd
consist of header elements for Transmission, Maintenance, Movement, SalesMovement, and
TankProdMovement. Elements not part of the Guidelines but used in these XML documents are found in
either the PBIMaintenance.dtd or the PBIMovement.dtd. -->
<!-- *****-->
```

```

<!ELEMENT PosCodeFormat (#PCDATA)>
<!ATTLIST PosCodeFormat format
( 0 | 1 | 2 | 3 | 4 | 5 ) #REQUIRED>

<!-- *****-->
<!-- The type of coding scheme used in PosCodeFormat 0=U.P.C.-A 1= U.P.C.-E 2=EAN8 3=EAN13 -->
<!--4=PLU -->
<!-- *****-->

<!ELEMENT ActiveFlg (#PCDATA)>
<!ELEMENT ActualSellPrice (#PCDATA)>
<!ELEMENT CurrencyCode (#PCDATA)>
<!ELEMENT CurrencyFaceValue (#PCDATA)>
<!ELEMENT CurrencySubCode (#PCDATA)>
<!ELEMENT DefaultModifierFlg (#PCDATA)>
<!ELEMENT Description (#PCDATA)>
<!ELEMENT DescriptionId (#PCDATA)>
<!ELEMENT DiscountAmt (#PCDATA)>
<!ELEMENT DiscountCnt (#PCDATA)>
<!ELEMENT DispenserDiscountAmt (#PCDATA)>
<!ELEMENT DispenserDiscountCnt (#PCDATA)>
<!ELEMENT FamilyCode (#PCDATA)>
<!ELEMENT FuelGradeActiveFlg (#PCDATA)>
<!ELEMENT FuelGradeId (#PCDATA)>
<!ELEMENT FuelGradeNonResetableTotalAmt (#PCDATA)>
<!ELEMENT FuelGradeNonResetableTotalVol (#PCDATA)>
<!ELEMENT FuelGradeSalesAmt (#PCDATA) >
<!ELEMENT FuelGradeSalesVol (#PCDATA) >
<!ELEMENT FuelGradeSeqId (#PCDATA)>
<!ELEMENT FuelPositionId (#PCDATA)>
<!ELEMENT FuelProductBlendPercent (#PCDATA)>
<!ELEMENT FuelProductDepth (#PCDATA) >
<!ELEMENT FuelProductDescription (#PCDATA)>
<!ELEMENT FuelProductId (#PCDATA)>
<!ELEMENT FuelProductIdHigh (#PCDATA)>
<!ELEMENT FuelProductNonResetableAmtNum (#PCDATA)>
<!ELEMENT FuelProductNonResetableVolNum (#PCDATA)>
<!ELEMENT FuelProductTemp (#PCDATA) >
<!ELEMENT FuelProductVol (#PCDATA)>
<!ELEMENT InventoryValuePrice (#PCDATA)>
<!ELEMENT ItemId (#PCDATA)>
<!ELEMENT ItemTypeCode (#PCDATA)>
<!ELEMENT ItemTypeSubCode (#PCDATA)>
<!ELEMENT LanguageCode (#PCDATA)>
<!ELEMENT LinkCode (#PCDATA)>
<!ELEMENT ManualEntryFlg (#PCDATA)>
<!ELEMENT MdseCode (#PCDATA)>
<!ELEMENT MdseCodeDescription (#PCDATA)>
<!ELEMENT MiscSumAmt (#PCDATA)>
<!ELEMENT MiscSumCnt (#PCDATA)>
<!ELEMENT MiscSumCode (#PCDATA)>
<!ELEMENT MiscSumSubCode (#PCDATA)>
<!ELEMENT MiscSumSubCodeMod (#PCDATA)>
<!ELEMENT MixMatchCode (#PCDATA)>
<!ELEMENT OutsideSlsFlg (#PCDATA) >

```

<!ELEMENT PaymentSysProdCode (#PCDATA)>
 <!ELEMENT PosCode (#PCDATA)>
 <!ELEMENT PosCodeMod (#PCDATA)>
 <!ELEMENT PriceTierCode (#PCDATA)>
 <!ELEMENT PromoAmt (#PCDATA)>
 <!ELEMENT PromoCnt (#PCDATA)>
 <!ELEMENT PumpTestAmt (#PCDATA)>
 <!ELEMENT PumpTestVol (#PCDATA)>
 <!ELEMENT ReasonCode (#PCDATA)>
 <!ELEMENT RefundAmt (#PCDATA)>
 <!ELEMENT RefundCnt (#PCDATA)>
 <!ELEMENT RegularSellPrice (#PCDATA)>
 <!ELEMENT SalesAmt (#PCDATA)>
 <!ELEMENT SalesQty (#PCDATA)>
 <!ELEMENT SalesRestrictCode (#PCDATA)>
 <!ELEMENT SellingUnits (#PCDATA)>
 <!ELEMENT ServiceLevelCode (#PCDATA)>
 <!ELEMENT TankChartId (#PCDATA)>
 <!ELEMENT TankDepth (#PCDATA)>
 <!ELEMENT TankDescription (#PCDATA)>
 <!ELEMENT TankId (#PCDATA)>
 <!ELEMENT TankIdHigh (#PCDATA)>
 <!ELEMENT TankInstallDate (#PCDATA)>
 <!ELEMENT TankLowInventoryVol (#PCDATA)>
 <!ELEMENT TankManifoldId (#PCDATA)>
 <!ELEMENT TankManufacturer (#PCDATA)>
 <!ELEMENT TankModNum (#PCDATA)>
 <!ELEMENT TankReorderVol (#PCDATA)>
 <!ELEMENT TankSerialNum (#PCDATA)>
 <!ELEMENT TankVol (#PCDATA)>
 <!ELEMENT TaxableSalesAmt (#PCDATA)>
 <!ELEMENT TaxableSalesRefundedAmt (#PCDATA)>
 <!ELEMENT TaxActiveFlg (#PCDATA)>
 <!ELEMENT TaxCollectedAmt (#PCDATA)>
 <!ELEMENT TaxDescription (#PCDATA)>
 <!ELEMENT TaxExemptAmt (#PCDATA)>
 <!ELEMENT TaxExemptRefundedAmt (#PCDATA)>
 <!ELEMENT TaxExemptVol (#PCDATA)>
 <!ELEMENT TaxForgivenSalesAmt (#PCDATA)>
 <!ELEMENT TaxForgivenSalesRefundedAmt (#PCDATA)>
 <!ELEMENT TaxLevelId (#PCDATA)>
 <!ELEMENT TaxLevelIncludedId (#PCDATA)>
 <!ELEMENT TaxLevelSeqId (#PCDATA)>
 <!ELEMENT TaxRate (#PCDATA)>
 <!ELEMENT TaxReceiptDescription (#PCDATA)>
 <!ELEMENT TaxRefundedAmt (#PCDATA)>
 <!ELEMENT TaxRegistrationNum (#PCDATA)>
 <!ELEMENT TaxSeqNum (#PCDATA)>
 <!ELEMENT TaxStrategyDescription (#PCDATA)>
 <!ELEMENT TaxStrategyId (#PCDATA)>
 <!ELEMENT TaxSymbol (#PCDATA)>
 <!ELEMENT TaxTableId (#PCDATA)>
 <!ELEMENT TaxTypeId (#PCDATA)>
 <!ELEMENT TenderAmt (#PCDATA)>
 <!ELEMENT TenderCode (#PCDATA)>
 <!ELEMENT TenderSubCode (#PCDATA)>

<!ELEMENT TenderTransactionsCnt (#PCDATA)>
<!ELEMENT TimeTierCode (#PCDATA)>
<!ELEMENT TransactionCnt (#PCDATA)>
<!ELEMENT Ullage (#PCDATA)>
<!ELEMENT WaterDepth (#PCDATA)>
<!ELEMENT WaterVol (#PCDATA)>

PBICOMMON.DTD

```
<!-- *****_ >
<!-- This is Version 1.0 of the PBICommon.dtd. The elements in this dtd generally appear in all NAXML
documents. -->
<!-- *****_ >
```

```
<!-- *****_ >
<!-- TransmissionHeader. This element appears inside every MovementReport or MaintenanceRequest.
NAXMLVersion , StoreLocationId , VendorName , VendorModelVersion must be present once.
NAXMLVersion refers to the version number of this DTD, VendorName and VendorModelVersion are the
existing data elements PosVendorName and PosVendorModelVersion. A change request to the Common
Data Elements will be processed to change the designation of these elements. They refer to the Vendor
Name and Model of the SENDER of the document. -->
<!-- *****_ >
```

```
<!ELEMENT TransmissionHeader (NAXMLVersion,StoreLocationId, VendorName,
VendorModelVersion)>
```

```
<!ELEMENT NAXMLVersion (#PCDATA)>
<!ELEMENT StoreLocationId (#PCDATA)>
<!ELEMENT VendorName (#PCDATA)>
<!ELEMENT VendorModelVersion (#PCDATA)>
```

PBIMAINTEANCE.DTD

```
<!-- *****_ >
<!-- This is the Version 1.0 of the PBIMaintenance.dtd. It contains all
specific xxxMaintenance Request elements -->
<!-- *****_ >

<!ENTITY % common SYSTEM "PBICommon.dtd">
<!ENTITY % dictionary SYSTEM "PBIDictionary.dtd">

%common;%dictionary;

<!-- *****_ >
<!--MaintenanceRequest contains a TransmissionHeader and some set of
xxxMaintenance Requests. TransmissionHeader elements are contained in
PBICommon.dtd and are referenced in the XML document by the ENTITY
%common. PBIDictionary.dtd contains all of the elements listed in the
NACS Point-of-Sale Back Office Interface Guidelines - Common Data
Elements - Version 2.0-->
<!-- *****_ >

<!ELEMENT MaintenanceRequest (TransmissionHeader, FuelGradeMaintenance*,
FuelPositionMaintenance*, FuelProductMaintenance*, ItemMaintenance*,
MerchandiseCodeMaintenance*, TankProductMaintenance*,
TaxLevelMaintenance*, TaxIncludesMaintenance*, TaxStrategyMaintenance*)>

<!-- *****_ >
<!-- TableAction is an empty element with a "type" attribute which may
be "initialize" or "update". "initialize" means to remove all elements
from any existing table before beginning. "update" means to only change
those elements identified, using the active (current) RecordAction
element.-->
<!-- *****_ >

<!ELEMENT TableAction EMPTY>
<!ATTLIST TableAction
    type (initialize | update) #REQUIRED>

<!-- *****_ >
<!-- RecordAction is an empty element with a "type" attribute that may
be "create","addchange","modify", or "delete". If the element appears at
this level it applies to any elements in the current sub-tree which are
not otherwise marked. RecordAction appearing within a sub-tree overrides
any parent definition within that sub-tree.-->
<!-- *****_ >

<!ELEMENT RecordAction EMPTY>
<!ATTLIST RecordAction
    type (create | addchange | modify | delete) #REQUIRED>

<!-- *****_ >
<!--      FuelGradeMaintenance      -->
<!-- *****_ >

<!ELEMENT FuelGradeMaintenance (TableAction?, RecordAction?, FGTDetail+)>
```



```

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT FGTDetail (RecordAction?, FuelGradeId, DescriptionId,
FuelProductId, FuelProductIdHigh?, MdseCode, PaymentSysProdCode,
FuelGradeActiveFlg, TaxStrategyId?, FGTDData+)>

<!ELEMENT FGTDData (FuelPositionId?, PriceTierCode?, ServiceLevelCode?,
TimeTierCode?, FuelProductBlendPercent, RegularSellPrice)>

<!-- *****_>
<!-- FuelPositionMaintenance -->
<!-- *****_>

<!ELEMENT FuelPositionMaintenance (TableAction, RecordAction,
FOTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT FOTDetail (RecordAction, FuelPositionId, FuelGradeId,
FuelGradeActiveFlg, TankId, TankIdHigh?, FuelGradeSeqId?, PriceTierCode?,
ServiceLevelCode?, TimeTierCode?)>

<!-- *****_>
<!-- FuelProductMaintenance -->
<!-- *****_>

<!ELEMENT FuelProductMaintenance (TableAction, RecordAction, FPTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT FPTDetail (RecordAction, FuelProductId,
FuelProductDescription?)>

<!-- *****_>
<!-- ItemMaintenance -->
<!-- *****_>

<!ELEMENT ItemMaintenance (TableAction?, RecordAction?, ITTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT ITTDetail (RecordAction, ItemCode, ITTData+)>
<!ELEMENT ItemCode (PosCodeFormat, PosCode, PosCodeMod)>
<!ELEMENT ItemType (ItemTypeCode, ItemTypeSubCode)>
<!ELEMENT ITTData (ActiveFlg, InventoryValuePrice, MdseCode,
RegularSellPrice, DefaultModifierFlg?, Description?, DescriptionId?,

```

```

FamilyCode?, ItemId?, ItemType?, LinkCode?, MixMatchCode?,
PaymentSysProdCode?, SalesRestrictCode?, SellingUnits?, TaxStrategyId?)>
<!-- *****_>
<!-- MerchandiseCodeMaintenance -->
<!-- *****_>

<!ELEMENT MerchandiseCodeMaintenance (TableAction?, RecordAction?,
MCTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT MCTDetail (RecordAction, MdseCode, ActiveFlg,
MdseCodeDescription?, DescriptionId?, LinkCode?, PaymentSysProdCode?,
SalesRestrictCode?, TaxStrategyId?)>

<!-- *****_>
<!-- TaxIncludesMaintenance -->
<!-- *****_>

<!ELEMENT TaxIncludesMaintenance (TableAction, RecordAction, TITDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT TITDetail (RecordAction, TaxLevelId, TaxLevelIncludedId?,
TaxSeqNum?)>

<!-- *****_>
<!-- TaxLevelMaintenance -->
<!-- *****_>

<!ELEMENT TaxLevelMaintenance (TableAction, RecordAction, TLTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

<!ELEMENT TLTDetail (RecordAction, TaxLevelId, TaxTypeId, TaxTableId?,
TaxActiveFlg?, TaxDescription?, TaxReceiptDescription?,
TaxRegistrationNum?, TaxSymbol?, TaxRate?)>

<!-- *****_>
<!-- TankProductMaintenance -->
<!-- *****_>

<!ELEMENT TankProductMaintenance (TableAction, RecordAction, TPTDetail+)>

<!-- *****_>
<!-- record level detail -->
<!-- *****_>

```

```

<!ELEMENT TPTDetail (RecordAction, TankData+)>
<!ELEMENT TankData (TankId, FuelProductId, TankChartId?,
TankDescription?, TankInstallDate?, TankManifoldId?, TankManufacturer?,
TankModNum?, TankSerialNum?, TankDepth?, TankLowInventoryVol?,
TankReorderVol?, TankVol?)>

<!-- *****_ >
<!-- TaxStrategyMaintenance -->
<!-- *****_ >

<!ELEMENT TaxStrategyMaintenance (TableAction, RecordAction, TSTDetail+)>

<!-- *****_ >
<!-- record level detail -->
<!-- *****_ >

<!ELEMENT TSTDetail (RecordAction, TaxStrategyId, TaxLevelId,
TaxLevelSeqId?, TaxStrategyDescription?)>

```

PBIMOVEMENT.DTD

```
<!-- *****_>
<!-- This is the Version 1.0 of the PBIMovement.dtd. It contains all
specific xxxMovement report elements -->
<!-- *****_>

<!ENTITY % common SYSTEM "PBICommon.dtd">
<!ENTITY % dictionary SYSTEM "PBIDictionary.dtd">
%common;%dictionary;

<!-- *****_>
<!--MovementReport contains a TransmissionHeader and some set of
xxxMovement reports. TransmissionHeader elements are contained in
PBICommon.dtd and are referenced in the XML document by the ENTITY
%common. PBIDictionary.dtd contains all of the elements listed in
the NACS Point-of-Sale Back Office Interface Guidelines - Common Data
Elements - Version 2.0-->
<!-- *****_>

<!ELEMENT MovementReport (TransmissionHeader,(FuelGradeMovement* |
FuelProductMovement* | ItemSalesMovement* | MdseCodeMovement* |
MiscSumMovement* | TankProductMovement* | TaxLevelMovement*))>

<!-- *****_>
<!--Each xxxMovement element contains a MovementHeader and either a
SalesMovementHeader or a TankProdMovementHeader -->
<!-- *****_>

<!-- *****_>
<!--MovementHeader contains a set of elements that identify the specific
report as to date/time and reporting period. Optional "qualifier" fields
are also included for a finer grained report.-->
<!-- *****_>

<!ELEMENT MovementHeader (RptSeqNum , PriRptPer , SecRptPer , BeginDate ,
BeginTime , EndDate , EndTime )>

<!-- *****_>
<!-- Elements for MovementHeader -->
<!-- *****_>

<!ELEMENT RptSeqNum (#PCDATA)>
<!ELEMENT PriRptPer (#PCDATA)>
<!ELEMENT SecRptPer (#PCDATA)>
<!ELEMENT BeginDate (#PCDATA)>
<!ELEMENT BeginTime (#PCDATA)>
<!ELEMENT EndDate (#PCDATA)>
<!ELEMENT EndTime (#PCDATA)>

<!-- *****_>
<!--SalesMovementHeader contains a set of elements that identify
the specific report as to cashier, register and till -->
<!-- *****_>
```

```

<!ELEMENT SalesMovementHeader (RegisterId? , CashierId? , TillId? )>
<!-- *****_>
<!-- Elements for SalesMovementHeader -->
<!-- *****_>

<!ELEMENT RegisterId (#PCDATA)>
<!ELEMENT CashierId (#PCDATA)>
<!ELEMENT TillId (#PCDATA)>

<!-- *****_>
<!--TankProdMovementHeader contains a set of elements that identify the
specific report as to date/time of the tank inventory reading-->
<!-- *****_>

<!ELEMENT TankProdMovementHeader (ReadingDate , ReadingTime )>

<!-- *****_>
<!-- Elements for TankProdMovementHeader -->
<!-- *****_>

<!ELEMENT ReadingDate (#PCDATA)>
<!ELEMENT ReadingTime (#PCDATA)>

<!-- *****_>
<!-- FuelGradeMovement -->
<!-- *****_>

<!ELEMENT FuelGradeMovement (MovementHeader , SalesMovementHeader?,
FGMDetail+)>

<!ELEMENT FGMDetail (FuelGradeId, FGMNonResetableTotal+, FGMSalesTotals+
)>
<!ELEMENT FGMNonResetableTotal (FuelProductId ,
FuelGradeNonResetableTotalVol , FuelGradeNonResetableTotalAmt )>
<!ELEMENT FGMSalesTotals (ActualSellPrice , FuelPositionId , ReasonCode?
, TimeTierCode? , PriceTierCode? , ServiceLevelCode? , FuelGradeSalesVol
, FuelGradeSalesAmt , RegularSellPrice , PumpTestAmt? , PumpTestVol? ,
TaxExemptVol? , CurrencyCode? , CurrencyFaceValue? , DiscountAmt? ,
DiscountCnt? , DispenserDiscountAmt? , DispenserDiscountCnt? ,
OutsideSlsFlg? )>

<!-- *****_>
<!-- FuelProductMovement -->
<!-- *****_>

<!ELEMENT FuelProductMovement (MovementHeader , SalesMovementHeader?,
FPMDetail+)>
<!ELEMENT FPMDetail (FuelProductId, FPMNonResetableTotals+ )>
<!ELEMENT FPMNonResetableTotals (FuelPositionId ,
FuelProductNonResetableAmtNum , FuelProductNonResetableVolNum)>

```

```

<!-- *****_>
<!-- ItemSalesMovement -->
<!-- *****_>

<!ELEMENT ItemSalesMovement (MovementHeader , SalesMovementHeader? ,
ISMDetail+)>
<!ELEMENT ISMDetail (ItemCode, ItemId, Description, ISMSalesTotals+)>
<!ELEMENT ItemCode (PosCodeFormat, PosCode, PosCodeMod)>
<!ELEMENT ISMSalesTotals (MdseCode, Tender, ActualSellPrice, ReasonCode?,
SellingUnits?, Currency?, CurrencyFaceValue?, DiscountAmt?, DiscountCnt?,
InventoryValuePrice, PromoAmt?, PromoCnt?, RefundAmt?, RefundCnt?,
RegularSellPrice, SalesQty, SalesAmt, TransactionCnt? )>
<!ELEMENT Currency (CurrencyCode?, CurrencySubCode?)>
<!ELEMENT Tender (TenderCode, TenderSubCode+ )>

<!-- *****_>
<!-- MdseCodeMovement -->
<!-- *****_>

<!ELEMENT MdseCodeMovement (MovementHeader , SalesMovementHeader?,
MCMDetail+)>
<!ELEMENT MCMDetail (MdseCode, MdseCodeDescription, MCMSalesTotals)>
<!ELEMENT MCMSalesTotals ( DiscountAmt?, DiscountCnt?, PromoAmt?,
PromoCnt?, RefundAmt?, RefundCnt?, SalesQty, SalesAmt, TransactionCnt? )>

<!-- *****_>
<!-- MiscSumMovement -->
<!-- *****_>

<!ELEMENT MiscSumMovement (MovementHeader , SalesMovementHeader?,
MSMDetail+)>
<!ELEMENT MSMDetail (MiscSummaryCodes, MSMSalesTotals+)>
<!ELEMENT MiscSummaryCodes ( MiscSumCode, MiscSumSubCode?,
MiscSumSubCodeMod?)>
<!ELEMENT MSMSalesTotals ( Tender+, Currency?, TenderTransactionsCnt?,
ManualEntryFlg?, CurrencyFaceValue?, MiscSumAmt, MiscSumCnt? )>

<!-- *****_>
<!-- TaxLevelMovement -->
<!-- *****_>

<!ELEMENT TaxLevelMovement (MovementHeader , SalesMovementHeader?,
TLMDetail+)>
<!ELEMENT TLMDetail (TaxLevelId, MdseCode, TaxStrategyId?,
TaxableSalesAmt, TaxableSalesRefundedAmt, TaxCollectedAmt,
TaxExemptAmt?, TaxExemptRefundedAmt?, TaxForgivenSalesAmt?,
TaxForgivenSalesRefundedAmt?, TaxRefundedAmt)>

<!-- *****_>
<!-- TankProductMovement -->
<!-- *****_>

<!ELEMENT TankProductMovement (MovementHeader , TankProdMovementHeader,
TPMDetail+)>
<!ELEMENT TPMDetail (TankId, FuelProductId, (FuelProductDepth |
FuelProductTemp), FuelProductVol?, Ullage?, (WaterDepth | WaterVol ))>

```

Chapter 6 – NAXML Sample Documents

An electronic version of the NAXML sample documents is available from www.cstorecentral.com go to Technology Standards and look for NAXML Samples.

These documents may be used as standalone maintenance requests or movement reports or they may be combined into one each maintenance request and movement report in conformance with the appropriate DTD. For illustration purposes they are shown as individual request or report documents.

FGT.XML (FUEL GRADE MAINTENANCE)

```
<?xml version = "1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0</NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <FuelGradeMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <FGTDetail>
      <RecordAction type="create"/>
      <FuelGradeId>1</FuelGradeId>
      <DescriptionId>Unleaded 87 Octane</DescriptionId>
      <FuelProductId>Unleaded 87 Octane</FuelProductId>
      <FuelProductIdHigh>1</FuelProductIdHigh>
      <MdseCode>060010</MdseCode>
      <PaymentSysProdCode>103</PaymentSysProdCode>
      <FuelGradeActiveFlg>Y</FuelGradeActiveFlg>
      <TaxStrategyId>1</TaxStrategyId>
      <FGTData>
        <FuelPositionId>1</FuelPositionId>
        <PriceTierCode>1</PriceTierCode>
        <ServiceLevelCode>1</ServiceLevelCode>
        <TimeTierCode>1</TimeTierCode>
        <FuelProductBlendPercent>60
        </FuelProductBlendPercent>
        <RegularSellPrice>119.9</RegularSellPrice>
      </FGTData>
    </FGTDetail>
  </FuelGradeMaintenance>
</MaintenanceRequest>
```

FOT.XML (FUEL POSITION MAINTENANCE)

```
<?xml version = "1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0</NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <FuelPositionMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <FOTDetail>
      <RecordAction type="create"/>
      <FuelPositionId>1</FuelPositionId>
      <FuelGradeId>1</FuelGradeId>
      <FuelGradeActiveFlg>1</FuelGradeActiveFlg>
      <TankId>1</TankId>
      <TankIdHigh>2</TankIdHigh>
      <FuelGradeSeqId>1</FuelGradeSeqId>
      <PriceTierCode>1</PriceTierCode>
      <ServiceLevelCode>1</ServiceLevelCode>
      <TimeTierCode>1</TimeTierCode>
    </FOTDetail>
    <FOTDetail>
      <RecordAction type="addchange"/>
      <FuelPositionId>2</FuelPositionId>
      <FuelGradeId>2</FuelGradeId>
      <FuelGradeActiveFlg>1</FuelGradeActiveFlg>
      <TankId>2</TankId>
      <TankIdHigh>2</TankIdHigh>
      <FuelGradeSeqId>2</FuelGradeSeqId>
      <PriceTierCode>2</PriceTierCode>
      <ServiceLevelCode>2</ServiceLevelCode>
      <TimeTierCode>2</TimeTierCode>
    </FOTDetail>
  </FuelPositionMaintenance>
</MaintenanceRequest>
```

FPT.XML (FUEL PRODUCT MAINTENANCE)

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0</NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <FuelProductMaintenance>
```



```

    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <FPTDetail>
      <RecordAction type="create"/>
      <FuelProductId>1</FuelProductId>
      <FuelProductDescription>Unleaded 87
Octane</FuelProductDescription>
    </FPTDetail>
    <FPTDetail>
      <RecordAction type="create"/>
      <FuelProductId>2</FuelProductId>
      <FuelProductDescription>Unleaded 89
Octane</FuelProductDescription>
    </FPTDetail>
  </FuelProductMaintenance>
</MaintenanceRequest>

```

ITT.XML (ITEM MAINTENANCE)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <ItemMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <ITTDetail>
      <RecordAction type="create"/>
      <ItemCode>
        <PosCodeFormat format="0"/>
        <PosCode>012345123451</PosCode>
        <PosCodeMod>1</PosCodeMod>
      </ItemCode>
      <ITTDData>
        <ActiveFlg>Y</ActiveFlg>
        <InventoryValuePrice>.69</InventoryValuePrice>
        <MdseCode>051201</MdseCode>
        <RegularSellPrice>.69</RegularSellPrice>
        <ItemType>
          <ItemTypeCode>10</ItemTypeCode>
          <ItemTypeSubCode>2</ItemTypeSubCode>
        </ItemType>
        <PaymentSysProdCode>041</PaymentSysProdCode>
        <SellingUnits>1</SellingUnits>
        <TaxStrategyId>1</TaxStrategyId>
      </ITTDData>
    </ITTDetail>
  </ItemMaintenance>
</MaintenanceRequest>

```

MCT.XML (MERCHANDISE CODE MAINTENANCE)

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <MerchandiseCodeMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <MCTDetail>
      <RecordAction type="create"/>
      <MdseCode>201</MdseCode>
      <ActiveFlg>Y</ActiveFlg>
      <MdseCodeDescription>Mr Wacky Candy
6oz</MdseCodeDescription>
      <DescriptionId>3</DescriptionId>
      <LinkCode>1</LinkCode>
      <PaymentSysProdCode>041</PaymentSysProdCode>
      <SalesRestrictCode>2</SalesRestrictCode>
      <TaxStrategyId>1</TaxStrategyId>
    </MCTDetail>
  </MerchandiseCodeMaintenance>
</MaintenanceRequest>
```

TIT.XML (TAX INCLUDES MAINTENANCE)

```
<?xml version = "1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <TaxIncludesMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <TITDetail>
      <RecordAction type="create"/>
      <TaxLevelId>1</TaxLevelId>
      <TaxLevelIncludedId>2</TaxLevelIncludedId>
      <TaxSeqNum>4</TaxSeqNum>
    </TITDetail>
  </TaxIncludesMaintenance>
</MaintenanceRequest>
```

TLT.XML (TAX LEVEL MAINTENANCE)

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <TaxLevelMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <TLTDetail>
      <RecordAction type="create"/>
      <TaxLevelId>1</TaxLevelId>
      <TaxTypeId>1</TaxTypeId>
      <TaxTableId>2</TaxTableId>
      <TaxActiveFlg>Y</TaxActiveFlg>
      <TaxDescription>State Sales Tax</TaxDescription>
      <TaxReceiptDescription>SalesTax</TaxReceiptDescription>
      <TaxRegistrationNum>2</TaxRegistrationNum>
      <TaxSymbol>1</TaxSymbol>
      <TaxRate>6.5</TaxRate>
    </TLTDetail>
  </TaxLevelMaintenance>
</MaintenanceRequest>
```

TPT.XML (TANK PRODUCT MAINTENANCE)

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <TankProductMaintenance>
    <TableAction type="initialize"/>
    <RecordAction type="create"/>
    <TPTDetail>
      <RecordAction type="create"/>
      <TankData>
        <TankId>1</TankId>
        <FuelProductId>2</FuelProductId>
        <TankChartId>2</TankChartId>
        <TankDescription>8000 GAL Unleaded 89
Octane</TankDescription>
        <TankInstallDate>May 15, 1999</TankInstallDate>
        <TankManifoldId>22</TankManifoldId>
        <TankManufacturer>My TankCo</TankManufacturer>
      </TankData>
    </TPTDetail>
  </TankProductMaintenance>
</MaintenanceRequest>
```

```

        <TankModNum>250489</TankModNum>
        <TankSerialNum>879qwev452</TankSerialNum>
        <TankDepth>82inches</TankDepth>
        <TankLowInventoryVol>250</TankLowInventoryVol>
        <TankReorderVol>800</TankReorderVol>
        <TankVol>8000 Gals</TankVol>
    </TankData>
</TPTDetail>
</TankProductMaintenance>
</MaintenanceRequest>

```

TST.XML (TAX STRATEGY MAINTENANCE)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MaintenanceRequest SYSTEM
"http://208.144.173.70/NACSDTDs/pbimaintenance.dtd">
<MaintenanceRequest>
    <TransmissionHeader>
        <NAXMLVersion>1.0 </NAXMLVersion>
        <StoreLocationId>123</StoreLocationId>
        <VendorName>My POS Vendor</VendorName>
        <VendorModelVersion>5.0</VendorModelVersion>
    <TaxStrategyMaintenance>
        <TableAction type="initialize"/>
        <RecordAction type="create"/>
        <TSTDetail>
            <RecordAction type="create"/>
            <TaxStrategyId>1</TaxStrategyId>
            <TaxLevelId>2</TaxLevelId>
            <TaxLevelSeqId>2</TaxLevelSeqId>
            <TaxStrategyDescription>State Sales
Tax</TaxStrategyDescription>
        </TSTDetail>
    </TaxStrategyMaintenance>
</MaintenanceRequest>

```

FGM.XML (FUEL GRADE MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
    <TransmissionHeader>
        <NAXMLVersion>1.0 </NAXMLVersion>
        <StoreLocationId>123</StoreLocationId>
        <VendorName>My POS Vendor</VendorName>
        <VendorModelVersion>5.0</VendorModelVersion>
    </TransmissionHeader>
    <FuelGradeMovement>
        <MovementHeader>
            <RptSeqNum>0001</RptSeqNum>
            <PriRptPer>3</PriRptPer>
            <SecRptPer>4</SecRptPer>
            <BeginDate>01122000</BeginDate>
            <BeginTime>0600</BeginTime>

```

```

        <EndDate>01122000</EndDate>
        <EndTime>1400</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
        <RegisterId>9</RegisterId>
        <CashierId>10</CashierId>
        <TillId>11</TillId>
    </SalesMovementHeader>
    <FGMDetail>
        <FuelGradeId>1</FuelGradeId>
        <FGMNonResetableTotal>
            <FuelProductId>1</FuelProductId>
            <FuelGradeNonResetableTotalVol>1
            </FuelGradeNonResetableTotalVol>
            <FuelGradeNonResetableTotalAmt>1
            </FuelGradeNonResetableTotalAmt>
        </FGMNonResetableTotal>
        <FGMSalesTotals>
            <ActualSellPrice>1</ActualSellPrice>
            <FuelPositionId>1</FuelPositionId>
            <ReasonCode>6</ReasonCode>
            <TimeTierCode>1</TimeTierCode>
            <PriceTierCode>1</PriceTierCode>
            <ServiceLevelCode>1</ServiceLevelCode>
            <FuelGradeSalesVol>1250</FuelGradeSalesVol>
            <FuelGradeSalesAmt>1562.69</FuelGradeSalesAmt>
            <RegularSellPrice>119.9</RegularSellPrice>
            <PumpTestAmt>110.00</PumpTestAmt>
            <PumpTestVol>115</PumpTestVol>
            <TaxExemptVol/>0</TaxExemptVol>
            <CurrencyCode>2</CurrencyCode>
            <CurrencyFaceValue>115</CurrencyFaceValue>
            <DiscountAmt>12.30</DiscountAmt>
            <DiscountCnt>2</DiscountCnt>
            <DispenserDiscountAmt>15.2</DispenserDiscountAmt>
            <DispenserDiscountCnt>1</DispenserDiscountCnt>
            <OutsideSlsFlg>Y</OutsideSlsFlg>
        </FGMSalesTotals>
    </FGMDetail>
</FuelGradeMovement>
</MovementReport>

```

FPM.XML (FUEL PRODUCT MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
    <TransmissionHeader>
        <NAXMLVersion>1.0 </NAXMLVersion>
        <StoreLocationId>123</StoreLocationId>
        <VendorName>My POS Vendor</VendorName>
        <VendorModelVersion>5.0</VendorModelVersion>
    </TransmissionHeader>
    <FuelProductMovement>

```

```

    <MovementHeader>
      <RptSeqNum>0001</RptSeqNum>
      <PriRptPer>3</PriRptPer>
      <SecRptPer>4</SecRptPer>
      <BeginDate>01122000</BeginDate>
      <BeginTime>0600</BeginTime>
      <EndDate>01122000</EndDate>
      <EndTime>1400</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
      <RegisterId>9</RegisterId>
      <CashierId>10</CashierId>
      <TillId>11</TillId>
    </SalesMovementHeader>
    <FPMDetail>
      <FuelProductId/>
      <FPMNonResetableTotals>
        <FuelPositionId>1</FuelPositionId>

    <FuelProductNonResetableAmtNum>19999231</FuelProductNonResetableA
MtNum>

    <FuelProductNonResetableVolNum>25874931</FuelProductNonResetableV
olNum>
      </FPMNonResetableTotals>
    </FPMDetail>
  </FuelProductMovement>
</MovementReport>

```

ISM.XML (ITEM SALES MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM "PBIMovement.dtd">
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <ItemSalesMovement>
    <MovementHeader>
      <RptSeqNum>0001</RptSeqNum>
      <PriRptPer>3</PriRptPer>
      <SecRptPer>4</SecRptPer>
      <BeginDate>01122000</BeginDate>
      <BeginTime>0600</BeginTime>
      <EndDate>01122000</EndDate>
      <EndTime>1400</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
      <RegisterId>9</RegisterId>
      <CashierId>10</CashierId>
      <TillId>11</TillId>
    </SalesMovementHeader>

```

```

<ISMDetail>
  <ItemCode>
    <PosCodeFormat format="1"/>
    <PosCode>012345123451</PosCode>
    <PosCodeMod>1</PosCodeMod>
  </ItemCode>
  <ItemId>234</ItemId>
  <Description>Mr Wacky 6 oz</Description>
  <ISMSalesTotals>
    <MdseCode>201</MdseCode>
    <Tender>
      <TenderCode>12</TenderCode>
      <TenderSubCode>25</TenderSubCode>
    </Tender>
    <ActualSellPrice>.69</ActualSellPrice>
    <ReasonCode>4</ReasonCode>
    <SellingUnits>1</SellingUnits>
    <Currency>
      <CurrencyCode>1</CurrencyCode>
      <CurrencySubCode>1</CurrencySubCode>
    </Currency>
    <CurrencyFaceValue>123.11</CurrencyFaceValue>
    <DiscountAmt>12.32</DiscountAmt>
    <DiscountCnt>1</DiscountCnt>
    <InventoryValuePrice>.69</InventoryValuePrice>
    <PromoAmt>.69</PromoAmt>
    <PromoCnt>1</PromoCnt>
    <RefundAmt>1.23</RefundAmt>
    <RefundCnt>2</RefundCnt>
    <RegularSellPrice>.69</RegularSellPrice>
    <SalesQty>2</SalesQty>
    <SalesAmt>1.38</SaleAmt>
    <TransactionCnt>2</TransactionCnt>
  </ISMSalesTotals>
</ISMDetail>
</ItemSalesMovement>

```

MCM.XML (MERCHANDISE CODE MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <MdseCodeMovement>
    <MovementHeader>
      <RptSeqNum>0001</RptSeqNum>
      <PriRptPer>3</PriRptPer>
      <SecRptPer>4</SecRptPer>
      <BeginDate>01122000</BeginDate>

```

```

        <BeginTime>0600</BeginTime>
        <EndDate>01122000</EndDate>
        <EndTime>1400</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
        <RegisterId>9</RegisterId>
        <CashierId>10</CashierId>
        <TillId>11</TillId>
    </SalesMovementHeader>
    <MCMDetail>
        <MdseCode>201</MdseCode>
        <MdseCodeDescription>Candy</MdseCodeDescription>
        <MCMSalesTotals>
            <DiscountAmt>0</DiscountAmt>
            <DiscountCnt>0</DiscountCnt>
            <PromoAmt>0</PromoAmt>
            <PromoCnt>0</PromoCnt>
            <RefundAmt>0</RefundAmt>
            <RefundCnt>0</RefundCnt>
            <SalesQty>2</SalesQty>
            <SalesAmt>1.38</SalesAmt>
            <TransactionCnt>2</TransactionCnt>
        </MCMSalesTotals>
    </MCMDetail>
</MdseCodeMovement>
</MovementReport>

```

MSM.XML (MISCELLANEOUS SUMMARY MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
    <TransmissionHeader>
        <NAXMLVersion>1.0 </NAXMLVersion>
        <StoreLocationId>123</StoreLocationId>
        <VendorName>My POS Vendor</VendorName>
        <VendorModelVersion>5.0</VendorModelVersion>
    </TransmissionHeader>
    <MiscSumMovement>
        <MovementHeader>
            <RptSeqNum>0001</RptSeqNum>
            <PriRptPer>3</PriRptPer>
            <SecRptPer>4</SecRptPer>
            <BeginDate>01122000</BeginDate>
            <BeginTime>0600</BeginTime>
            <EndDate>01122000</EndDate>
            <EndTime>1400</EndTime>
        </MovementHeader>
        <SalesMovementHeader>
            <RegisterId>9</RegisterId>
            <CashierId>10</CashierId>
            <TillId>11</TillId>
        </SalesMovementHeader>
        <MSMDetail>

```



```

    <MiscSummaryCodes>
      <MiscSumCode>25</MiscSumCode>
      <MiscSumSubCode>21</MiscSumSubCode>
      <MiscSumSubCodeMod>75210</MiscSumSubCodeMod>
    </MiscSummaryCodes>
  <MSMSalesTotals>
    <Tender>
      <TenderCode>10</TenderCode>
      <TenderSubCode>25</TenderSubCode>
    </Tender>
    <Tender>
      <TenderCode>10</TenderCode>
      <TenderSubCode>31</TenderSubCode>
    </Tender>
    <Currency>
      <CurrencyCode>2</CurrencyCode>
      <CurrencySubCode>1</CurrencySubCode>
    </Currency>
    <TenderTransactionsCnt>16</TenderTransactionsCnt>
    <ManualEntryFlg>N</ManualEntryFlg>
    <CurrencyFaceValue>1</CurrencyFaceValue>
    <MiscSumAmt>756.26</MiscSumAmt>
    <MiscSumCnt>65</MiscSumCnt>
  </MSMSalesTotals>
</MSMDetail>
</MiscSumMovement>
</MovementReport>

```

TLM.XML (TAX LEVEL MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <TaxLevelMovement>
    <MovementHeader>
      <RptSeqNum>0001</RptSeqNum>
      <PriRptPer>3</PriRptPer>
      <SecRptPer>4</SecRptPer>
      <BeginDate>01122000</BeginDate>
      <BeginTime>0600</BeginTime>
      <EndDate>01122000</EndDate>
      <EndTime>1400</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
      <RegisterId>9</RegisterId>
      <CashierId>10</CashierId>
      <TillId>11</TillId>
    </SalesMovementHeader>
  </TaxLevelMovement>
</MovementReport>

```

```

    <TLMDetail>
      <TaxLevelId>1</TaxLevelId>
      <MdseCode>201</MdseCode>
      <TaxStrategyId>2</TaxStrategyId>
      <TaxableSalesAmt>6.23</TaxableSalesAmt>
      <TaxableSalesRefundedAmt>0</TaxableSalesRefundedAmt>
      <TaxCollectedAmt>.95</TaxCollectedAmt>
      <TaxExemptAmt>0</TaxExemptAmt>
      <TaxExemptRefundedAmt>0</TaxExemptRefundedAmt>
      <TaxForgivenSalesAmt>0</TaxForgivenSalesAmt>

    <TaxForgivenSalesRefundedAmt>0</TaxForgivenSalesRefundedAmt>
      <TaxRefundedAmt>0</TaxRefundedAmt>
    </TLMDetail>
  </TaxLevelMovement>
</MovementReport>

```

TPM.XML (TANK PRODUCT MOVEMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM
"http://208.144.173.70/NACSDTDs/pbimovement.dtd">
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0 </NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>My POS Vendor</VendorName>
    <VendorModelVersion>5.0</VendorModelVersion>
  </TransmissionHeader>
  <TankProductMovement>
    <MovementHeader>
      <RptSeqNum>0001</RptSeqNum>
      <PriRptPer>3</PriRptPer>
      <SecRptPer>4</SecRptPer>
      <BeginDate>01122000</BeginDate>
      <BeginTime>0600</BeginTime>
      <EndDate>01122000</EndDate>
      <EndTime>1400</EndTime>
    </MovementHeader>
    <TankProdMovementHeader>
      <ReadingDate>01122000</ReadingDate>
      <ReadingTime>0600</ReadingTime>
    </TankProdMovementHeader>
    <TPMDetail>
      <TankId>1</TankId>
      <FuelProductId>2</FuelProductId>
      <FuelProductDepth>62</FuelProductDepth>
      <FuelProductTemp>62.3</FuelProductTemp>
      <FuelProductVol>7210</FuelProductVol>
      <Ullage>790</Ullage>
      <WaterDepth>1</WaterDepth>
    </TPMDetail>
  </TankProductMovement>
</MovementReport>

```

Chapter 7 - Sample XSL Documents

An electronic version of the NAXML sample documents in this chapter are available from www.cstorecentral.com go to Technology Standards and look for NAXML Samples.

For this example the files FGM.dtd and FGM.xml were used as the input. The XSL stylesheet or transform document is FGM.xsl. The output files are FuelGrade.dtd and FuelGrade.xml. The file FGM.dtd was developed by combining PBIDictionary.dtd, PBICCommon.dtd, and PBIMovement.dtd then stripping out all elements but those required to produce a FuelGradeMovement report.

In the FGM.xsl transform document the following actions were applied to the base xml and dtd documents:

Element	Action
VendorName and VendorModelVersion	Deleted from TransmissionHeader
RptSeqNum	Changed to TransmissionSeqNum
BeginDate and BeginTime	Nested under a new element Begin
BeginTime	Changed to Time
PriRptPer	Changed to ReportPeriod
SecRptPer	Deleted from MovementHeader
TillId	Deleted from SalesMovementHeader
FGMNonResettableTotal and nested elements	Deleted
ReasonCode, TimeTierCode, PriceTierCode, ServiceLevelCode, PumpTestAmt, PumpTestVol, TaxExemptVol, DiscountAmt, DiscountCnt, DispenserDiscountAmt, and DispenserDiscountCnt	Deleted from FGMSalesTotals

FGM.DTD (FUEL GRADE MOVEMENT DOCUMENT TYPE DEFINITION)

```
<!--*****
      This is VERSION 1.0 of this FGM.DTD.
*****-->

<!ELEMENT MovementReport (TransmissionHeader, FuelGradeMovement+)>
<!--*****
Transmission header must be present once. FuelGradeMovement is allowed one or more
times.
*****-->

<!ELEMENT TransmissionHeader (NAXMLVersion, StoreLocationId, VendorName,
VendorModelVersion)>

<!--*****
NAXMLVersion , StoreLocationId , VendorName , VendorModelVersion must be present
once. NAXMLVersion refers to the version number of this DTD.
*****-->

<!ELEMENT NAXMLVersion (#PCDATA)>
<!ELEMENT StoreLocationId (#PCDATA)>
<!ELEMENT VendorName (#PCDATA)>
<!ELEMENT VendorModelVersion (#PCDATA)>
<!ELEMENT FuelGradeMovement (MovementHeader, SalesMovementHeader, FGMDetail+)>

<!--*****
MovementHeader and SalesMovementHeader must be present once. FGMDetail is allowed
one or more times.
*****-->

<!ELEMENT MovementHeader (RptSeqNum, PriRptPer, SecRptPer, BeginDate, BeginTime,
EndDate, EndTime)>

<!--*****
RptSeqNum, PRIrptPer, SecRptPer, BeginDate, BeginTime, EndDate and EndTime must
be present once.
*****-->

<!ELEMENT RptSeqNum (#PCDATA)>
<!ELEMENT PriRptPer (#PCDATA)>
<!ELEMENT SecRptPer (#PCDATA)>
<!ELEMENT BeginDate (#PCDATA)>
<!ELEMENT BeginTime (#PCDATA)>
<!ELEMENT EndDate (#PCDATA)>
<!ELEMENT EndTime (#PCDATA)>

<!ELEMENT SalesMovementHeader (RegisterId?, CashierId?, TillId?)>

<!--*****
RegisterId, CashierId, and TillId are allowed zero or one time.
*****-->

<!ELEMENT RegisterId (#PCDATA)>
<!ELEMENT CashierId (#PCDATA)>
<!ELEMENT TillId (#PCDATA)>
<!ELEMENT FGMDetail (FuelGradeId, FGMNonResetableTotal+, FGMSalesTotals+)>
<!ELEMENT FuelGradeId (#PCDATA)>
<!ELEMENT FGMNonResetableTotal (FuelProductId, FuelGradeNonResetableTotalVol,
FuelGradeNonResetableTotalAmt)>
```

```

<!ELEMENT FuelProductId (#PCDATA)>
<!ELEMENT FuelGradeNonResetableTotalVol (#PCDATA)>
<!ELEMENT FuelGradeNonResetableTotalAmt (#PCDATA)>
<!ELEMENT FGMSalesTotals (ActualSellPrice, FuelPositionId, ReasonCode?,
TimeTierCode?, PriceTierCode?, ServiceLevelCode?, FuelGradeSalesVol,
FuelGradeSalesAmt, RegularSellPrice, PumpTestAmt?, PumpTestVol?, TaxExemptVol?,
CurrencyCode?, CurrencyFaceValue?, DiscountAmt?, DiscountCnt?,
DispenserDiscountAmt?, DispenserDiscountCnt?, OutsideSlsFlg)>

<!--*****
ActualSellPrice , RegularSellPrice , FuelPositionId , OutsideSlsFlg,
FuelGradeSalesVol , FuelGradeSalesAmt must be present once. ReasonCode ,
TimeTierCode , PriceTierCode , ServiceLevelCode , PumpTestAmt , PumpTestVol ,
TaxExemptVol , CurrencyCode , CurrencyFaceValue , DiscountAmt , DiscountCnt ,
DispenserDiscountAmt , DispenserDiscountCnt are allowed zero or one time.
*****-->

<!ELEMENT ActualSellPrice (#PCDATA)>
<!ELEMENT FuelPositionId (#PCDATA)>
<!ELEMENT ReasonCode (#PCDATA)>
<!ELEMENT TimeTierCode (#PCDATA)>
<!ELEMENT PriceTierCode (#PCDATA)>
<!ELEMENT ServiceLevelCode (#PCDATA)>
<!ELEMENT FuelGradeSalesVol (#PCDATA)>
<!ELEMENT FuelGradeSalesAmt (#PCDATA)>
<!ELEMENT RegularSellPrice (#PCDATA)>
<!ELEMENT PumpTestAmt (#PCDATA)>
<!ELEMENT PumpTestVol (#PCDATA)>
<!ELEMENT TaxExemptVol (#PCDATA)>
<!ELEMENT CurrencyCode (#PCDATA)>
<!ELEMENT CurrencyFaceValue (#PCDATA)>
<!ELEMENT DiscountAmt (#PCDATA)>
<!ELEMENT DiscountCnt (#PCDATA)>
<!ELEMENT DispenserDiscountAmt (#PCDATA)>
<!ELEMENT DispenserDiscountCnt (#PCDATA)>
<!ELEMENT OutsideSlsFlg (#PCDATA)>

```

FGM.XML (FUEL GRADE MOVEMENT DOCUMENT)

```

<?xml version="1.0" standalone="no"?>
<!DOCTYPE MovementReport SYSTEM "fgm.dtd">
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0</NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
    <VendorName>POS Company X</VendorName>
    <VendorModelVersion>2.5</VendorModelVersion>
  </TransmissionHeader>
  <FuelGradeMovement>
    <MovementHeader>
      <RptSeqNum>3</RptSeqNum>
      <PriRptPer>1</PriRptPer>
      <SecRptPer>2</SecRptPer>
      <BeginDate>20000131</BeginDate>
      <BeginTime>2300</BeginTime>
      <EndDate>20000201</EndDate>
      <EndTime>0700</EndTime>
    </MovementHeader>
    <SalesMovementHeader>
      <RegisterId>1</RegisterId>

```

```

        <CashierId>J.Smith</CashierId>
    </SalesMovementHeader>
    <FGMDetail>
        <FuelGradeId>1</FuelGradeId>
        <FGMNonResetableTotal>
            <FuelProductId>1</FuelProductId>

<FuelGradeNonResetableTotalVol>1</FuelGradeNonResetableTotalVol>

<FuelGradeNonResetableTotalAmt>1</FuelGradeNonResetableTotalAmt>
    </FGMNonResetableTotal>
    <FGMSalesTotals>
        <ActualSellPrice>119.9</ActualSellPrice>
        <FuelPositionId>1</FuelPositionId>
        <ReasonCode>6</ReasonCode>
        <TimeTierCode>4</TimeTierCode>
        <PriceTierCode>1</PriceTierCode>
        <ServiceLevelCode>2</ServiceLevelCode>
        <FuelGradeSalesVol>2342</FuelGradeSalesVol>
        <FuelGradeSalesAmt>2892.43</FuelGradeSalesAmt>
        <RegularSellPrice>119.9</RegularSellPrice>
        <CurrencyCode>2</CurrencyCode>
        <CurrencyFaceValue>2892.43</CurrencyFaceValue>
        <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
    </FGMDetail>
    <FGMDetail>
        <FuelGradeId>2</FuelGradeId>
        <FGMNonResetableTotal>
            <FuelProductId>2</FuelProductId>

<FuelGradeNonResetableTotalVol>2</FuelGradeNonResetableTotalVol>

<FuelGradeNonResetableTotalAmt>2</FuelGradeNonResetableTotalAmt>
    </FGMNonResetableTotal>
    <FGMSalesTotals>
        <ActualSellPrice>129.9</ActualSellPrice>
        <FuelPositionId>2</FuelPositionId>
        <ReasonCode>6</ReasonCode>
        <TimeTierCode>4</TimeTierCode>
        <PriceTierCode>1</PriceTierCode>
        <ServiceLevelCode>2</ServiceLevelCode>
        <FuelGradeSalesVol>1500</FuelGradeSalesVol>
        <FuelGradeSalesAmt>1800.00</FuelGradeSalesAmt>
        <RegularSellPrice>129.9</RegularSellPrice>
        <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
    </FGMDetail>
    <FGMDetail>
        <FuelGradeId>3</FuelGradeId>
        <FGMNonResetableTotal>
            <FuelProductId>3</FuelProductId>

<FuelGradeNonResetableTotalVol>2</FuelGradeNonResetableTotalVol>

<FuelGradeNonResetableTotalAmt>2</FuelGradeNonResetableTotalAmt>
    </FGMNonResetableTotal>
    <FGMSalesTotals>
        <ActualSellPrice>139.9</ActualSellPrice>
        <FuelPositionId>3</FuelPositionId>
        <ReasonCode>6</ReasonCode>
        <TimeTierCode>4</TimeTierCode>
        <PriceTierCode>1</PriceTierCode>

```

```

        <ServiceLevelCode>2</ServiceLevelCode>
        <FuelGradeSalesVol>1000</FuelGradeSalesVol>
        <FuelGradeSalesAmt>1400.00</FuelGradeSalesAmt>
        <RegularSellPrice>139.9</RegularSellPrice>
        <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
</FGMDetail>
</FuelGradeMovement>
</MovementReport>

```

FGM.XSL (FUEL GRADE MOVEMENT STYLESHEET)

```

<?xml version="1.0"?>
<xsl:transform xmlns:xsl="http://www.w3.org/XSL/Transform/1.0">
<xsl:output method="xml" indent="no" xml-declaration="yes"/>
<xsl:strip-space elements="*" />

<!--=====
    This file contains an XSLT transformation stylesheet which constructs a
    result tree form a number of XML sources by filtering, reordering and
    adding arbitrary structure.
<!--=====

<!--=====
    Note although this file should not be edited in general, you may want to
    adjust the paths of the XML sources or change the root element of the
    resulting XML source. This can be accomplished by updating the sections
    "XML Sources" and "Root Element Template", respectively.
<!--=====

<!--=====
                                XML Sources
    The "XML Sources" section accomplishes two things: it specifies input XML
    sources and relates the root node of each source to a global variable for
    access throughout the stylesheet.
<!--=====

<xsl:variable name="v0" select="document('C:/IBMXMLTools/working/fgm.xml')"/>

<!--=====
                                Root Element Template
    The "Root Element Template" section specifies which template will be
    invoked first thus determining the root element of the result tree. Note
    if the root element is a newly-defined element that is associated with the
    input XML sources, then the template is invoked by name. Otherwise, the
    template is invoked by applying matching template rules in XSLT.
<!--=====

<xsl:template match="/">
    <xsl:apply-templates select="$v0//MovementReport[1]"/>
</xsl:template>

<!--=====
                                Remaining Templates
    The remaining section defines the template rules. The last rule is a
    generic identity transformation used for moving tree fragments from an

```

```

        input source to the result tree. Note it should not be necessary to edit
        the remaining section this file!
<!--=====-->

<!-- Composed element template -->
<xsl:template match="TransmissionHeader">
  <xsl:copy>
    <xsl:apply-templates select="NAXMLVersion[1]"/>
    <xsl:apply-templates select="StoreLocationId[1]"/>
  </xsl:copy>
</xsl:template>

<!-- Composed element template -->
<xsl:template match="MovementHeader">
  <xsl:copy>
    <xsl:attribute name="TransmissionSeqNum">
      <xsl:value-of select="RptSeqNum/text()"/>
    </xsl:attribute>
    <xsl:apply-templates select="PriRptPer[1]"/>
    <xsl:call-template name="Begin"/>
    <xsl:call-template name="End"/>
  </xsl:copy>
</xsl:template>

<!-- Rename transformation template -->
<xsl:template match="RptSeqNum">
  <TransmissionSeqNum>
    <xsl:apply-templates select="*|*|comment()|processing-
instruction()|text()"/>
  </TransmissionSeqNum>
</xsl:template>

<!-- Rename transformation template -->
<xsl:template match="PriRptPer">
  <ReportPeriod>
    <xsl:apply-templates select="*|*|comment()|processing-
instruction()|text()"/>
  </ReportPeriod>
</xsl:template>

<!-- Newly-defined element template -->
<xsl:template name="Begin">
  <Begin>
    <xsl:apply-templates select="$v0//BeginDate[1]"/>
    <xsl:apply-templates select="$v0//BeginTime[1]"/>
  </Begin>
</xsl:template>

<!-- Rename transformation template -->
<xsl:template match="BeginTime">
  <Time>
    <xsl:apply-templates select="*|*|comment()|processing-
instruction()|text()"/>
  </Time>
</xsl:template>

<!-- Newly-defined element template -->
<xsl:template name="End">
  <End>
    <xsl:apply-templates select="$v0//EndDate[1]"/>
    <xsl:apply-templates select="$v0//EndTime[1]"/>
  </End>
</xsl:template>

```



```

<!-- Composed element template -->
<xsl:template match="SalesMovementHeader">
  <xsl:copy>
    <xsl:apply-templates select="RegisterId[1]"/>
    <xsl:apply-templates select="CashierId[1]"/>
  </xsl:copy>
</xsl:template>

<!-- Composed element template -->
<xsl:template match="FGMDetail">
  <xsl:copy>
    <xsl:apply-templates select="FuelGradeId[1]"/>
    <xsl:apply-templates select="FGMSalesTotals"/>
  </xsl:copy>
</xsl:template>

<!-- Composed element template -->
<xsl:template match="FGMSalesTotals">
  <xsl:copy>
    <xsl:apply-templates select="ActualSellPrice[1]"/>
    <xsl:apply-templates select="FuelPositionId[1]"/>
    <xsl:apply-templates select="FuelGradeSalesVol[1]"/>
    <xsl:apply-templates select="FuelGradeSalesAmt[1]"/>
    <xsl:apply-templates select="RegularSellPrice[1]"/>
    <xsl:apply-templates select="CurrencyCode[1]"/>
    <xsl:apply-templates select="CurrencyFaceValue[1]"/>
    <xsl:apply-templates select="OutsideSlsFlg[1]"/>
  </xsl:copy>
</xsl:template>

<!-- Identity transformation template -->
<xsl:template match="*|@*|comment()|processing-instruction()|text()">
  <xsl:copy>
    <xsl:apply-templates select="*|@*|comment()|processing-
instruction()|text()"/>
  </xsl:copy>
</xsl:template>
</xsl:transform>

```

FUELGRADE.DTD (FUEL GRADE MOVEMENT TRANSFORMED DTD)

```

<?xml encoding="US-ASCII"?>
<!ELEMENT MovementReport (TransmissionHeader, FuelGradeMovement+)>
<!ELEMENT TransmissionHeader (NAXMLVersion, StoreLocationId)>
<!ELEMENT NAXMLVersion (#PCDATA)>
<!ELEMENT StoreLocationId (#PCDATA)>
<!ELEMENT FuelGradeMovement (MovementHeader, SalesMovementHeader, FGMDetail+)>
<!ELEMENT MovementHeader (ReportPeriod, Begin, End)>
<!ATTLIST MovementHeader
  TransmissionSeqNum CDATA #REQUIRED>
<!ELEMENT TransmissionSeqNum (#PCDATA)>
<!ELEMENT ReportPeriod (#PCDATA)>
<!ELEMENT Begin (BeginDate, Time)>
<!ELEMENT BeginDate (#PCDATA)>
<!ELEMENT Time (#PCDATA)>
<!ELEMENT End (EndDate, EndTime)>
<!ELEMENT EndDate (#PCDATA)>
<!ELEMENT EndTime (#PCDATA)>
<!ELEMENT SalesMovementHeader (RegisterId?, CashierId?)>

```

```

<!ELEMENT RegisterId (#PCDATA)>
<!ELEMENT CashierId (#PCDATA)>
<!ELEMENT FGMDetail (FuelGradeId, FGMSalesTotals+)>
<!ELEMENT FuelGradeId (#PCDATA)>
<!ELEMENT FuelProductId (#PCDATA)>
<!ELEMENT FuelGradeNonResetttableTotalVol (#PCDATA)>
<!ELEMENT FuelGradeNonResetttableTotalAmt (#PCDATA)>
<!ELEMENT FGMSalesTotals (ActualSellPrice, FuelPositionId, FuelGradeSalesVol,
FuelGradeSalesAmt, RegularSellPrice, CurrencyCode?, CurrencyFaceValue?,
OutsideSlsFlg)>
<!ELEMENT ActualSellPrice (#PCDATA)>
<!ELEMENT FuelPositionId (#PCDATA)>
<!ELEMENT ReasonCode (#PCDATA)>
<!ELEMENT TimeTierCode (#PCDATA)>
<!ELEMENT PriceTierCode (#PCDATA)>
<!ELEMENT ServiceLevelCode (#PCDATA)>
<!ELEMENT FuelGradeSalesVol (#PCDATA)>
<!ELEMENT FuelGradeSalesAmt (#PCDATA)>
<!ELEMENT RegularSellPrice (#PCDATA)>
<!ELEMENT PumpTestAmt (#PCDATA)>
<!ELEMENT PumpTestVol (#PCDATA)>
<!ELEMENT TaxExemptVol (#PCDATA)>
<!ELEMENT CurrencyCode (#PCDATA)>
<!ELEMENT CurrencyFaceValue (#PCDATA)>
<!ELEMENT DiscountAmt (#PCDATA)>
<!ELEMENT DiscountCnt (#PCDATA)>
<!ELEMENT DispenserDiscountAmt (#PCDATA)>
<!ELEMENT DispenserDiscountCnt (#PCDATA)>
<!ELEMENT OutsideSlsFlg (#PCDATA)>

```

FUELGRADE.XML (FUEL GRADE MOVEMENT TRANSFORMED XML)

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<MovementReport>
  <TransmissionHeader>
    <NAXMLVersion>1.0</NAXMLVersion>
    <StoreLocationId>123</StoreLocationId>
  </TransmissionHeader>
  <FuelGradeMovement>
    <MovementHeader TransmissionSeqNum="3">
      <ReportPeriod>1</ReportPeriod>
      <Begin>
        <BeginDate>20000131</BeginDate>
        <Time>2300</Time>
      </Begin>
      <End>
        <EndDate>20000201</EndDate>
        <EndTime>0700</EndTime>
      </End>
    </MovementHeader>
    <SalesMovementHeader>
      <RegisterId>1</RegisterId>

```

```

    <CashierId>J.Smith</CashierId>
  </SalesMovementHeader>
  <FGMDetail>
    <FuelGradeId>1</FuelGradeId>
    <FGMSalesTotals>
      <ActualSellPrice>119.9</ActualSellPrice>
      <FuelPositionId>1</FuelPositionId>
      <FuelGradeSalesVol>2342</FuelGradeSalesVol>
      <FuelGradeSalesAmt>2892.43</FuelGradeSalesAmt>
      <RegularSellPrice>119.9</RegularSellPrice>
      <CurrencyFaceValue/>
      <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
  </FGMDetail>
  <FGMDetail>
    <FuelGradeId>2</FuelGradeId>
    <FGMSalesTotals>
      <ActualSellPrice>129.9</ActualSellPrice>
      <FuelPositionId>2</FuelPositionId>
      <FuelGradeSalesVol>1500</FuelGradeSalesVol>
      <FuelGradeSalesAmt>1800.00</FuelGradeSalesAmt>
      <RegularSellPrice>129.9</RegularSellPrice>
      <CurrencyFaceValue/>
      <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
  </FGMDetail>
  <FGMDetail>
    <FuelGradeId>3</FuelGradeId>
    <FGMSalesTotals>
      <ActualSellPrice>139.9</ActualSellPrice>
      <FuelPositionId>3</FuelPositionId>
      <FuelGradeSalesVol>1000</FuelGradeSalesVol>
      <FuelGradeSalesAmt>1400.00</FuelGradeSalesAmt>
      <RegularSellPrice/>
      <CurrencyFaceValue/>
      <OutsideSlsFlg>Y</OutsideSlsFlg>
    </FGMSalesTotals>
  </FGMDetail>
</FuelGradeMovement>
</MovementReport>

```

Appendix A – Implementation Notes

1. In the transmission header, NAXMLVersion refers to the version of the NACS POS/BO Interface Guidelines - XML Data Interchange being used. VendorName and VendorModelVersion refer to the sending party.
2. The MdseCode Element was not included in the Item Sales Movement Table in NACS POS Back Office Interface Guidelines – Common Data Elements – Version 2.0 and will need to be added back via a change request. The reason this element is included in the data stream is to support proper inventory calculations in the event the MdseCode value for an item changes in the middle of the sales period.

Appendix B - Obtaining Additional Information

The minutes of the Data Table Summit sessions are available from NACS at www.cstorecentral.com. To access do the following:

1. Logon to www.cstorecentral.com
2. Select Technology Standards
3. Select POS/Back Office Standards Committee
4. Select Meeting Minutes

Additional information may also be obtained by contacting:

via Mail	via Fax	via e-mail
John Hervey Gerke & Associates, Inc. 2511 Old 63 South Columbia, MO 65201	John Hervey 270-782-1641 Voice 270-846-1002 Fax	Jhervey@gerke.com

Appendix C – Recommending Changes

The Data Table Summit meetings have been conducted under the auspices of the NACS POS/Back Office Standards Committee, one of the four working committees of the NACS Technology Standards Project. Membership on both the POS Back Office Technology Standards Committee and the Data Table Summit Task Force is open to anyone desiring to participate. The results of the Committee’s activities are open to feedback and comment by anyone desiring to do so. Feedback and comments are encouraged so that the POS/Back Office Interface Guidelines have the broadest possible support within the industry.

The NACS Technology Committee approved version 1.0 of the POS/Back Office Interface Guidelines for publication on April 20, 1999. Version 2.0 was approved as a result of the approved Change Request submitted by the POS Back Office Task Force in September 1999.

FEEDBACK AND COMMENTS

Comments on these Interface Guidelines should be addressed to:

via Mail	via Fax	via e-mail
John Hervey Gerke & Associates, Inc. 2511 Old 63 South Columbia, MO 65201	John Hervey 270-782-1641 Voice 270-846-1002 Fax	Jhervey@gerke.com

RECOMMENDING CHANGE

The POS/Back Office Standards Committee has recommended to the NACS Technology Standards Committee the following procedures for making changes to these Guidelines:

1 – A Guidelines Maintenance Standing Committee (GMSC) shall be appointed by the NACS Standards Steering Committee. The GMSC shall be composed of all members of the NACS Point-of-Sale Back Office Standards Committee who have attended at least one of the last two meetings of that committee.

2 – A POS/Back Office Interface Guidelines Change Request shall be submitted to the Guidelines Maintenance Standing Committee (GMSC).

3 – Change requests should be submitted electronically at least 30 days in advance of the beginning of each GMSC Discussion Period. The Discussion Periods will begin on February 1, August 1, and November 1 of each year.

4 – Fifteen days prior to the start of the Discussion Period members of the Guidelines Maintenance Standing Committee will be provided a copy of each Change Request submitted.

5 – An electronic bulletin board will be provided for the discussion of the change requests submitted and a formal vote will be taken at the end of the Discussion Period: March 1, September 1, and December 1 of each year. Approval will require that at least 50% of the eligible voters vote and that at least two-thirds of the number voting agree to the change.

6 – Changes approved will be posted on the NACS web site www.cstorecentral.com in the Technology Standards Section.

A physical meeting of the Guidelines Maintenance Standing Committee may not be necessary for it to conduct its business.

Email to:
jhervey@gerke.com

NACS Control No.: _____

Point-of-Sales/Back Office Guidelines Change Request Form

Submitter completes Sections A, B, and C
Administrator completes Section D

A. Submitter:

Name:
Company:
Address:

Title:
Phone:

B. Proposed Action: _____ ELEMENTS _____ NAXML (check one)

C. Reason for Change:

D. Guidelines Maintenance Committee Action:

1. Received _____ (date)
2. Sent to Committee Members _____ (date) _____ (number)
3. Members Voting Final Date _____
Yes _____ No _____ Number _____ (requires 2/3 "Yes" for approval)
Number of Eligible Voters _____
_____ Percent of Members Voting (at least 50% must vote)
4. Change Effective Date _____

Appendix D – Record of Changes

This is a complete record of modifications, enhancements and changes to these Guidelines.

Section	Change