

**DATE:** October 2, 2009

**TO:** AASHTO, ITE, and NEMA

**SUBJECT:** **Recommended Standard Policy of NTCIP 8005 v01,  
*Procedures for Creating Management Information  
Base (MIB) Files***

**ACTION:** Request for Ballot to Approve

**RECOMMENDATION.** This Bulletin reports that the Joint Committee on the NTCIP accepted the proposed NTCIP 8005 v01, *Procedures for Creating Management Information Base (MIB) Files*, as a Recommended Standard on Information Management Policy, and agreed to refer the document to AASHTO, ITE, and NEMA for balloting and approval.

The acceptance was approved at the Anaheim meeting, held on August 20-21, 2008, by the required 12-vote super majority of the 18-member Joint Committee, and carried with 12 affirmative votes, no negative votes, no abstentions, 6 members absent, and no vacant seats.

The Joint Committee on the NTCIP contributes to the joint standards development process by accepting a proposed draft document at two stages in its development – first as a User Comment Draft and then again as a Recommended Standard.

**BACKGROUND.** This document was developed to be a Joint AASHTO / ITE / NEMA Standards Publication, part of the NTCIP family of standards and profiles. The document is in the 8000-series of NTCIP document numbers, and is a Process, Control, and Information Management Policy document. Process, Control, and Information Management Policy documents define the policies and procedures used by the Joint Committee and its working groups in developing and maintaining NTCIP standards and documents.

The NTCIP 8005 defines how to convert Management Information Base definitions into a MIB module, and how to import multiple MIB modules.

As previously reported in Standards Bulletins B0118, B0119, and B0134, the defined Object subfields have been revised to harmonize the requirements between NTCIP 8004 v02 and the Recommended Standard Policy NTCIP 8005.



Previously, the NTCIP Joint Committee requested that system integrators, C2C and XML developers, and ISO experts all pay attention to the most recent NTCIP 8004 and NTCIP 8005 versions regarding that the NTCIP dropped the ISO 14817 compliance requirement.

At the August 2008 NTCIP Joint Committee meeting, discussion continued regarding the NTCIP BSP2 WG determination that all references to ISO 14817 and most other subfields were deleted. The full OID in the DESCRIPTION field was one of the subfields that was retained.

Other changes in NTCIP 8005 include: referencing the syntax checker that can be used, steps when to check the MIB syntax, and the MIB header content.

The NTCIP Joint Committee had discussed possible policy to control the NTCIP data representation when used in other representations. However, the advice prevailed that as long as the OID number is the same between representations, the object should match, regardless of differences in the readable names.

NTCIP 8005 v01 was developed by the NTCIP Joint Committee's Base Standards and Profiles Working Group, which is chaired by Bob De Roche (Robert De Roche Consulting). The BSP2 WG has nine members, and seeks new members from both the public and private sectors.

**DOCUMENT ORGANIZATION.** The NTCIP 8005 v01 includes three sections and one Annex.

The Standards Development Report required by the ITE standards development process will be provided. The SDR provides a summary of the document development milestones, the working group members, and other standards that have been examined with regard to harmonization and duplication of content.

An electronic copy of this Recommended Standard Policy is also posted in the LIBRARY area of the NTCIP Website, at [www.ntcip.org](http://www.ntcip.org).

**USER COMMENT DISPOSITION.** All user comments regarding NTCIP 8005 v01 were recorded and the disposition of each comment is reported. In the report, official "User Comments" are designated with a "UC0000" number in the User Comment Number field.

The disposition report from the User Comment database is posted in the NTCIP Web site's Forum for Standards, in the "NTCIP 8005 Creating MIB Files" Conference. The User Comment disposition report includes 35 pages and 69 sub-comments.

**NOTES.** The Joint Committee accepted NTCIP 8005 version v01.25, July 2008, as the Recommended Policy. Additional technical editing, comment disposition, and quality improvement is now included in version v01.27. The editing and administrative delays postponed the issue of this Standards Bulletin.

**NAVIGATE THE PDF.** To help users navigate the large document, the PDF file was authored with embedded links. The links can be found in the Table of Contents and section number cross references within the text.

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**BALLOT INSTRUCTIONS.** The eligible voting representatives who receive this Bulletin are asked to follow the ballot instructions of their standards organization.

**ATTACH-MENTS:** 1. NTCIP 8005 v01, *Procedures for Creating Management Information Base (MIB) Files*, version v01.27, September 2009, ~18 pages.

2. ITE SDR for NTCIP 8005 v01. SHALL BE PROVIDED SEPARATELY.

**FROM:** NTCIP Coordinator  
NEMA  
1300 North 17th Street, Suite 1752  
Rosslyn, VA 22209-3801  
fax (703) 841-3331  
email <ntcip@nema.org>

**CC:** Via [www.ntcip.org](http://www.ntcip.org) Web site and notices to NTCIP email reflectors.

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*A Recommended Standard of the Joint Committee on the NTCIP*

# NTCIP 8005 version v01.27

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## National Transportation Communications for ITS Protocol Procedures for Creating Management Information Base (MIB) Files

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**v01.27      September 2009**

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444 North Capitol Street, N.W., Suite 249  
Washington, D.C. 20001

**Institute of Transportation Engineers (ITE)**

1099 14th Street, N.W., Suite 300 West  
Washington, D.C. 20005-3438

**National Electrical Manufacturers Association (NEMA)**

1300 North 17th Street, Suite 1752  
Rosslyn, Virginia 22209-3801

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**CONFIGURATION MANAGEMENT for THIS DRAFT  
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**Reference Status Table**

<b>This Document References</b>	<b>Title</b>	<b>Ref Type (Norm, Other)</b>	<b>Dependency Notes</b>	<b>Hold Pending and Status</b>
There are no NRs in this document, 8005 v01		Normative	NONE.	no hold
NTCIP 8004 v02	Structure and Identification of Management Information (SMI)	Other	The ref in 8005 v01 is to 8004 v02.	B0134 issued 9/29/09 for SDO ballot and approval.

**Recent Minor Version Revision History**

<b>revision</b>	<b>DATE</b>	<b>NOTE new on top</b>
v01.27	9/29/2009	Schopp editing and formatting; PDF for xmtl with B0135 to SDOs.
v01.26		Johnson editing and formatting.
v01.25a	8/2/2008	Schopp edit and PDF for xmtl to JC. Accepted as Rec Std Policy.
v01.25	7/11/2008	De Roche xmtl of proposed RS. "represents the changes made relative to the discussions the WG had at their June meeting to address several outstanding user comments. ... presuming you may want to make some minor edits, accept all changes (mine are still visible), and send to the JC for RS."

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## ACKNOWLEDGEMENTS

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At the time that NTCIP 8005 v01 was prepared, the following individuals were members of the NTCIP BSP2 WG:

- Ralph Boaz
- Bob De Roche (Chair and Data Steward)
- Bud Kent
- Robert Lopes
- Greg Mizell
- Alex Mousadi
- Peter Ragsdale
- Robert Rausch
- Joerg "Nu" Rosenbohm

Other individuals providing input to NTCIP 8005 v01 include:

- Robert Barrett
- Jean Johnson
- David Kelley
- Tom Kurihara
- David Perkins
- Vicki Schofield
- Andy Schoka
- Bruce Schopp
- Ed Seymour
- Bo Strickland
- Ken Vaughn

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- U.S. Department of Transportation, Research and Innovative Technology Administration
- Econolite Control Products, Inc.
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- Quixote Traffic Corporation
- Robert De Roche Consulting
- Siemens ITS
- SNMPInfo
- SubCarrier Systems Corp.
- Telvent Farradyne Inc.
- Texas Transportation Institute
- TKstds Management
- Transcore, Inc.
- Trevilon Corp.
- URS Corp.
- Washington State DOT

## FOREWORD

NTCIP 8005 v01 provides the policies and procedures for development and maintenance of NTCIP Management Information Base (MIB) files. NTCIP 8005 v01 defines requirements that are applicable to all NTCIP WGs that develop NTCIP standards containing MIBs, including NTCIP device data dictionary standards. NTCIP 8005 v01 also defines requirements that are applicable to NTCIP Data Stewards in checking MIBs, in coordinating all NTCIP device data dictionaries, and in liaison with other outside groups or entities using NTCIP MIBs. NTCIP 8005 v01 uses only metric units.

NTCIP 8005 v01 is also an NTCIP Process, Control, and Information Management document, which defines the practices and policies used by the NTCIP Joint Committee in developing and maintaining NTCIP standards publications.

### User Comment Instructions

The term “User Comment” includes any type of written inquiry, comment, question, or proposed revision, from an individual person or organization, about any part of this standard publication’s content. A “Request for Interpretation” of this standard publication is also classified as a User Comment. User Comments are solicited at any time. In preparation of this NTCIP standards publication, input of users and other interested parties was sought and evaluated.

All User Comments are referred to the committee responsible for developing and/or maintaining this standards publication. The committee chairperson, or their designee, may contact the submitter for clarification of the User Comment. When the committee chairperson or designee reports the committee's consensus opinion related to the User Comment, that opinion is forwarded to the submitter. The committee chairperson may report that action on the User Comment may be deferred to a future committee meeting and/or a future revision of the standards publication. Previous User Comments and their disposition may be available for reference and information at [www.ntcip.org](http://www.ntcip.org).

A User Comment should be submitted to:

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National Electrical Manufacturers Association  
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**Section, Paragraph, or Clause:**  
**Comment:**  
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**Suggested Alternative Language:**

Please include your name, organization, and address in your correspondence.

## Approvals

\*\*\*TBD\*\*\*NTCIP 8005 v01 was separately balloted and approved by AASHTO, ITE, and NEMA after recommendation by the Joint Committee on the NTCIP. Each organization has approved NTCIP 8005 v01 as the following standard type, as of the date:

AASHTO—Standard Specification; \*\*\*TBD\*\*\*  
ITE—Software Standard; \*\*\*TBD\*\*\*  
NEMA—Standard; \*\*\*TBD\*\*\*

## History

In 1992, the NEMA 3-TS Transportation Management Systems and Associated Control Devices Section began the effort to develop the NTCIP. The Transportation Section's purpose was to respond to user needs to include standardized systems communication in the NEMA TS 2 standard, *Traffic Controller Assemblies*. Under the guidance of the Federal Highway Administration's NTCIP Steering Group, the NEMA effort was expanded to include the development of communications standards for all transportation field devices that could be used in an Intelligent Transportation Systems (ITS) network.

In 1996, AASHTO, ITE, and NEMA executed an agreement to jointly develop, approve, and maintain the NTCIP standards. The Joint Committee on the NTCIP has directed the development of a number of standards that define device data dictionaries. During the NTCIP data dictionary development, similar efforts were underway within SAE, ASTM, and IEEE to develop data dictionaries pertinent to their domains.

In 1998, the ITS standards SDOs agreed to coordinate and develop a central repository for all ITS data concepts. NTCIP Data Stewards were appointed to coordinate the NTCIP data dictionaries and to interface the NTCIP data dictionaries with the ITS Data Registry and Functional Area Data Dictionary.

In September 2004, U.S. DOT support for the ITS Data Registry was discontinued. In February 2008, a user need could not be identified to define and maintain a Functional Area Data Dictionary, and therefore a decision was made to delete references to a Functional Area Data Dictionary.

Work on NTCIP 8005 v01 started in January 2000. Early versions addressed requirements for an IEEE ITS Data Registry based on IEEE 1488 and 1489. In 2003, reference to the IEEE ITS Data Registry was removed from NTCIP 8005. In an NTCIP 8005 second User Comment Draft, similar, but different, requirements were based on reference to ISO 14817. Subsequently, all references were removed to other data dictionaries and to ISO 14817.

NTCIP 8005 v01.09, September 2000—Accepted as a User Comment Draft by the Joint Committee on the NTCIP. NTCIP 8005 v01.10, June 2001—NTCIP Standards Bulletin B0060 sent 8005 v01.10 to AASHTO, ITE, and NEMA for review and comment.

NTCIP 8005 v01.21, May 2006— Accepted as a Second User Comment Draft, to reflect reference to ISO 14817, by the Joint Committee on the NTCIP. NTCIP 8005 v01.21, January 2007—NTCIP Standards Bulletin B0119 sent NTCIP 8005 v01.21 to AASHTO, ITE, and NEMA for second review and comment.

NTCIP 8005 v01.25, August 2008— Accepted as a Recommended Standard Policy by the Joint Committee on the NTCIP.

NTCIP 8005 v01.27, October 2009—Standards Bulletin B0135 sent Recommended Standard Policy to AASHTO, ITE, and NEMA for ballot and approval.

### **Compatibility of Versions**

To distinguish NTCIP 8005 v01 (as published) from previous drafts, NTCIP 8005 v01 also includes NTCIP 8005 v01.27 on each page header. All NTCIP Standards Publications have a major and minor version number for configuration management. The version number syntax is "v00.00a," with the major version number before the period, and the minor version number and edition letter (if any) after the period.

NTCIP 8005 v01 is designated, and should be cited as, NTCIP 8005 v01. Anyone using NTCIP 8005 v01 should seek information about the version number that is of interest to them in any given circumstance. The MIB, the PRL, and the PICS should all reference the version number of the standards publication that was the source of the excerpted material.

Compliant systems based on later, or higher, version numbers MAY NOT be compatible with compliant systems based on earlier, or lower, version numbers. Anyone using NTCIP 8005 v01 should also consult NTCIP 8004 v02 for specific guidelines on compatibility.

## **INTRODUCTION**

NTCIP 8005 v01 provides the policies and procedures for development and maintenance of NTCIP Management Information Base (MIB) files.

The following keywords apply to this document: AASHTO, ITE, NEMA, NTCIP, policies, procedures, and MIB.

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## Section 1 GENERAL

### 1.1 SCOPE

NTCIP 8005 v01 defines processes to verify the correctness of a Management Information Base (MIB) in NTCIP data dictionary standards, and to prepare a stand-alone version of the MIB. These processes are used by the Joint Committee on the NTCIP, its Working Groups, and NTCIP Data Stewards.

NOTE—NTCIP 8005 v01 changes the environment in which NTCIP data dictionary standards are created and MIBs are checked. MIBs created prior to NTCIP 8005 v01 may have been developed using a different syntax checker and compilation switch settings.

### 1.2 REFERENCES

Normative references contain provisions that, through reference in this text, constitute provisions of NTCIP 8005 v01. Other references in NTCIP 8005 v01 might provide a complete understanding of the entire protocol and the relations between all parts of the protocol. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard listed.

#### 1.2.1 Normative References

There are no normative references cited in NTCIP 8005 v01.

#### 1.2.2 Other References

AASHTO / ITE / NEMA NTCIP 8004 v02	<i>Structure and Identification of Management Information (SMI)</i> (publication anticipated)
IAB STD 16	(RFC 1155: 1990, Structure and Identification of Management Information for TCP/IP-based Internets, RFC 1212: 1991, Concise MIB Definitions)
RFC 1215	Convention for defining traps for use with the SNMP, M. Rose, March 1991

#### 1.2.3 Contact Information

##### 1.2.3.1 NTCIP Standards

For revision information on NTCIP 8005 v01, contact:

NTCIP Coordinator  
**National Electrical Manufacturers Association**  
1300 North 17th Street, Suite 1752  
Rosslyn, VA 22209-3801  
e-mail: [ntcip@nema.org](mailto:ntcip@nema.org)

For draft revisions to NTCIP 8005 v01, and recommended revisions of the NTCIP Joint Committee, visit [www.ntcip.org](http://www.ntcip.org).

### 1.2.3.2 IAB Documents

For Internet Advisory Board (IAB) documents, contact:

Internet Architecture Board (IAB)  
[www.rfc-editor.org](http://www.rfc-editor.org)  
[www.rfc-editor.org/repositories.html](http://www.rfc-editor.org/repositories.html)

## 1.3 TERMS

For a better understanding of this standard, here are some terms and definitions.

Data Steward	An organizational element of the ITS community responsible for ensuring that the information in the MIB portion of any NTCIP data dictionary standard is accurate and does not duplicate information in other standards.
Management Information Base (MIB)	In the strictest sense, a MIB is the representation of all the SNMP information available in a device. However, the term MIB is also used to refer to a module containing related object definitions

## 1.4 ACRONYMS

IEEE	Institute of Electrical and Electronics Engineers, Inc.
MIB	Management Information Base
SMIC	SNMP Management Information Compiler
SMICng	SNMP Management Information Compiler - next generation
SNMP	Simple Network Management Protocol
RFC	Request For Comment
WG	Working Group

## **Section 2 DEVELOPMENT PROCESS**

### **2.1 PROCESS FLOW**

There are actions defined for NTCIP MIB creation and maintenance at specific stages of the NTCIP standardization procedures for the standards development and maintenance process. Transitions to the following stages shall trigger actions of the Data Steward. The actions are defined in the Section 2 subsections:

- a) User Comment Draft
- b) Recommended
- c) Jointly Approved
- d) Amended or Revised
- e) Rescinded

#### **2.1.1 User Comment Draft**

Before an NTCIP WG submits a proposed User Comment Draft to the NTCIP Joint Committee, any NTCIP standard containing a MIB shall have the syntax checked as defined in NTCIP 8005 Section 3. The NTCIP WG shall make the text version of the MIB available to the Data Stewards.

The MIB shall be assigned to one of the Data Stewards. The Data Steward shall prepare a "MIB Include File" and re-check the syntax of the MIB in the context of other NTCIP MIBs. The Data Steward shall also review the MIB as to possible duplication of Object Definitions within other NTCIP standards. The Data Steward shall submit a user comment to the NTCIP Coordinator and WG chair and/or standard document editor, reporting on the Data Steward's compilation of the MIB. The user comment shall be logged, and filed, and any MIB revisions made during the disposition of User Comments and revision of the draft standard.

The Data Steward shall post a User Comment Draft version of the MIB at the NTCIP MIB FTP site hosted by NEMA.

#### **2.1.2 Recommended**

Before submission of a proposed Recommended Standard, any draft NTCIP standard containing a MIB shall be syntax checked again. The text version of the MIB shall be made available to the Data Stewards, and the Data Stewards shall perform a syntax check in the context of other MIBs. One of the Data Stewards shall provide a summary of the syntax check, and the summary of the syntax check shall be included in the ITE Standards Development Report.

The Data Steward shall post a Recommended Standard version of the MIB at the NTCIP MIB FTP site, and delete the UCD version.

#### **2.1.3 Jointly Approved**

Upon approval by all three NTCIP SDOs (AASHTO, ITE, and NEMA), a Data Steward shall update the MIB text file to indicate the three SDO Jointly Approved status of the NTCIP standard.

The Data Steward shall post the updated text file (mibFileName.mib) of the Jointly Approved MIB at the NTCIP MIB FTP site. The Data Steward shall not remove the Recommended Standard version of the MIB.

#### **2.1.4 Amended or Revised**

When an NTCIP standard is amended, or revised to a higher major version number, the same procedures as used for the User Comment Drafts and Recommended Standards shall be followed.

#### **2.1.5 Rescinded**

If an NTCIP standard containing a MIB is rescinded, the Data Steward shall "retire" the applicable MIB. "Retiring" shall consist of adding a "Rescinded" label to the effected MIB and removing the name of the MIB from checking lists.

The Data Steward shall revise the text of the MIB, but shall not remove the MIB from the NTCIP MIB NEMA FTP site.

### **2.2 INTELLECTUAL PROPERTY RIGHTS**

The intellectual property rights of AASHTO, ITE, and/or NEMA, regarding the NTCIP standards publications, and the included works known as the MIBs, is claimed in the front matter notices of the standards publications, and in the header of the MIB text files. AASHTO, ITE, and NEMA also extend certain MIB distribution permission. All MIB users shall follow the instructions in the MIB Distribution Permission notice, including the derivation citation.

## Section 3 MANAGEMENT INFORMATION BASES (MIBs)

### 3.1 SYNTAX CHECKER

The standard compiler for checking the syntax of an SNMP MIB is SMICng Version 2.2.07 (Book). Setup of the environment in which the standard compiler is run shall conform to procedures as described in the SMICng Documentation (dated 11/25/98).

NOTE—A public domain compiler, SMIC Version 1.0.9, July 23, 1992, may be useful for WGs for initial MIB checking. A copy of the compiler program is available from [www.ntcip.org](http://www.ntcip.org), from the web-enable FTP Committee Work Area, in the BSP2 WG shared directory. The SMIC Version 1.0.9 compiler and the NTCIP MIBs published by the Data Steward can also be downloaded from the NEMA-hosted FTP site. Contact the NTCIP Coordinator at [ntcip@nema.org](mailto:ntcip@nema.org) for access to either the CWA or NEMA FTP sites. The command line for the least restrictive syntax is shown in the SMIC User's Guide [July 1992] section 6.2, "Command Line Example." The SMIC User's Guide is also available from the FTP sites.

NOTE—SMIC Version 1.0.9 has some known problems and does not handle all syntaxes correctly. SMIC Version 1.0.9 should only be used for initial checking.

### 3.2 SYNTAX CHECKING

#### 3.2.1 Compilation Switches

SMICng has the capacity to check MIBs at varying levels of syntax strictness. The level of strictness is controlled by command line switches, compiler directives, and options specified in an environment string. MIBs shall be syntax checked to a least restrictive form as defined by the following command line switches:

- a) -N Output an OID Tree (only fully licensed version).
- b) -C5 Allow a value of "optional" for status.
- c) -C6 Relax rules for naming conventions of suffixes "Table" and "Entry" in table definitions.
- d) -CG Allow unused IMPORTs and textural conventions.
- e) -CJ Allow DEFVAL on counters

In limited circumstances, it may be appropriate to relax syntax strictness to accommodate specific needs, at the discretion of the Data Steward. In those limited circumstances, the MIB shall contain a justification for any deviation from these command line switches. In all cases, the list of command line switches used for syntax checking shall be published with the MIB.

NOTE—MIBs developed prior to NTCIP 8005 v01 used different compilation switches, and may produce different results.

#### 3.2.2 Output

For acceptance, a MIB shall result in no "Errors" when syntax checked. An output may contain "Warnings". The Data Stewards shall use the -N switch to produce a listing of the OID numbers. That list shall be compared against the OID in the <Object Identifier> field of the objects to ensure that they have not changed.

### 3.3 INPUT FILE

The MIB input file to SMICng shall be an "ASCII (Text Only)" file that is consistent with RFC 1155, RFC 1212, and RFC 1215.

To convert a Word document to an ASCII file suitable for compilation, follow these steps:

- a) Convert the font within the MIB to a non-proportional type such as Courier New.
- b) Replace all tabs with the appropriate number of spaces.
- c) Delete any tables or graphics or convert them to ASCII underscore, dashes, or vertical bars.
- d) While file viewers with line wrap format the text in the Description Field, users may prefer to add <CR> and <LF>s to format the Description Field, as preferred.
- e) Strip all text before the "]:= BEGIN" and after the "END" statement. This can be done manually or by using the "mstrip.exe" program that comes with the SMIC software.
- f) Customize the header numbering so that entries are preceded by "dash dash."
- g) Renumber the header page numbering so the page number starts at the same page number as the MIB in the NTCIP standard publication Word document.
- h) Select "Save As" but change the file type to "Plain Text." When the file conversion window appears, leave "Text Encoding" as Windows (default).

### 3.3.1 MIB Meta Data File

An NTCIP standard may define more than one MIB Module. Each MIB module shall be defined in its own separate file. Each file shall contain a header in the form of comments. The header shall include information corresponding to the following:

- a) File Name
- b) Description
- c) Source
- d) MIB Revision History
- e) Copyright Statement
- f) MIB Distribution Notice

The File Name shall be the computer file name of the text file itself. The File Name shall not include any path information. The File Name shall follow the naming conventions defined in Section 3.3.2.

The Description shall describe what this MIB represents.

The Source shall be the name of the document containing the MIB. Amendments shall also be listed. Relevant information as to status, version, and date should also be included.

The MIB Revision History shall show the date of any changes to file followed by a statement about what revisions were made. The date shall use the form MM/DD/YY.

The text of the Copyright Statement and MIB Distribution Notice from the current version of NTCIP 8002 shall be included. The coverage year of the copyright shall be updated to the year in which the MIB text file was created or modified.

Annex A contains a sample header and the preferred header formatting style.

### 3.3.2 Naming Conventions

NTCIP MIB file and module names shall be used in multiple applications and for purposes of cross-referencing. Therefore, the following naming convention shall apply.

The File Names for files containing a MIB shall be of the form:

<Standard Number> <Version> <Module>.mib

If the NTCIP standard designation contains a year of publication, the year of publication shall be dropped

and the specific version number should be used. Module names are optional but required when a standard contains more than one MIB module. These examples serve as illustrations:

1103v0212 LogicalNames.mib  
1103v0212 Report.mib  
1103v0212 Security.mib  
1103v0212 SFMP.mib  
1103v0212 SNMP.mib  
1103v0212 STMP.mib  
1103v0212 STMP-Config.mib  
1103v0212 STMP-Stats.mib  
1201v0307 Main.mib  
1201v0307 AuxIO1.mib  
1202v0218.mib  
2103v0206 CHAP.mib  
2103v0206 MOD.mib

## Annex A MIB HEADER FORMAT [Informative]

The following is an example of a MIB header to that should be included in any MIB.

```
-- *****
-- Filename:      1201v0307 Main.mib
-- Description:   This MIB defines various globally applicable objects
-- Source:        NTCIP 1201 v03.07
-- MIB Revision History:
-- 09/27/04      Created file from Word .Doc file.
--               Changed name of file
--               Removed global report, logicalNameTranslation and communityName
--               nodes per NTCIP 1103v0124
--               Removed state transition diagram form 2.3.1
--               Changed "FROM NTCIP8004-A" to "FROM NTCIP8004v01.mib"
--               Added space before INTEGER in timeBaseScheduleNumber INTEGER,
--               Changes status of moduleNumber, timeBaseScheduleNumber,
--               dayPlanNumber, dayPlanEventNumber, eventClassNumber,
--               eventConfigID and their associated Entry to mandatory to
--               eliminate incompatible status errors
--               Checked with -CJ switch to eliminate gratuitous default value
--               warnings on globalTime and eventClassLimit.
--               Restructured IMPORTS around NTCIP8004-A-2004
-- 11/20/06      Added new beginning and end of DST objects. Revised Source
--               information
--               Added header and created standalone MIB without AuxIO objects
-- 07/02/07      Revised new beginning and end of DST objects.
-- 09/18/07      Further revisions of DST objects and updates to this Header.
-- 02/12/08      Addressed user comments. Again, modified UCD-defined DST
--               objects. Updated header. Created standalone MIBs for the
--               2 different versions of AuxIO objects.
-- 03/24/08      Addressed JC comments pertaining to the DST objects, minor
--               changes. Updated header.
-- 10/06/09      Revised the MIB header Distribution Permission for SYNTAX.
--
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--or software products intended for field implementation;  
--c) use of the DD or MIB is restricted in that the syntax fields may only  
--be modified to define: 1) a more restrictive subrange; or 2) a subset of  
--the standard enumerated values; or 3) a set of retired and defined  
--enumerated values for systems supporting multiversion interoperability;  
--d) the description field may be modified but only to the extent that:  
--1) the more restrictive subrange is defined; and 2) only those bit values or  
--enumerated values that are supported are listed; and  
--e) each derivative work of the MIB uses the same module name followed  
--by "-", followed by your Internet Assigned Number Authority (IANA)-assigned  
--enterprise number.  
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