

Part VI--Proposed New Industry Structure for Electrical Equipment, Appliance and Component Manufacturing

Section A--NAICS Structure

North American Industry Classification System

(NAICS)

Agreement Number 9

This Document represents the proposed agreement on the structure of the North American Industry Classification System (NAICS) for the following industries: Electrical Equipment, Appliance and Component Manufacturing.

The detailed NAICS structure along with a brief description of the structure is attached (Attachments 1 and 2). Each country agrees to release a copy of the proposed NAICS structure to interested data users. Comments received will be shared among the countries and additional discussions will be held before a final decision on the structure is made. Each country may add additional detailed industries, below the 4-digit level of NAICS, as necessary to meet national needs, so long as this additional detail aggregates to a 4-digit NAICS level in order to ensure full comparability among the three countries.

This NAICS structure was presented and provisionally accepted at the NAICS Committee meeting held on August 30, 1995 - September 1, 1995 in Washington, D.C.

Accepted:		Signature	Date
Canada	/S/	Jacob Ryten	9/1/95
Mexico	/S/	Enrique Ordaz	9/1/95
United States	/S/	Jack E. Triplet	9/1/95

ATTACHMENT 1--NAICS STRUCTURE

XX	Electrical Equipment, Appliance, and Component Manufacturing
XXX	Electric Lighting, Equipment and Sign Manufacturing
XXXX	Electric Lamp Bulb and Part Manufacturing
XXXX	Electric Sign and Lighting Fixture Manufacturing
XXX	Household Appliance Manufacturing
XXXX	Small Electrical Appliance Manufacturing
XXXX	Major Appliance Manufacturing
XXX	Electrical Equipment Manufacturing
XXXX	Electrical Equipment Manufacturing
XXX	Other Electrical Equipment and Component Manufacturing
XXXX	Accumulator and Battery Manufacturing

XXXX	Communication and Energy Wire Manufacturing
XXXX	Accessories and Conductors for Carrying Current Manufacturing
XXXX	All Other Electrical Equipment and Component Manufacturing

Attachment 2--North American Industry Classification System

Draft Classification for:

Electrical Equipment, Appliance and Component Manufacturing

Representatives of the statistical agencies of Canada, Mexico, and the United States agree to a draft industrial classification for these industries.

This draft classification applies to the subsector, Electrical Equipment, Appliance and Component Manufacturing. This subsector is sub-divided into four industry groups and nine industries. This subsector is part of the Manufacturing sector.

A General Outline

The Electrical Equipment, Appliance and Component Manufacturing industries create products that generate, distribute and use electrical power. While establishments classified in many parts of manufacturing make products that use electricity, the manufacture of electric lighting equipment and signs and household appliances require particular attention to the application of electricity. That is the reason for their inclusion in this subsector.

Electrical Equipment Manufacturing establishments produce goods that generate and distribute electrical power, or that are made with similar production technology, such as motors, generators, transformers and switchgear apparatus. Other Electrical Equipment and Component Manufacturing establishments produce devices for storing electrical power (e.g., accumulators), for transmitting electricity (e.g., insulated wire), and accessories for carrying current. Activities in both Electrical Equipment Manufacturing and Other Electrical Equipment and Component Manufacturing industry groups all involve the manufacture of machinery for the generation and distribution of power.

Limitations and Constraints of the Classification

In the Electrical Equipment, Appliance and Component Manufacturing subsector, most activities identified in one country exist in the others. The way activities are combined in establishments differs to some extent in the different countries. For example, Canada cannot separate the manufacturing of household cooking equipment from refrigerators and freezers because these activities are often combined in Canadian establishments. Often an activity is not economically significant to the same degree in all countries. For example, size constraints in Canada prohibit separating the manufacture of batteries from accumulators. For those reasons, some NAICS industries in this subsector are broader than would be desirable in a system that distinguishes as does NAICS among production processes. Each country will publish additional categories that comprise subdivisions of NAICS industries to present data for activities that are nationally significant.

For those users requiring detailed commodity information, each country will publish information on the products of these industries. Efforts are also underway to harmonize the commodity classifications to allow comparability of these statistics.

Relationship to ISIC

Most of the NAICS four-digit industries created in this subsector can be assigned to Division 28, Manufacture of Fabricated Metal Products, Except Machinery and Equipment or Division 31, Manufacture of Electrical Machinery and Apparatus, nec of the current International Standard Industrial Classification of all Economic Activities (ISIC, Revision 3) of the United Nations. Therefore, data tabulated using NAICS can readily be re-tabulated according to ISIC with the following exception: NAICS industry, All Other Electrical Equipment and Component Manufacturing includes non-electrical products of graphite or carbon because those nonelectrical products are made in the same establishments as electrical graphite and carbon products. In ISIC, this activity is included in Division 26, Manufacture of Other Non-Metallic Mineral Products.

Some Changes to the National Classifications

For Canada, the Electrical Equipment, Appliance and Component Manufacturing subsector is part of the existing Canadian classification's Electrical and Electronic Products Industries major group. A large part of that major group will form part of the new NAICS Computer and Electronic Product Manufacturing subsector. As well, establishments that draw wire and insulate it are classified in Primary Metal Manufacturing in NAICS. This subsector includes electric signs that are classified in Miscellaneous Manufacturing in the current Canadian classification. The structures of the NAICS and Canadian classifications are similar. There are fewer industries in NAICS, but national industries will provide the same level of detail as before.

For Mexico, the Electrical Equipment, Appliance and Component Manufacturing subsector includes many of the activities currently in the Mexican classification's Manufacture and Assembly of Machinery, Equipment and Electrical Accessories and Manufacture and Assembly of Electric and Non-Electric Appliances and Accessories for Home Use. However, NAICS includes the manufacturing of turbines and some engines in Machinery Manufacturing, rather than in electrical machinery and it classifies electrical apparatus for transportation equipment in Transportation Equipment Manufacturing. The structure of the NAICS subsector is not similar to that of the corresponding areas of the Mexican classification. There are fewer industries in NAICS, but national industries will provide the same level of detail as before.

For the United States, a major change to the structure encompasses the transfer of twelve industries out of the existing 1987 SIC major group, Electronic and Other Electrical Equipment and Components Except Computer Equipment, to the proposed new NAICS subsector, Computer and Electronic Product Manufacturing. The industries moved are those that manufacture electronic components such as printed circuit boards and semiconductors and related devices. Two industries that produce electrical equipment/components for motor vehicles, aircraft etc. have been moved to the Transportation Equipment Manufacturing

subsector.

Additional changes for the United States for this subsector include moving the manufacture of electric signs from the Miscellaneous Manufacturing subsector and the creation of a new industry from the Primary Metal Manufacturing subsector for the manufacture of insulated wire and cable from purchased wire. The relocation of insulated wire from Primary Metal Manufacturing to the Electrical Equipment, Appliance and Component Manufacturing subsector is a significant improvement of the classification with respect to the production principle as it now allows for a distinction between establishments that first draw wire and then insulate it and those that only insulate.

Achievement of Objectives

The classification meets the objectives for the North American Industry Classification System (NAICS). It is comprised of industries that group establishments with similar production processes, that is, it applies the production-oriented economic concept. In the main, the hierarchical structure of the classification also follows the production concept.

The classification achieves comparability for the three participating countries. Based on existing data, all three countries expect to be able to publish data regularly at the industry (4-digit) level of the structure. All countries agree on the detailed definitions of the industries.

Other objectives of the NAICS project are not as relevant in this area of the classification as in others. These objectives are the delineation of new and emerging industries, service industries, and industries engaged in the production of advanced technologies. The industrial sector in question is relatively mature, generally produces goods, and employs relatively stable technology. Therefore, the emphasis is on the objectives listed above.

The industries have high specialization ratios, and they are economically significant. The detail and structure of the classification are balanced in size. This enhances the classification's suitability for sampling, data-publishing and other aspects of survey operations. Finally, disruptions to time series, while they exist, have been minimized. The statistical agencies can develop statistical "links", to enable the re-tabulation of time series on the new NAICS classification structure.

Section B-Annex: United States National Industry Detail

As explained in the *Structure* presentation of this notice, for a number of reasons 4-digit industries in the three NAICS industry subsectors presented in *Part I, Section A--Attachment I*, contain less detail than is currently in the U.S. SIC system, and less detail than is required to meet important analytical requirements in the U.S. The three country agreement on NAICS envisions that each country may develop national detailed industries below the NAICS industry level, so long as the national detail can be aggregated to the NAICS classification, thus assuring full North American comparability.

The ECPC is proposing U.S. 5-digit industry detail for the NAICS industry subsector covered in Part I of this notice. For cases where no 5-digit detail is shown, the ECPC is proposing that the NAICS 4-digit industries will also represent the most detailed U.S. industries.

TABLE 1

The definitions of status codes are as follows: E-existing industry; N-new industry; R-revised industry; and * means "part of". The abbreviation NEC is used for Not Elsewhere Classified.

	1997 NAICS and U.S. description	Status code	1987 SIC code	1987 SIC description
XX	Electrical Equipment, Appliance and Component Manufacturing			
XXX	Electric Lighting Equipment and Sign Manufacturing			
XXXX	Electric Lamp Bulb and Part Manufacturing	E	3641	Electric Lamp Bulbs and Tubes
XXXX	Electric Sign and Lighting Fixture Manufacturing			
XXXXX	Electric Sign Manufacturing	N	*3993	Signs and Advertising Specialties (Electric signs)
XXXXX	Residential Electric Lighting Fixture Manufacturing	E	3645	Residential Electric Lighting Fixtures
			*3999	Manufacturing Industries, NEC (Lamp shades of paper or textile)
XXXXX	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	E	3646	Commercial, Industrial, and Institutional Electric Lighting Fixtures
XXXXX	Other Lighting Equipment Manufacturing	R	3648	Lighting Equipment, NEC
			*3699	Electrical Machinery, Equipment, and Supplies, NEC (Christmas tree lighting sets and electric insect lamps)
XXX	Household Appliance Manufacturing			
XXXX	Small Electrical Appliance Manufacturing			
XXXXX	Electric Housewares and Fan Manufacturing	R	*3634	Electric Housewares and Fans (Except wall and baseboard heating units for permanent installation)
XXXXX	Household Vacuum Cleaner Manufacturing	R	3635	Household Vacuum Cleaners

			*3639	Household Appliances, NEC (Floor waxing and floor polishing machines)
XXXX	Major Appliance Manufacturing			
XXXXX	Household Cooking Appliance Manufacturing	E	3631	Household Cooking Equipment
XXXXX	Household Refrigerator and Home and Farm Freezer Manufacturing	R	*3585	Refrigeration and Heating Equipment (Water Coolers)
			3632	Household Refrigerators and Home and Farm Freezers
XXXXX	Household Laundry Equipment Manufacturing	E	3633	Household Laundry Equipment
XXXXX	Other Household Appliance Manufacturing	R	*3639	Household Appliances, NEC (Except floor waxing and floor polishing machines, and household sewing machines)
XXX	Electrical Equipment Manufacturing			
XXXX	Electrical Equipment Manufacturing			
XXXXX	Power, Distribution and Specialty Transformer Manufacturing	R	*3548	Electrical and Gas Welding and Soldering Equipment (Transformers for arc-welders)
			3612	Power, Distribution, and Specialty Transformers
XXXXX	Switchgear and Switchboard Apparatus Manufacturing	E	3613	Switchgear and Switchboard Apparatus
XXXXX	Motor and Generator Manufacturing	E	3621	Motors and Generators
XXXXX	Relay and Industrial Control Manufacturing	E	3625	Relays and Industrial Controls
XXX	Other Electrical Equipment and Component Manufacturing			
XXXX	Accumulator and Battery Manufacturing			

XXXXXX	Storage Battery Manufacturing	E	3691	Storage Batteries
XXXXXX	Dry and Wet Primary Battery Manufacturing	E	3692	Primary Batteries, Dry and Wet
XXXXX	Communication and Energy Wire Manufacturing			
XXXXXX	Fiber Optic Cable Manufacturing	N	*3357	Drawing and Insulating of Nonferrous Wire (Fiber Optic Cable-Insulating Only)
XXXXXX	Other Communication and Energy Wire Manufacturing	N	*3357	Drawing and Insulating of Nonferrous Wire (Except Fiber Optic-Insulating Only)
XXXXX	Accessories and Conductors for Carrying Current Manufacturing			
XXXXXX	Current-Carrying Wiring Device Manufacturing	E	3643	Current-Carrying Wiring Devices
XXXXXX	Noncurrent-Carrying Wiring Device Manufacturing	E	3644	Noncurrent-Carrying Wiring Devices
XXXXX	All Other Electrical Equipment and Component Manufacturing			
XXXXXX	Carbon and Graphite Product Manufacturing	E	3624	Carbon and Graphite Products
XXXXXX	All Other Electrical Industrial Equipment and Supply Manufacturing	R	3629	Electrical Industrial Apparatus, NEC
			*3699	Electrical Machinery, Equipment, and Supplies, NEC (Other electrical industrial apparatus)

TABLE 2

The abbreviation “pt” means “part of”, @ means time series break has been created that is greater than 3% of the 1992 value of shipments for the 1987 SIC industry. The abbreviation NEC is used for Not Elsewhere Classified.

1987 SIC code	1987 SIC Description	1997 U.S. Description
3612	Power, Distribution, and Specialty Transformers	Power, Distribution, and Specialty Transformer Manufacturing (pt)
3613	Switchgear and Switchboard Apparatus	Switchgear and Switchboard Apparatus Manufacturing
3621	Motors and Generators	Motor and Generator Manufacturing
3624	Carbon and Graphite Products	Carbon and Graphite Product Manufacturing
3625	Relays and Industrial Controls	Relay and Industrial Control Manufacturing
3629	Electrical Industrial Apparatus, NEC	All Other Electrical Industrial Equipment and Supply Manufacturing (pt)
3631	Household Cooking Equipment	Household Cooking Appliance Manufacturing
3632	Household Refrigerators and Home and Farm Freezers	Household Refrigerator and Home and Farm Freezer Manufacturing (pt)
3633	Household Laundry Equipment	Household Laundry Equipment Manufacturing
3634	Electric Housewares and Fans	
	Heating, cooking, and other electric housewares including fans	Electric Housewares and Fan Manufacturing (pt)
	Wall and baseboard heating units for permanent installation	Heating Equipment Manufacturing, Except Electric and Warm Air Furnaces (Included in Machinery Manufacturing subsector)
3635	Household Vacuum Cleaners	Household Vacuum Cleaner Manufacturing (pt)
3639	Household Appliances, NEC	
	Floor waxing and floor polishing machines	Household Vacuum Cleaner Manufacturing (pt)
	Household sewing machines	All Other Industrial Machinery Manufacturing (pt) (Included in Machinery Manufacturing subsector)
	Other household appliances	Other Household Appliance Manufacturing (pt)

3641	Electric Lamp Bulbs and Tubes	Electric Lamp Bulb and Part Manufacturing
3643	Current-Carrying Wiring Devices	Current-Carrying Wiring Device Manufacturing
3644	Noncurrent-Carrying Wiring Devices	Noncurrent-Carrying Wiring Device Manufacturing
3645	Residential Electric Lighting Fixtures	Residential Electric Lighting Fixture Manufacturing
3646	Commercial, Industrial, and Institutional Electric Lighting Fixtures	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing
3647	Vehicular Lighting Equipment	Vehicular Lighting Equipment Manufacturing (Included in Transportation Equipment Manufacturing subsector)
3648@	Lighting Equipment, NEC	Other Lighting Equipment Manufacturing (pt)
3651	Household Audio and Video Equipment	Audio and Video Equipment Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3652	Phonograph Records and Prerecorded Audio Tapes and Disks	
	Record publishing	Record Production (pt) (Included in new Information sector) Integrated Record Companies (pt.) (Included in new Information sector)
	Reproduction of recording media	Prerecorded Compact Disc, Tape, and Record Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3661	Telephone and Telegraph Apparatus	
	Telephone and telegraph apparatus, except telephone transformers, and consumer external modems	Telephone Apparatus Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
	Telephone transformers	Electronic Coil, Transformer, and Other Inductor Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)
	Consumer external modems	Other Electronic Component Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)
3663	Radio and Television Broadcasting and Communication Equipment	Broadcast and Studio Equipment Manufacturing for Radio, TV, and Cable (pt) (Included in Computer and Electronic Product Manufacturing subsector)
3669	Communications Equipment, NEC	Other Communication Equipment Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)

3671	Electron Tubes	Electron Tube Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3672	Printed Circuit Boards	Printed Circuit Board Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3674	Semiconductors and Related Devices	Semiconductor and Related Device Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3675	Electronic Capacitors	Electronic Capacitor Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3676	Electronic Resistors	Electronic Resistor Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3677	Electronic Coils, Transformers, and Other Inductors	Electronic Coil, Transformer, and Other Inductor Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)
3678	Electronic Connectors	Electronic Connector Manufacturing (Included in Computer and Electronic Product Manufacturing subsector)
3679	Electronic Components, NEC	
	Electronic control modular chips for motor vehicles	Motor Vehicle Electrical and Electronic Equipment Manufacturing (pt) (Included in Transportation Equipment Manufacturing subsector)
	Communication equipment	Broadcast and Studio Equipment Manufacturing for Radio, TV and Cable (Included in Computer and Electronic Product Manufacturing subsector)
	Other electronic components	Other Electronic Component Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)
3691	Storage Batteries	Storage Battery Manufacturing
3692	Primary Batteries, Dry and Wet	Dry and Wet Primary Battery Manufacturing
3694	Electrical Equipment for Internal Combustion Engines	Motor Vehicle Electrical and Electronic Equipment Manufacturing (pt) (Included in Transportation Equipment Manufacturing subsector)
3695	Magnetic and Optical Recording Media	Magnetic and Optical Recording Media Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)

3699@

Electrical Machinery, Equipment, and Supplies, NEC

Christmas tree lighting sets and electric insect lamps

Bar code scanners

Electric outboard motors

Flight simulators and electronic teaching machines

Lasers

Other electrical machinery, equipment, and supplies

Other Lighting Equipment Manufacturing (pt)

Other Computer Peripheral Equipment Manufacturing (pt) (Included in Computer and Electronic Product Manufacturing subsector)

Other Engine Manufacturing (pt) (Included in Machinery Manufacturing subsector)

Other Commercial and Service Industry Machinery Manufacturing (pt) (Included in Machinery Manufacturing subsector)

Classified according to function

All Other Electrical Industrial Equipment and Supply Manufacturing (pt)

Description of Changes to the U.S. System

A number of the changes listed in this section were made for reasons of international comparability. Where one or more of the three North American countries had different definitions of an industry classification, adjustments to the definitions in one or more countries were required. In constructing NAICS, the three countries agreed to move, where change was required to attain international comparability, in the direction of the country or countries whose existing classification definitions most closely corresponded to the production-oriented concept adopted for NAICS. Cases where the U.S. changed are listed below; other cases where Canada or Mexico moved toward the U.S. classification are not, of course, listed in this section.

Three new industries were added to the 1997 industry structure for this subsector.

Electric Sign Manufacturing from part of 1987 SIC Code 3993, Signs and Advertising Specialties, to achieve international comparability. The U.S. and Canada moved to match Mexico.

Fiber Optic Cable Manufacturing (not drawn) from part of 1987 SIC 3357, Drawing and Insulating of Nonferrous Wire, for reasons of international comparability and because of the highly specialized production processes involved, and because this is a newly-emerging technology.

Other Communication and Energy Wire Manufacturing (insulating of only) from part of 1987 SIC Code 3357, Drawing and Insulating of Nonferrous Wire, for purposes of international comparability and to better reflect production principles. The U.S. moved to match Canada and Mexico.

Sixteen industries were transferred out of 1987 SIC Major Group 36, Electronic and Other Electrical Equipment and Components, Except Computer Equipment. Of the sixteen industries, twelve are included in 1997 NAICS Subsector, Computer and Electronic Product Manufacturing, a new subsector; two transferred to NAICS Subsector, Transportation Equipment Manufacturing; and two were divided into several activities that were transferred into the 1997 NAICS Subsectors, Computer and Electronic Product Manufacturing and Transportation Equipment Manufacturing; and the new Information sector.

The following twelve industries were transferred to 1997 NAICS Subsector, Computer and Electronic Product Manufacturing:

- Household Audio and Video Equipment
- Telephone and Telegraph Apparatus
- Radio and Television Broadcasting and Communication Equipment
- Communications Equipment, NEC
- Electron Tubes
- Printed Circuit Boards
- Semiconductors and Related Devices
- Electronic Capacitors
- Electronic Resistors
- Electronic Coils, Transformers, and Other Inductors
- Electronic Connectors

Magnetic and Optical Recording Media.

Two industries were transferred from 1987 SIC Major Group 36, Electronic and Other Electrical Equipment and Component, Except Computer Equipment, to 1997 NAICS Subsector, Transportation Equipment Manufacturing. They were 1987 SIC 3647, Vehicular Lighting Equipment, and 1987 SIC 3694, Electrical Equipment for Internal Combustion Engines.

Record publishing moved from part of 1987 SIC 3652, Phonograph Records and Prerecorded Audio Tapes and Disks, to the new NAICS Information sector. The remaining activities were transferred to 1997 NAICS Subsector, Computer and Electronic Product Manufacturing.

1987 SIC 3679, Electronic Components, NEC, was split three ways. One part, electronic control modular chips for motor vehicles, was transferred to 1997 NAICS Subsector, Transportation Equipment Manufacturing, and the other two parts, communication equipment and other electronic components, moved to two separate industries within 1997 NAICS Subsector, Computer and Electronic Product Manufacturing.

Three activities transferred into the 1997 Electrical Equipment, Appliance and Component subsector:

Transformers for arc-welders from part of 1987 SIC 3548, Electrical and Gas Welding and Soldering Equipment, to Power, Distribution, and Specialty Transformer Manufacturing, to achieve international comparability. Canada had this in CSIC Major Group 33, Electrical and Electronic Products Industries.

Lamp shades of paper and textiles from part of 1987 SIC 3999, Manufacturing Industries, NEC, to Residential Electric Lighting Fixture Manufacturing, to achieve international comparability. Canada had lamp shades in CSIC MG 33, Electrical and Electronic Products Industries.

Water coolers from part of 1987 SIC 3585, Refrigeration and Heating Equipment, to Household Refrigerator and Home and Farm Freezer Manufacturing, to achieve international comparability. The U.S. and Canada moved to match Mexico.

Also, several activities transferred within the Electrical Equipment, Appliance and Component Manufacturing subsector. The number of electrical equipment, appliance and component manufacturing industries decreased from 37 in 1987 to 23 in 1997. Excluding the sixteen industries that were moved out of this subsector, all but 2 of the 22 remaining 1987 industries are comparable within three percent of the 1997 industries; both of the time series breaks involve splitting activities out of old NEC categories.