



Ottawa, Tuesday, December 21, 1999

Appeal No. AP-97-123

IN THE MATTER OF an appeal heard on April 12 and 13, 1999,  
under section 67 of the *Customs Act*, R.S.C. 1985 (2d Supp.), c. 1;

AND IN THE MATTER OF decisions of the Deputy Minister of  
National Revenue dated January 6, 1998, with respect to a request  
for re-determination under section 63 of the *Customs Act*.

**BETWEEN**

**ASEA BROWN BOVERI INC.**

**Appellant**

**AND**

**THE DEPUTY MINISTER OF NATIONAL REVENUE**

**Respondent**

**DECISION OF THE TRIBUNAL**

The appeal is allowed.

Pierre Gosselin  
Pierre Gosselin  
Presiding Member

Raynald Guay  
Raynald Guay  
Member

Peter F. Thalheimer  
Peter F. Thalheimer  
Member

Michel P. Granger  
Michel P. Granger  
Secretary

**UNOFFICIAL SUMMARY**

**Appeal No. AP-97-123**

**ASEA BROWN BOVERI INC.**

**Appellant**

**and**

**THE DEPUTY MINISTER OF NATIONAL REVENUE**

**Respondent**

This is an appeal under section 67 of the *Customs Act* from decisions of the Deputy Minister of National Revenue (now the Commissioner, Canada Customs and Revenue Agency) made under section 63 of the *Customs Act*. The first issue in this appeal is whether certain on-load tap changers imported by the appellant are properly classified under tariff item No. 8535.30.90 as other isolating switches and make-and-break switches, which are electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs, junction boxes), for a voltage exceeding 1,000 volts, as determined by the respondent, or should be classified under tariff item No. 8504.90.91 as parts of transformers of tariff item No. 8504.21.20, 8504.22.00, 8504.23.00 or 8504.34.00, as claimed by the appellant. The second issue in this appeal is whether these tap changers qualify for duty relief under Code 2101 as articles for use in the goods of tariff item No. 9032.89.20.

**HELD:** The appeal is allowed. As the respondent did not contest the classification of the goods in issue as parts of transformers under tariff item No. 8504.90.91, the Tribunal is of the view that the goods in issue should be classified as parts of transformers under tariff item No. 8504.90.91. The Tribunal also finds that the goods in issue qualify for duty relief under Code 2101 as articles for use in the goods of tariff item No. 9032.89.20. The Tribunal is of the view that the goods in issue are physically connected and functionally joined to the process control apparatus of tariff item No. 9032.89.20. The goods in issue are actuators that perform a control or management function. As it is the actuator that actually carries out the commands of the process control apparatus of tariff item No. 9032.89.20, it is the Tribunal's view that the actuator is essential to the functioning of that apparatus. Without the actuator, the controlled variable could not be maintained at the desired value.

Place of Hearing: Ottawa, Ontario  
Dates of Hearing: April 12 and 13, 1999  
Date of Decision: December 21, 1999

Tribunal Members: Pierre Gosselin, Presiding Member  
Raynald Guay, Member  
Peter F. Thalheimer, Member

Counsel for the Tribunal: Tamra Alexander  
Marie-France Dagenais

Clerk of the Tribunal: Anne Turcotte

Appearances: Peter E. Kirby and Michael Sherbo, for the appellant  
Stéphane Lilkoff, for the respondent

Appeal No. AP-97-123

ASEA BROWN BOVERI INC.

Appellant

and

THE DEPUTY MINISTER OF NATIONAL REVENUE

Respondent

TRIBUNAL: PIERRE GOSSELIN, Presiding Member  
RAYNALD GUAY, Member  
PETER F. THALHEIMER, Member

REASONS FOR DECISION

INTRODUCTION

This is an appeal under section 67 of the *Customs Act*<sup>1</sup> from decisions of the Deputy Minister of National Revenue (now the Commissioner, Canada Customs and Revenue Agency) made under section 63 of the *Act*. The first issue in this appeal is whether certain on-load tap changers imported by the appellant are properly classified under tariff item No. 8535.30.90 of Schedule I to the *Customs Tariff*<sup>2</sup> as other isolating switches and make-and-break switches, which are electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs, junction boxes), for a voltage exceeding 1,000 volts, as determined by the respondent, or should be classified under tariff item No. 8504.90.91 as parts of transformers of tariff item No. 8504.21.20, 8504.22.00, 8504.23.00 or 8504.34.00, as claimed by the appellant. The second issue in this appeal is whether these tap changers qualify for duty relief under Code 2101 as articles for use in the goods of tariff item No. 9032.89.20. The relevant tariff nomenclature reads as follows:

85.04	Electrical transformers, static converters (for example, rectifiers) and inductors.
8504.90	-Parts
8504.90.91	---Of the goods of tariff item No. 8504.21.20, 8504.22.00, 8504.23.00 or 8504.34.00
85.35	Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs, junction boxes), for a voltage exceeding 1,000 volts.
8535.30	-Isolating switches and make-and-break switches
8535.30.90	---Other

The relevant tariff code reads as follows:

	Articles (other than goods of the tariff item Nos. enumerated below) for use in:
2101	The goods of tariff item No.: . . . 9032.89.20.

1. R.S.C. 1985 (2d Supp.), c. 1 [hereinafter *Act*].  
2. R.S.C. 1985 (3d Supp.), c. 41.

Tariff item No. 9032.89.20 reads as follows:

90.32	Automatic regulating or controlling instruments and apparatus.
9032.89	--Other
9032.89.20	---Process control apparatus, excluding sensors, which converts analog signals from or to digital signals.

## **EVIDENCE**

Mr. Jean-Pierre Haché, Marketing Manager, Asea Brown Boveri Inc., testified on behalf of the appellant. Mr. Haché is an engineer and was qualified as an expert in the field of power engineering to give opinion evidence on issues of process control. Mr. Haché testified that the generation, transmission and distribution of electricity is a process. He stated that equipment that measures, interprets a measurement or reacts to an event has a direct impact on regulating and controlling the process and is, therefore, part of process control. Mr. Haché testified that control occurs, first, at the local or substation level. If a line fails, the protection equipment takes action, either trips a breaker or opens a circuit, and, at the same time, sends a signal to the regional control. At the regional level, decisions as to how to bypass the fault are made, and circuits are opened or closed to re-route the power. Similarly, central control is alerted to the problem and, if adjustments are required across regions in order to address the fault, central control ensures that the appropriate action is taken. Mr. Haché stated that all three levels of control are fully interconnected and integrated.

Mr. Haché explained that each substation has its own control centre that interfaces with the regional control centre. He stated that substation control centres are also connected to voltage and current transformers which measure the flow of electricity. These measurements are fed to relays which analyze the measurements and signal a circuit breaker, tap changer or any other device with a regulating, control or protection function to act, if necessary. Mr. Haché testified that the goods in issue were installed at the Magnan and La Durantaye substations in the Hydro-Québec network. He testified that both substations have control centres.

Mr. Haché described the function of the goods in issue as regulating the voltage on the line. The control relay in the control centre sends a signal to the tap changer if the voltage levels need to be adjusted. The tap changer contains motors and various contacts. The tap changer connects the power transformer differently by moving up or down one tap, which adjusts the voltage. The voltage transformer measures the voltage and feeds that information to the relay in the control centre which decides if the voltage levels need to be further modified. Mr. Haché testified that the goods in issue are directly connected to a control centre that knows the position of every tap. He stated that, depending on the load, tap changers can operate frequently.

Mr. Réjean M. Breton, President of Breton, Banville & Associates, a consulting firm, testified on behalf of the respondent. Mr. Breton was qualified as an expert in the field of power engineering to give opinion evidence on issues of process control. Mr. Breton provided the Tribunal with a diagram of the Hydro-Québec power grid. Mr. Breton explained the various components of the grid, from generation to transmission to distribution. Mr. Breton differentiated between primary equipment, such as the generators, transformers, busbars and transmission lines, and protection and measuring equipment, such as protection relays. Mr. Breton testified that the protection and measuring equipment communicates with the control centre regarding decisions being made. Mr. Breton also stated that actuators are instruments, or equipment, that respond to a control signal and that they are not part of process control.

Mr. Breton testified that local or substation control is not part of process control. He stated that the summation of each local control is process control. He stated that process control only occurs at the regional and central levels. The distinction which Mr. Breton made between local and regional or central control is that local control only controls equipment in the close vicinity of the control room, within the substation. However, regional or central control controls many different remote locations.

Mr. Breton confirmed that the Magnan and La Durantaye substations have control rooms and that those control rooms are connected to regional control centres. Mr. Breton described the function of the goods in issue as modifying the voltage levels in a power transformer. He testified that on-load tap changers can be adjusted manually or remotely through the control room relays. Mr. Breton stated that the tap changer is an actuator.

Ms. Susan Ryan, Compliance and Verification Officer, Department of National Revenue (now Canada Customs and Revenue Agency), also testified on behalf of the respondent. Ms. Ryan testified as to her involvement in the development of Customs Notice N-010.<sup>3</sup>

## **ARGUMENT**

At the outset of the hearing, counsel for the appellant informed the Tribunal that the parties were in agreement as to the tariff classification of the goods in issue. Counsel for the respondent did not contest that the goods in issue should be classified under tariff item No. 8504.90.91.

With respect to the second issue, whether the goods in issue qualify for duty relief under Code 2101, counsel for the appellant submitted that all parties and their expert witnesses agreed that the generation, transmission and distribution of electricity is a process. Counsel stated that the expert witnesses agreed that the electrical network is made up of various components, all of which are interconnected by wiring or cable. Counsel also stated that the expert witnesses agreed that control of the process occurs throughout the network and is exercised at three levels: central, regional and local. Counsel submitted that the distinction made by Mr. Breton, that only the control exercised at the central and regional levels constituted “process control”, was untenable and submitted that Mr. Breton was unable to explain why local control would not constitute “process control”. Counsel also submitted that Mr. Breton’s distinctions between primary, control and protection equipment and the definition of actuator are inconsistent with uncontested views, in that goods, such as circuit breakers, which all agree are part of process control, are classified as not being part of process control.

Counsel for the appellant submitted that process control occurs at the central, regional and local levels. Counsel submitted that the appellant need only demonstrate that the goods in issue are “for use in” stations or substations which have a control centre<sup>4</sup> and that those goods are physically connected and functionally joined to the control centre.<sup>5</sup>

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3. Department of National Revenue, “Interpretation of Tariff Code 2101 as it Relates to an Electrical Network” (5 December 1995).
  4. For this proposition, counsel relied on *Asea Brown Boveri v. D.M.N.R.* (10 June 1998), AP-93-392, AP-93-393, AP-94-001, AP-94-002, AP-94-007, AP-94-019, AP-94-020, AP-94-026, AP-94-028, AP-94-030, AP-94-033, AP-94-043, AP-94-055, AP-94-060, AP-94-064, AP-94-068, AP-94-077, AP-94-079, AP-94-097 and AP-96-118 (C.I.T.T.).
  5. For this proposition, counsel relied on *Sony of Canada v. D.M.N.R.* (12 December 1996), AP-95-262 (C.I.T.T.) [hereinafter *Sony*].

Counsel for the appellant submitted that the goods in issue were installed in the Magnan and La Durantaye substations, both of which are equipped with control centres. Counsel submitted that both expert witnesses accepted that the goods in issue are attached to the control centre and interact with control centres in the hierarchy, such that the central control in Montréal, Quebec, knows the setting of each tap changer in the network. Counsel submitted that both expert witnesses confirmed that the goods in issue act upon the power transformer in response to signals from the control centre. Counsel submitted that, as the goods in issue are physically connected and functionally joined to a control centre, they qualify for duty relief under Code 2101.

Counsel for the respondent submitted that the generation, transmission and distribution of electricity, collectively, constitute a process. Therefore, counsel submitted, in order to have “process control”, control must be exerted over all three elements of the process. Counsel stated that, if equipment deals only with one aspect of the process, for example, transmission, it does not engage in process control. Counsel suggested that the Tribunal agreed with the respondent’s position that process control is only found at the central or “master” control level in Appeal No. AP-93-392.<sup>6</sup> Relying on the *Explanatory Notes to the Harmonized Commodity Description and Coding System*<sup>7</sup> to heading No. 90.32, counsel also submitted that actuators are outside of process control and cannot be part of process control.

Counsel for the respondent submitted that the goods in issue, being primary equipment and being actuators, are not part of process control. Counsel also submitted that, as the goods in issue are concerned only with the distribution of electricity and not with its generation and transmission, they are not part of process control. Counsel submitted that the goods in issue are important to the functioning of the network, but are not “essential” to process control. Counsel submitted that the goods in issue are directed by the relay to react to a situation and not by process control. For these reasons, it was counsel’s submission that the goods in issue do not qualify for duty relief under Code 2101.

## **DECISION**

The respondent did not contest the classification of the goods in issue as parts of transformers under tariff item No. 8504.90.91. As the respondent did not contest this classification, the Tribunal is of the view that the goods in issue should be classified as parts of transformers under tariff item No. 8504.90.91.

The Tribunal must now determine whether the goods in issue qualify for duty relief under Code 2101, which applies to “[a]rticles (other than goods of the tariff item Nos. enumerated below) for use in . . . [t]he goods of tariff item No. . . . 9032.89.20”. Tariff item No. 9032.89.20 covers process control apparatus, excluding sensors, which converts analog signals from or to digital signals. The *Explanatory Notes* to heading No. 90.32 provide that the heading covers:

automatic regulators . . . intended for use in complete automatic control systems which are designed to bring a quantity, electrical or non-electrical, to, and maintain it at, a desired value, stabilised against any disturbances, by constantly or periodically measuring its actual value. They consist essentially of the following devices:

- (A) **A measuring device** (sensing device, converter, resistance probe, thermocouple, etc.) which determines the actual value of the variable to be controlled and converts it into a proportional electrical signal.
- (B) **An electrical control device** which compares the measured value with the desired value and gives a signal (generally in the form of a modulated current).

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6. *Supra* note 3.

7. Customs Co-operation Council, 1st ed., Brussels, 1986 [hereinafter *Explanatory Notes*].

(C) **A starting, stopping or operating device** (generally contacts, switches or circuit breakers, reversing switches or, sometimes, relay switches) which supplies current to an actuator in accordance with the signal received from the control device.

An automatic regulator within the meaning of Note 6 (b) to this Chapter consists of the devices described in (A), (B) and (C) above, whether assembled together as a single entity or in accordance with Note 3 to this Chapter, a functional unit.

An automatic regulator that is also process control apparatus is classified under tariff item No. 9032.89.20.

The Tribunal must determine whether the goods in issue are “for use in” process control apparatus of tariff item No. 9032.89.20. At the time of importation of the goods in issue, section 4 of the *Customs Tariff* provided that:

The expression “for use in”, wherever it occurs in a tariff item in Schedule I or a code in Schedule II in relation to goods, means, unless the context otherwise requires, that the goods must be wrought into, attached to or incorporated into other goods as provided for in that tariff item or code.<sup>8</sup>

The Tribunal adopts the interpretation of the term “attached to” as it was used in *Sony*, whereby goods are attached to other goods if they are “physically connected and are functionally joined” to the latter.<sup>9</sup> In order for the Tribunal to determine whether the goods in issue are physically connected and functionally joined to process control apparatus, the Tribunal must first determine what constitutes process control apparatus of tariff item No. 9032.89.20.

The *Explanatory Notes* to heading No. 90.32 provide that the automatic regulators of this heading include a measuring device, an electrical control device and a starting, stopping or operating device. The evidence before the Tribunal is that, in both the Magnan and La Durantaye substations, voltage and current transformers monitor the levels on the transmission lines. These transformers feed information to control relays located in the substations, which interpret the information and send a signal to the goods in issue if the voltage levels need to be adjusted. It is the Tribunal’s view that these voltage and current transformers, which are measuring devices, and the control relays, which are electrical control devices, form a functional unit and that this functional unit is an automatic regulator in heading No. 90.32. The Tribunal must, therefore, determine whether this functional unit is “[p]rocess control apparatus, excluding sensors, which converts analog signals from or to digital signals” pursuant to tariff item No. 9032.89.20.

The appellant has taken the position that process control should be interpreted broadly to include any article that modifies the actions, status or components of the electrical network. The respondent takes a narrower view, arguing that process control only exists where control over the three elements of the electrical network (generation, transmission and distribution) is exerted. The respondent takes the position that process control can only occur at the regional and central control levels. In the Tribunal’s view, the answer as to what constitutes process control lies somewhere between these two poles.

It is the Tribunal’s view that there are two types of decisions being made by the network. The first are decisions to protect the network and its major components from damage due to random or uncontrolled events. The second are decisions relating to ensuring that the network performs according to design and delivers the desired results. The former are protective in nature, while the latter constitute the control or management of the system. It is the Tribunal’s view that “process control” includes the functioning of

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8. *Supra* note 2. Due to the tariffification of the tariff codes, the tariff codes and the reference to tariff codes in this definition were eliminated in the new *Customs Tariff*, S.C. 1997, c. 36.

9. *Supra* note 5 at 6.

devices that collectively monitor the system, interpret the data received and take action to restore the system to pre-set values. Therefore, devices which participate in control or management decisions engage in process control. In addition, devices which participate in certain protective decisions can also be engaging in process control.

The Tribunal does not accept the respondent's view that, to constitute process control, all three elements of the process (generation, transmission and distribution) must be controlled. It is the Tribunal's view that the control of a single element of the process, or an aspect of a single element of the process, may constitute process control.<sup>10</sup> The Tribunal notes that this position is consistent with the terms of Customs Notice N-010, which provides that sub-transmission substations, which are usually rated at above 44 kV are, for the most part, equipped with a control centre and that, despite the fact that a sub-transmission substation, such as Magnan or La Durantaye, controls the transmission of electricity and is not involved in its generation or distribution, such control centres are classified under tariff item No. 9032.89.20.

The evidence before the Tribunal is that the functional unit, composed of the voltage and current transformers and control relays, monitors the transmission of electricity to ensure that voltage and other variables are at appropriate settings. The evidence before the Tribunal is that the control relays interpret the data received from the voltage and current transformers and send a signal to other equipment, such as circuit breakers, tap changers or switchgear, to direct that equipment to take action to restore the system to pre-set values. The Tribunal, therefore, finds that this functional unit participates in management and control decisions and is, therefore, engaged in process control. The Tribunal's view is that the functional unit, composed of the voltage and current transformers and control relays, is process control apparatus under tariff item No. 9032.89.20.

The evidence before the Tribunal is that the goods in issue are physically connected to the control relays which form part of the process control apparatus. However, physical connection is not sufficient; the goods in issue must also be functionally joined to the process control apparatus.

According to the *Explanatory Notes* to heading No. 90.32, the automatic regulators of heading No. 90.32 are connected to electrical, pneumatic or hydraulic actuators which bring the controlled variable back to the desired value. Examples of actuators provided in the *Explanatory Notes* are clamps which adjust the gap between the electrodes of an arc furnace or motorised valves that control the intake of water or steam in a boiler, furnace or pulping machine. It is the actuator that actually carries out the commands of the automatic regulator. It is the Tribunal's view that actuators are essential to the functioning of an automatic regulator, as, without them, the controlled variable would not actually be brought back to the desired value. Where the automatic regulator is process control apparatus, as is the case for the functional unit in issue, it is the Tribunal's view that the actuator connected to that apparatus is essential to its function, as, without the actuator, the controlled variable would not actually be brought back to the desired value.

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10. The Tribunal does not accept the respondent's position that the Tribunal's decision in Appeal No. AP-93-392, *supra* note 4, confirms that process control is only found at the central or master control level. The Tribunal notes that, in its reasons in that case, it simply stated that the evidence of the respondent's first witness, that it must be master control in order to be process control apparatus, coincided with the wording of Customs Notice N-010 and the testimony of the departmental official. The Tribunal did not make a finding as to whether or not it must be master control in order to be process control apparatus.



The evidence before the Tribunal is that the goods in issue are actuators and that they perform a control or management function. The process control apparatus monitors the voltage above and below the power transformer through the action of voltage transformers. On-load tap changers, the goods in issue, are connected to control relays and respond to signals from the control relays to raise or lower the voltage of the power transformer according to the load requirements. The tap changers' action of raising or lowering the voltage gives effect to the commands from the control relays which form part of the process control apparatus. The tap changers' action is essential to maintain process control.

In conclusion, the on-load tap changers and the power transformer, of which the on-load tap changers form an integral part, constitute an integrated machine which varies the voltage level on the line, according to instructions received from the control relays which form part of the process control apparatus. The goods in issue are functionally joined to the process control apparatus, as they are essential to the basic functioning of the process control apparatus. Therefore, as the Tribunal finds that the goods in issue are physically connected and functionally joined to process control apparatus, they qualify for duty relief under Code 2101.

Accordingly, the appeal is allowed.

Pierre Gosselin  
Pierre Gosselin  
Presiding Member

Raynald Guay  
Raynald Guay  
Member

Peter F. Thalheimer  
Peter F. Thalheimer  
Member