

Ottawa, Monday, February 24, 1992

**Appeal No. 2874**

IN THE MATTER OF an appeal heard on October 22, 1991,  
under section 47 of the *Customs Act*, R.S.C., 1970, c. C-40;

AND IN THE MATTER OF a re-determination of the Deputy  
Minister of National Revenue for Customs and Excise, dated  
July 31, 1987, with respect to a request for re-determination  
made pursuant to subsection 46(3) of the *Customs Act*.

**BETWEEN**

**ROSEMOUNT INSTRUMENTS LIMITED**

**Appellant**

**AND**

**THE DEPUTY MINISTER OF NATIONAL REVENUE  
FOR CUSTOMS AND EXCISE**

**Respondent**

**DECISION OF THE TRIBUNAL**

The appeal is allowed. The sensor module assemblies in issue are more properly classified under tariff item 44532-1 as complete parts of electrical instruments and apparatus of precision.

Sidney A. Fraleigh

Sidney A. Fraleigh  
Presiding Member

Arthur B. Trudeau

Arthur B. Trudeau  
Member

Robert C. Coates, Q.C.

Robert C. Coates, Q.C.  
Member

Michel P. Granger

Michel P. Granger  
Acting Secretary

**UNOFFICIAL SUMMARY**

**Appeal No. 2874**

**ROSEMOUNT INSTRUMENTS LIMITED**

**Appellant**

**and**

**THE DEPUTY MINISTER OF NATIONAL REVENUE  
FOR CUSTOMS AND EXCISE**

**Respondent**

*This is an appeal under section 47 of the former Customs Act from a decision of the Deputy Minister of National Revenue for Customs and Excise. The appellant seeks a determination that the sensor module assemblies it imported be classified under tariff item 44532-1 as parts of the differential pressure transmitters.*

**HELD:** *The appeal is allowed. Although the Tribunal is convinced that the sensor module assemblies eventually will perform transduction, it is of the view that the apparatus are more properly classified as complete parts of a pressure transmitter and, therefore, should be classified under tariff item 44532-1 as complete parts of electrical instruments and apparatus of precision.*

*Place of Hearing: Calgary, Alberta*  
*Date of Hearing: October 22, 1991*  
*Date of Decision: February 24, 1992*

*Tribunal Members: Sidney A. Fraleigh, Presiding Member*  
*Arthur B. Trudeau, Member*  
*Robert C. Coates, Q.C., Member*

*Clerk of the Tribunal: Janet Rumball*

*Counsel for the Tribunal: Gilles B. Legault*

*Appearances: Matt Ages, for the appellant*  
*Linda J. Wall, for the respondent*

**Case Cited:** *EEV Canada Limited v. The Deputy Minister of National Revenue for Customs and Excise, Canadian International Trade Tribunal, Appeal No. 2372, September 25, 1991.*

Appeal No. 2874

**ROSEMOUNT INSTRUMENTS LIMITED**

**Appellant**

**and**

**THE DEPUTY MINISTER OF NATIONAL REVENUE  
FOR CUSTOMS AND EXCISE**

**Respondent**

TRIBUNAL: SIDNEY A. FRALEIGH, Presiding Member  
ARTHUR B. TRUDEAU, Member  
ROBERT C. COATES, Q.C., Member

**REASONS FOR DECISION**

This is an appeal under section 47 of the former *Customs Act*<sup>1</sup> (the Act) from a decision of the Deputy Minister of National Revenue for Customs and Excise (the Deputy Minister). Between January and March 1986, the appellant imported into Canada, on several occasions, differential pressure transmitter models 1151 and 1152, parts and sensor modules from Rosemount Inc., Minnesota. The goods were first classified under tariff item 44532-1 of the *Customs Tariff*<sup>2</sup> as indicators of temperature and pressure, and parts thereof. A re-determination made by a Dominion customs appraiser classified part of the goods under tariff item 44532-2 as transducers. The appellant then requested a further re-determination by the Deputy Minister under subsection 46(3) of the Act. Finally, a re-determination made by Miss C. Kennedy on behalf of the Deputy Minister classified the goods as follows:

the imported differential pressure transmitters models 1151 and 1152 and parts under tariff item 44532-1 as indicators of temperature and pressure, and parts thereof; and,

the sensor module assemblies models 1151 and 1152, either silicon fill or fluorolube fill under tariff item 44532-2 as transducers.

In appeal before this Tribunal, the appellant seeks a determination that the sensor module assemblies be classified under tariff item 44532-1 as parts of the differential pressure transmitters.

To support its contention that sensor module assemblies constitute parts of the pressure transmitter, the appellant provided evidence through the testimony of Mr. Roger Frick. Mr. Frick works for the appellant and holds the patent on the differential pressure transmitters, model 1151. The witness explained that the pressure transmitter is designed to measure the flow in pipe applications as well as the level in tanks, and other pressure measurements in industries such as refineries, power plants, etc. Mr. Frick described the apparatus as containing a sensor module, which itself contains a delta cell which, he admitted, is a transducer. In the industry, he said, the sensor module is not called or referred to as a transducer, while the delta cell is. In fact, the delta cell is of no use to the appellant's customers until it is incorporated into the sensor module. At that point, it is no longer a transducer, but

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1. R.S.C., 1970, c. C-40, as amended.

2. R.S.C., 1970, c. C-41, as amended.

a part of the sensor module which itself is a part of the pressure transmitter. Moreover, the appellant sells sensor modules and not transducers as replacement parts for the differential pressure transmitters.

The respondent called one expert witness, Mr. Karan Kaler, an associate professor of electrical engineering at the University of Calgary. Mr. Kaler explained that the heart of the pressure transmitter is the sensing element and that the heart of that sensing element is the delta cell, which is a pressure transducer. In fact, with this pressure transmitter, the sensing is done through transduction. Transduction converts one form of energy to another. Sensors and transducers indeed are different. Sensors, in a broad definition, encompass a whole variety of sensing elements, and transducers are a sub-classification of sensors. All transducers are sensors, but not all sensors are transducers. For instance, a tire gauge is a sensor, but not a transducer since it only measures pressure by mechanical means and does not convert one form of energy to another. Conversely, explained the witness, in the differential pressure transmitter, transducers are used to convert pressure, which is a mechanical quantity, to capacitance, which is an electrical quantity. The apparatus indeed involves two conducting plates that are separated with dielectric material, such as oil. As the pressure varies, the spacing between the conducting plates changes, allowing the sensor to sense the variation of the capacitance, which is the ability to store charge. According to the witness, the sensor is therefore a key element in sensing differential pressure. In cross-examination, Mr. Kaler also recognized that in circumstances where the sensor module is physically incorporated into the pressure transmitter, he would consider it to be a part of that apparatus.

Based on the testimony of his witness, the respondent argues that the goods in issue are transducers because: they convert one form of energy into another, namely, hydraulic to electrical; they are defined by the dictionary of electronics as a device used to convert one form of energy into another; they are more fully described as transducers in tariff item 44532-2 than as parts of electrical instruments and apparatus of precision, which therefore overrides the general provision in tariff item 44532-1; and, finally, their true nature is that they constitute transducers.

The Tribunal agrees with the respondent that being specifically provided for in tariff item 44532-2, goods that in their true nature are transducers cannot be classified in the general provision of tariff item 44532-1. However, there is enough evidence in this case to support the appellant's position that the sensor module assemblies in issue are rather parts of pressure transmitters, which are themselves "Electrical instruments and apparatus of precision ..." as contemplated by the general provision of tariff item 44532-1. The sensor module assemblies indeed are committed to the pressure transmitters which, on the basis of the testimony of both witnesses, would not be able to accomplish their function without these parts.

Counsel for the respondent asked the Tribunal to apply the same principles that it applied in *EEV Canada Limited v. The Deputy Minister of National Revenue for Customs and Excise*.<sup>3</sup> In that case, the Tribunal rejected the argument that the addition of basic components essential to the functioning of goods, namely, a thyristor puck, deprives these goods of their original character. Establishing a parallel with this case, counsel submits that the sensor module is itself a transducer since it incorporates the delta cell and lets it perform its function as a transducer without depriving it of its original character. In fact, the Tribunal had to determine whether thyristors used in electrical apparatus designed for welding ought to be classified under tariff item 44621-1 as "Electric apparatus designed for welding, n.o.p. ..." or under tariff item 44544-1 as "Transistors and other semiconductor devices...." In the Tribunal's view, the fact that one tariff item provided for "other semiconductor

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3. Canadian International Trade Tribunal, Appeal No. 2372, September 25, 1991.

devices" and that both parties agreed that thyristors were semiconductors form the basis of the *EEV Canada Limited* decision that thyristor assemblies were more properly classified as semiconductor devices under tariff item 44544-1.

The case at point is quite different. First, it involves two tariff items that must be read together. Second, contrary to the thyristors in the *EEV Canada Limited* decision, transducers are specifically provided for in tariff item 44532-2. Therefore, only if it finds that the true nature of the sensor module is that it constitutes a transducer as contemplated by tariff item 44532-2 will the Tribunal classify the sensor modules under that tariff item. Having said that, a thorough reading of tariff item 44532-2 clearly reveals that the vast majority, if not all, of the items in that section are designed to perform a function which results in some form of visual metering, measuring or testing. In other words, all the goods enumerated therein can serve a specific function by themselves. Reading both tariff items 44532-1 and 44532-2 together and taking into account the evidence, the Tribunal observes that the delta cells are not designed to achieve any function, nor are they intended to, until their incorporation in the sensor module assemblies, which in turn are specifically designed for the pressure transmitter. Although the Tribunal is convinced that the sensor module assemblies will eventually perform transduction, it is of the view that the apparatus are more properly classified as complete parts of a pressure transmitter and, therefore, should be classified under tariff item 44532-1 as complete parts of electrical instruments and apparatus of precision.

The appeal is allowed.

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