

**New York State Department of Taxation and Finance**  
**Taxpayer Services Division**  
**Technical Services Bureau**

TSB-A-85(13)S  
Sales Tax  
May 20, 1985

STATE OF NEW YORK  
STATE TAX COMMISSION

ADVISORY OPINION

PETITION NO. S830525A

On May 25, 1983 a Petition for Advisory Opinion was received from Houdaille Industries, Inc., 12975 Clarence Center Road, Akron, New York 14001.

The issues raised are (1) whether the petitioner's CAD/CAM computer is machinery or equipment for use or consumption directly and predominantly in the production of tangible personal property by manufacturing, processing, generating or assembling and qualifies for exemption pursuant to section 1115(a)(12) of the Tax Law or (2) whether such computer qualifies for exemption in accordance with section 1115(a)(10) of the Tax Law as tangible personal property for use or consumption directly and predominantly in research and development in the experimental or laboratory sense.

Petitioner describes the use of his Computer Aided Design/Computer Aided Manufacturing computer (hereinafter "CAD/CAM") as follows: After receiving a customer request or purchase order for a machine part, a computer operator draws the relative dimensions of the machine part on the computer screen. The operator then can manipulate the drawing in a variety of ways in order to conform it's dimensions to the required specifications. Once the needs of the customer are satisfied, the CAD/CAM computer transfers the machine part's specifications and information to another device called a plotter. This device then produces a detailed blueprint-like drawing which is used for production of the machine part. Once information about the part is placed in the memory of the computer, this information can be recalled in a matter of minutes in order that modifications or improvements can be made, if necessary.

Petitioner also uses this computer to develop new products. To do this, a computer operator must first draw a hypothetical machine part on the computer screen. The operator is then able to manipulate the configuration of the machine part to determine whether it functions properly and how it reacts to certain situations. The CAD/CAM enables the computer operator to experiment with different configurations and to test the ability of the configurations to achieve design standards. Existing parts are also improved in the same manner.

It is the petitioner's first contention that the computer should qualify for sales tax exemption as machinery and equipment used in production (Tax Law section 1115(a)(12)), since the original design and blueprinting of the item to be manufactured is an integral part of the production process. In the alternative, the petitioner contends this computer should qualify for sales tax exemption as tangible personal property used in research and development (Tax Law section 1115(a)(10)), since it's use meets certain criterion contained in regulation section 528.11(b)(1) which defines use in research and development in the experimental or laboratory sense.

Point I

Section 1115(a)(12) of the Tax Law provides an exemption from the sales tax for machinery or equipment used directly and predominantly in the production for sale of tangible personal property by manufacturing.

Regulation section 528.13 provides that "production" includes the production line of the plant starting with the handling and storage of raw materials at the plant site and continuing through the last step of production where the product is finished and packaged for sale. Paragraph (c) of Section 528.13 states that the term "directly" means that the machinery or equipment must, during the production phase of a process,

- (i) act upon or effect a change in material to form the product to be sold, or
  - (ii) have an active causal relationship in the production of the product to be sold, or
  - (iii) be used in the handling, storage, or conveyance of materials or the product to be sold,
- or
- (iv) be used to place the product to be sold in the package in which it will enter the stream of commerce.

Although the initial designing and blueprinting of a product may be an important step in the manufacturing process, the CAD/CAM is not directly used in the production process,

First, the CAD/CAM does not act upon material to form a product for sale since the blueprints produced by the CAD/CAM are not sold.

Secondly, the CAD/CAM has no active causal relationship in the production of the product sold since neither the CAD/CAM nor the blueprints produced by the CAD/CAM play an active role in the production process. By way of comparison, Example 10 contained in regulation section 528.13(c)(3) provides that a lathe used to make machinery which is used to make tangible personal property for sale is deemed to be used directly in production. This is so because of the direct, unbroken chain of action of the lathe on the machinery and the machinery on the product to be sold. Since this direct chain of action is absent in the case of the CAD/CAM, it does not satisfy this condition.

Finally, the CAD/CAM is clearly not used in the handling or storage of materials or the packaging of products.

Since the CAD/CAM is not used directly in production within the meaning and intent of the Tax Law, it does not qualify for exemption under section 1115(a)(12).

Point II

Section 1115(a)(10) of the Tax Law provides an exemption from the sales tax for tangible personal property purchased for use or consumption directly and predominantly in research and development in the experimental or laboratory sense.

Regulation section 528.11 defines research and development in the experimental or laboratory as research which has as its ultimate goal;

- (i) basic research in a scientific or technical field of endeavor;
- (ii) advancing the technology in a scientific or technical field of endeavor;
- (iii) the development of new products;
- (iv) the improvement of existing products;
- (v) the development of new uses for existing products.

It also provides that tangible personal property is used predominantly in research and development only if over fifty percent of the time it is used directly in a research and development function.

Example 4 contained in regulation section 528.11 provides:

An aircraft manufacturer assembles two airplanes, which it uses for function and reliability tests prior to manufacturing this type of airplane for sale. The parts, equipment, instrumentation and fuel used on the airplanes during the testing phase are exempt as they are used directly and predominantly in research and development.

The use of the CAD/CAM by Petitioner to draw the relative dimensions of machine parts pursuant to customer request as described above contains no element of research or development and is nothing more than the ordinary design and drafting of machine parts. However, the use by Petitioner of the CAD/CAM for purposes of experimenting with different configurations to test the ability of the configurations to comply with design standards falls within the purview of Example 4 as cited above and is, therefore, deemed to be used directly in research and development.

Accordingly, if the CAD/CAM is used predominantly (more than 50% of the time) for such qualified purposes, it will qualify for the exemption provided by section 1115(a)(10) of the Tax Law.

DATED: May 1, 1985

FRANK J. PUCCIA  
Director  
Technical Services Bureau

NOTE: The opinions expressed in Advisory Opinions  
are limited to the facts set forth herein.