

## **477.0000 RESEARCH AND DEVELOPMENT CONTRACTS—Regulation 1501.1**

**477.0770 Charges for Nonrecurring Engineering.** Taxpayer, a manufacturer of semiconductor devices, designs circuit boards which it uses as a form of tooling to produce semiconductor devices for its customers. Taxpayer makes a separate charge designated as nonrecurring engineering (NRE) to cover the cost of design and manufacturing the circuit boards. Title to the circuit board and design file is retained by the taxpayer.

When the customer never receives title to, or possession of, the tooling, the tooling charges are regarded as part of the manufacturer's cost of manufacturing the finished product, which costs are passed on to the customer. The semiconductor devices are not purchased for resale and, thus, the charge for engineering is part of gross receipts from the sale of the semiconductor devices. Tax applies to the charges for manufacturing this board whether or not they are separately stated (e.g., a charge for the board and tooling) or billed as a single lump sum. 6/25/97.

**477.0775 Computer-Assisted Design (CAD).** A taxpayer is in the business of producing photoplots, which are manufacturing aids (tooling) used to produce printed circuit boards (PCBs). To create the photoplots, the taxpayer uses its computers and computer-aided design (CAD) software to design and layout the electronic components on PCBs, from paperwork and schematics provided by its customers. The CAD software is used to manipulate data and generate the optimum design for the boards. The taxpayer's photo lab then uses the CAD program to create the photoplots.

The taxpayer uses the photoplots to produce the printed circuit boards for its customer. The taxpayer's CAD design charges are separately stated from the charges for the photoplots (tooling). Customers' purchase orders either state that title to tooling transfers to the customer, that the tooling becomes the customer's property once the customer paid for it, or that title passes to the customer after a use of the tooling is already made.

Under Regulation 1501.1(b)(3), "CUSTOM-MADE ITEMS," tax applies to the entire contract price without regard to the fact that research, design, and development charges may be separately stated. In other words, the full costs of producing the tooling must be considered. Separately stated design charges do not change this. The photoplot is a mirror image of the PCBs which it produces. All the necessary engineering for the PCBs would have already occurred at the point in time when the photoplot is produced. Accordingly, the charges for the photoplot as well as the separately stated charges for CAD design are subject to tax.

Since some of the purchase orders contain clauses which only pass title to the customer after a use of the tooling is already made, a taxable use occurs before title transfers. Therefore, in those instances, tax is due on the taxpayer's material cost. If the taxpayer already paid tax on cost, it would not be entitled to a tax-paid purchases resold deduction on its subsequent sale of tooling. 2/26/97.

**477.1000 Design and Develop Contract.** A taxpayer entered into a contract with a customer to design and develop a custom test instrument for installation of fiber optic equipment. The contract called for initial delivery by the taxpayer of three prototypes to be used for primary evaluation of design and mechanical flaws. At later dates, eleven units were to be delivered consisting of changes and improvements as a result of the evaluation of the prototypes. This "final unit" delivery was to "include all documentation to manufacture and/or repair the units." The customer would exclusively own all intellectual property conceived or reduced to practice which related to the prototype test instruments. All other intellectual property conceived or reduced to practice and developed under the agreement by the taxpayer would be jointly owned by the taxpayer and the customer. All tangible materials including but not limited to records, drawings, models, apertures, samples and the like conceived or produced in the design and development of the test instruments by the taxpayer, including all documents required to manufacture and/or repair the test instruments, were to be delivered to the customer no later than upon delivery of the "final units."

In analyzing the contract between the taxpayer and the customer, a distinction must be made between the contract to manufacture a custom-made item (a sale) and the contract to provide research and development

(a service). From the language of the contract, it is apparent that the customer wanted the test instruments designed and developed so that the customer would have the option to manufacture and sell the instruments. In other words, the customer was not merely interested in the production of custom made items for its own consumption or resale, but wanted to obtain all information necessary to both manufacture and repair the test instruments. The delivery of the first three units (prototypes) were for primary evaluation which consisted of testing for verification of a design to specifications and also testing to determine if alternative design features are necessary. As such, charges related to the research and development of the first units and to their delivery to the customer for “primary evaluation” are not subject to sales tax under Regulation 1501.1.

It is not clear whether the “final units” delivered by the taxpayer are also prototypes transferred for informational and testing purposes. (Regulation 1501.1(a)(7).) However, it is possible the “final units” are sales of additional prototypes transferred in a qualified research and development contract for purposes other than informational testing and use. When a functional use occurs such as actual functional use by the customer of the “final units” to try out its installation of fiber optic equipment (i.e., the use for which the test instrument was designed) the sale of such units is subject to tax. (Regulation 1501.1(b)(2).) In other words, if the customer’s objective in receiving the “final units” is for functional use (use for which the property was designed) which occurs after completion of the research and development, the transfer of the “final units” is a sale subject to sales tax. Since the contract does not state a value for the “final units,” the measure of tax is the computed fair market value as determined by applying a factor of three to the cost of the direct materials used in the production of the “final units.” 1/3/96.

**477.2001 Manufacturer of Circuit Board.** The manufacturer’s testing of circuit boards is a part of its manufacturing process in order to sell or lease the board to its customers. Therefore, tax applies to its charges for testing whether or not these charges are separately stated on the manufacturer’s invoice to its customer. 6/25/97.