

Docket: 2008-3875(IT)G

BETWEEN:

JENTEL MANUFACTURING LTD.,

Appellant,

and

HER MAJESTY THE QUEEN,

Respondent.

Appeal heard on June 11, 2010, at Calgary, Alberta.

Before: The Honourable Justice Steven K. D'Arcy

Appearances:

Counsel for the Appellant: Trevor E. Fenton
Counsel for the Respondent: Margaret M. McCabe

JUDGMENT

The appeal with respect to the assessment made under the *Income Tax Act* for the Appellant's 2005 taxation year is dismissed.

Costs are awarded to the Respondent.

Signed at Ottawa, Canada, this 11th day of May 2011.

"S. D'Arcy"
D'Arcy J.

Citation: 2011 TCC 261
Date: 20110511
Docket: 2008-3875(IT)G

BETWEEN:

JENTEL MANUFACTURING LTD.,

Appellant,

and

HER MAJESTY THE QUEEN,

Respondent.

REASONS FOR JUDGMENT

D'Arcy J.

[1] The Appellant has appealed a notice of reassessment in respect of its fiscal year that ended on October 31, 2005. The issue before the Court is whether certain expenditures made by the Appellant during the fiscal year constituted expenditures on scientific research and experimental development (“SR&ED”).

[2] The parties filed a Statement of Agreed Facts (the “SAF”). In addition, I heard from two witnesses: Mr. Ralph Hahn, the owner and president of the Appellant, and Mr. Phillip Leong, a research technology advisor for the Canada Revenue Agency (the “CRA”).

[3] I found both witnesses to be credible. However, I have placed no weight on Mr. Leong’s testimony as most of his evidence was, in my view, opinion evidence.

Summary of the Relevant Facts

[4] The Appellant began operations in the fall of 1993. The SAF states that the Appellant develops and manufactures engineered thermoformed plastic products for consumer and industrial uses. Mr. Hahn described the Appellant as a plastic sheet thermoformer. He noted that the Appellant performs a significant amount of custom work for third parties, making such things as enclosures, displays, and tote bins. It also manufactures its own proprietary product, called Multi-Bins.

[5] The work the Appellant performed during its 2005 fiscal year with respect to the Multi-Bins is the subject of this appeal. This work is described in paragraphs 8 to 14 of the SAF as follows:

Substantive Facts

8. In previous fiscal years, Jentel had developed Multi-Bins, a small-parts storage system. Multi-Bins consisted of a plastic back panel with thermoformed plastic bin fronts screwed into place in rows. This original version of Multi-Bins could be configured for wall mounting or as a stand-alone floor unit. It was typically used for holding small parts and hardware at manufacturing workstations, in maintenance stores and in home workshops.
9. In fiscal 2005, Jentel was overhauling the Multi-Bins concept. The overall aim was to improve the existing product to make it a smaller and significantly lighter storage system. It would require less labour to manufacture, be easier to install and require less energy to transport. The measurable objectives were:
 - a. to increase the system's storage capacity to 20 cubic feet per square metre of footprint, or twice the industry standard;
 - b. for each bin front to be able to support a load of 100 lbs;
 - c. to develop a new "snap-fit" design for the bin fronts, to eliminate the need for fasteners;
 - d. to introduce modularity; and
 - e. to replace non-recyclable structural plastics, such as ABS, with recyclable ones, such as polypropylene.
10. In describing its work to CRA on the SR&ED claim form, Jentel grouped the work into four areas:
 - a. Bin Front and Back Panels
 - b. Stands

- c. Sliders
 - d. Dividers
11. Regarding the work performed on the Bin Front and Back Panels, during fiscal 2005:
- a. Jentel performed a series of tests under a variety of moulding conditions using at least 8 different plastic materials: PETG, PVC, acrylic, ABS, styrene, Lexan, HDPE and polyethylene.
 - b. For two of those materials (ABS and HDPE), further testing was carried out using varying thicknesses of material to determine strength characteristics.
 - c. Contemporaneous records of this work were kept.
 - d. This work was performed in a systematic manner.
12. Regarding the work performed on the Stands, during fiscal 2005:
- a. Jentel performed a series of tests in which it built test stands using different materials for some of the components: wood, wood/plastic combination, plastic and aluminum.
 - b. The tests were performed to measure the performance of components made from these materials against defined design and manufacturing criteria.
 - c. Load testing showed that aluminum was the best suited for the application.
 - d. Contemporaneous records of this work were kept.
 - e. This work was performed in a systematic manner.
13. Regarding the work performed on the Sliders, during fiscal 2005:
- a. Jentel designed and tested many various shapes and forms of sliders.
 - b. None of the sliders worked satisfactorily.
 - c. Contemporaneous records of this work were kept.
14. Regarding the work performed on the Dividers, during fiscal 2005:

- a. Jentel performed a series of tests in attempts to determine a method for moulding a groove in the front panel of the Multi-Bins to receive and hold the divider.
- b. In the course of these tests, Jentel tried 3 different moulds, each made of different casting materials, and many iterations of groove design in an attempt to create a groove in the part that could be manufactured on a consistent basis.
- c. Each of Jentel's attempts failed.
- d. Contemporaneous records of this work were kept.

[6] During his testimony, Mr. Hahn described the work performed by the Appellant on the Multi-Bins, focusing on the bin fronts, the back panels and the dividers.

The Law

[7] The only issue before the Court is whether the work performed by the Appellant constituted SR&ED, as that term is defined in subsection 248(1) of the *Income Tax Act* (the "Act").

[8] The relevant wording, for the purposes of this appeal, is contained in the *Act* at paragraph (c) of the above-mentioned definition, which reads as follows:

"scientific research and experimental development" means systematic investigation or search that is carried out in a field of science or technology by means of experiment or analysis and that is

...

(c) experimental development, namely, work undertaken for the purpose of achieving technological advancement for the purpose of creating new, or improving existing, materials, devices, products or processes, including incremental improvements thereto.

[9] Five criteria have been used by the Courts to assist in determining whether a particular activity constitutes SR&ED. These criteria were summarized by the Federal Court of Appeal in *C.W. Agencies Inc. v. The Queen*, 2001 FCA 393, 2002 DTC 6740, at paragraph 17, as follows:

1. Was there a technological risk or uncertainty which could not be removed by routine engineering or standard procedures?
2. Did the person claiming to be doing SRED formulate hypotheses specifically aimed at reducing or eliminating that technological uncertainty?
3. Did the procedure adopted accord with the total discipline of the scientific method including the formulation testing and modification of hypotheses?
4. Did the process result in a technological advancement?
5. Was a detailed record of the hypotheses tested, and results kept as the work progressed?¹

Application of the Law to the Facts

[10] After reviewing all of the facts, I have concluded that the work performed by the Appellant in 2005 did not constitute SR&ED. In my view, the work involved the Appellant using existing manufacturing processes and existing materials in an attempt to improve its existing product. This involved routine engineering and standard procedures.

[11] In discussing whether a technological risk or uncertainty existed, Justice Bowman (as he then was) noted the following in the *Northwest Hydraulic* decision at paragraph 16:

- a. Implicit in the term “technological risk or uncertainty” in this context is the requirement that it be a type of uncertainty that cannot be removed by routine engineering or standard procedures. I am not talking about the fact that whenever a problem is identified there may be some doubt concerning the way in which it will be solved. If the resolution of the problem is reasonably predictable using standard procedure or routine engineering there is no technological uncertainty as used in this context.
- b. What is “routine engineering”? It is this question, (as well as that relating to technological advancement) that appears to have divided the experts more than any other. Briefly it describes techniques, procedures and data that are generally accessible to competent professionals in the field.

¹ The criteria were first outlined in the decision of this Court by Justice Bowman (as he then was) in *Northwest Hydraulic Consultants Limited v. The Queen*, 98 DTC 1839 (the “*Northwest Hydraulic* decision”).

[12] The SAF notes that the purpose of the work was to “improve the existing product to make it a smaller and significantly lighter storage system. It would require less labour to manufacture, be easier to install and require less energy to transport.”

[13] The SAF lists the following measurable objectives of the work:

- a. to increase the system’s storage capacity to 20 cubic feet per square metre of footprint, or twice the industry standard;
- b. for each bin front to be able to support a load of 100 lbs;
- c. to develop a new “snap-fit” design for the bin fronts, to eliminate the need for fasteners;
- d. to introduce modularity; and
- e. to replace non-recyclable structural plastics, such as ABS, with recyclable ones, such as polypropylene.

[14] The SAF notes that the Appellant tried to attain these objectives by changing the type and thickness of the plastic used in the manufacture of the product (8 different types were used), by changing the moulds and the casting materials used for the moulds and by using different types of materials for the stand (wood, a wood/plastic combination, plastic, and aluminum).

[15] During his testimony, Mr. Hahn described the work performed by the Appellant in respect of the Multi-Bins. He focused on the Appellant’s use of two manufacturing processes (thermoforming and injection moulding), the use by the Appellant of what was referred to as a plug assist (or freezing) during the thermoforming process, and the use by the Appellant of different types of plastics and materials.

[16] There was no evidence before me that any of this work involved technological risk or uncertainty.

[17] Thermoforming and injection moulding are well-known manufacturing processes.

[18] Mr. Hahn described the thermoforming process as follows:

- Third-party extruders pour plastic resin (pellets) into a machine where it is heated and extruded into a sheet.
- A plastic sheet thermoformer, such as the Appellant, then takes the sheet and forms it into shapes using moulds, vacuums and air pressure.

[19] Mr. Hahn noted that the plastic sheet thermoformer specifies the required gauge and size of the plastic sheet and the type of plastic to be used. He noted that there are 12 different plastics that could be extruded for the Appellant's purposes. Mr. Hahn explained that one of the difficulties with this process is that when plastic resin is extruded, the properties of the resin used in the sheet are changed. The actual specifications of the extruded sheet are not known.

[20] Mr. Hahn described injection moulding as the process of designing a mould and then retaining a third-party injection moulder to inject plastic resin into the mould. A product is then produced from the shape contained in the mould. He noted that there are hundreds of different types of plastics that could be injection moulded for the Appellant's purposes. It appears that the primary constraint with respect to injection moulding is the cost of the mould.

[21] Mr. Hahn noted that the main difference between thermoforming and injection moulding was flexibility. Once a mould was designed for injection moulding it could not be changed, it would always produce the same part. However, a thermoformer can manipulate the thermoforming process in order to achieve a variation in the part.

[22] Mr. Hahn described in some detail how the Appellant used both thermoprocessing and injection moulding in attempting to design a better Multi-Bin. This involved different moulds, plastics and casting materials. After considering all of this evidence, it is my view that Mr. Hahn was simply describing the use of existing manufacturing processes in an attempt to build a better product, while controlling manufacturing costs. There was no evidence before me of an attempt to achieve a technological advancement.

[23] Mr. Hahn implied that the use of a "heat sink" by the Appellant while thermoforming constituted experimental development. However, this also appeared to be routine engineering or use of standard procedures. As Mr. Hahn stated during his testimony, the so-called heat sink was merely plug-assist forming technology that had "been out there for quite some time".

[24] Similarly, with respect to the use of different types of plastic resin or materials, I fail to see how this constitutes SR&ED.

[25] Counsel for the Appellant based his argument on the following premise:²

² Paragraph 26 of the Appellant's Closing Submissions.

Jentel adduced evidence from Ralph Hahn about his own observations and experience as to what work he and his staff did, why they did it, what they knew at the time, what their competitors were doing and what knowledge was available to them in the public domain. We submit that this establishes at least a *prima facie* case that Jentel was attempting technological advancements, and therefore was performing SR&ED. As a result, Jentel has “demolished” the Minister’s assumptions and the onus shifts to the Minister to prove his case. If the Minister adduces no evidence to rebut the taxpayer’s *prima facie* case, the taxpayer is entitled to succeed.

Hickman Motors Ltd. v. Canada, [1997] 2 S.C.R. 336 at paras. 92-94

[26] When assessing the Appellant, the Minister made the following assumptions:³

- (l) the Appellant failed to demonstrate a systematic investigation through experiment or analysis performed to resolve any scientific or technical uncertainties that may have arisen through the development of the [Multi-Bin] or its component parts; and
- (m) the work performed by the Appellant in its development of the Product or its component parts is in line with standard product development and does not represent scientific or technical advancement.

[27] I do not intend to discuss the legal merits of counsel for the Appellant’s argument. The argument fails for the simple reason that the Appellant did not establish a *prima facie* case that it was attempting technological advancement.

[28] As discussed previously, the evidence before me, particularly the SAF and the testimony of Mr. Hahn, demonstrates that the work performed by the Appellant with respect to the Multi-Bins involved the use of routine engineering and standard procedures. This evidence does not establish a *prima facie* case that the work was undertaken for the purpose of achieving technological advancement. As a result, the Appellant did not “demolish” the Minister’s assumptions.

[29] For the foregoing reasons, the appeal is dismissed with costs to the Respondent.

Signed at Ottawa, Canada, this 11th day of May 2011.

“S. D’Arcy”

D’Arcy J.

³ Paragraphs 13(l) and (m) of the Reply.

CITATION: 2011 TCC 261

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PLACE OF HEARING: Calgary, Alberta

DATE OF HEARING: June 11, 2010

REASONS FOR JUDGMENT BY:

DATE OF JUDGMENT: May 11, 2011

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