

BETWEEN :

ANNE-MARIE CHAGNON INC.,

appellant,

And

HIS MAJESTY THE KING,

respondent.

Appeal heard on May 24 and 25, 2022, in Montreal, Quebec

Before: The Honorable Judge Guy R. Smith

Appearances :

Appellant's representative: Yves Hamelin

Counsel for the Respondent: Mrs. Anna Kirk
Mrs. Anne Poirier

JUDGEMENT

The appeal from the assessment made under the Income Tax Act for the taxation year ending June 30, 2016, is dismissed, without costs, in accordance with the attached reasons for judgment.

Signed in Ottawa, Canada, this 24th day of March 2023.

"Guy Smith"
Justice Smith

Reference: 2023 CCI 35

Date: 20230324

File: 2020-1663(IT)I

BETWEEN :

ANNE-MARIE CHAGNON INC.,

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REASONS FOR JUDGMENT

Justice Smith

I. Overview

[1] This is an appeal of a reassessment made under the *Income Tax Act* (RSC 1985, c.1 (5th^{Supp.})), as amended. This assessment is dated December 20, 2018, and relates to the appellant's taxation year ending June 30, 2016.

[2] By this reassessment, the Minister denied the appellant a deduction of \$117,971 claimed as scientific research and experimental development ("SR&ED"), as well as the corresponding investment tax credit ("ITC") of \$37,764 for the year in question.

[3] The appellant specializes in the jewelry and goldsmith industry, and more specifically in the manufacture and resale of handcrafted jewelry. She began her activities with the manufacture of artisanal jewelry and, starting in 2013, added industrial production with the use of molds.

[4] For the year in question, the appellant claimed SR&ED expenditures related to the following projects:

1. 2015-01 – Improvements and development of secondary operations;
2. 2015-02 – Development of tools and design of molds.

II. The issues in dispute

[5] Do the activities carried out under these two projects constitute SR&ED activities within the meaning of the definition provided for in subsection 248(1) of the *Act*? If the Court concludes that it was not SR&ED, the appeal must be dismissed.

[6] If the Court concludes in the affirmative, it must then determine whether the expenses incurred by the appellant are deductible under section 37 and allowable for the calculation of the ITC under subsection 127(5) of the *Law*.

III. Assumptions of facts

[7] In order to establish the assessment referred to here, the Minister took for granted certain facts in paragraph 16 of the Response to the Notice of Appeal.

[8] Without repeating all of these assumptions of fact, suffice it to say that the first project entitled "Improvements and development of secondary operations" was a grouping of four sub-

projects which aimed to improve the polishing finishing procedures, manual finishing and 3D printing for the components of pewter jewelry and to improve the layout of the workshop.

[9] The Minister concluded, and I summarize, that the results were qualitative in nature, that they did not advance the appellant's scientific or technological knowledge and, generally, that the appellant had not been faced with scientific or technological uncertainty.

[10] Still according to the hypotheses of fact, the second project entitled "Development of tools and design of molds" was a grouping of ten sub-projects which aimed to create or optimize jewelry components and molds and to create or improve tools. The Minister also concluded that the results were qualitative and that there was no scientific or technological uncertainty or technological advancement.

IV. Applicable law

[11] Subsection 248(1) of the *Act* provides 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

- (a) basic research, namely, work undertaken for the advancement of scientific knowledge without a specific practical application in view,
- (b) applied research, namely, work undertaken for the advancement of scientific knowledge with a specific practical application in view, or
- (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, and, in applying this definition in respect of a taxpayer, includes
- (d) work undertaken by or on behalf of the taxpayer with respect to engineering, design, operations research, mathematical analysis, computer programming, data collection, testing or psychological research, where the work is commensurate with the needs, and directly in support, of work described in paragraph (a), (b), or (c) that is undertaken in Canada by or on behalf of the taxpayer,

but does not include work with respect to

- (e) market research or sales promotion,
- (f) quality control or routine testing of materials, devices, products or processes,
- (g) research in the social sciences or the humanities,

- (h) prospecting, exploring or drilling for, or producing, minerals, petroleum or natural gas,
- (i) the commercial production of a new or improved material, device or product or the commercial use of a new or improved process,
- (j) style changes, or
- (k) routine data collection; (*activités de recherche scientifique et de développement expérimental*)

[12] As noted by Justice Hogan in *1726437 Ontario Inc. (AirMax Technologies) v. The Queen*, 2012 TCC 376, the definition provided by the *Act* is based on a concept of "inclusion and exclusion" since it first includes a wide range of development activities in paragraphs (a) to (d), followed by items that are excluded in subparagraphs (e) to (k) (para. 13).

[13] It is well established that the governing decision is *Northwest Hydraulic Consultants Ltd. vs. The Queen*, [1998] 3 CTC 2520 ("*Northwest Hydraulic* ") where Judge Bowman, as he was then titled, established the following five criteria for determining whether work constituted SR&ED:

Q1: Was there any scientific or technological uncertainty that could not be eliminated by standard procedures or routine engineering studies?

Q2: Have assumptions specifically aimed at reducing or eliminating this uncertainty been formulated?

Q3: Was the overall approach taken consistent with systematic investigation or research, including formulating and testing hypotheses through experimentation or analysis?

Q4: Was the overall approach taken aimed at achieving scientific or technological advancement?

Q5: Was a detailed record or record of the hypotheses tested and results maintained during the work?

[14] The analytical framework thus established by Justice Bowman was adopted in *RIS-Christie Ltd. vs. Canada*, [1999] 1 CTC 132, *CW Agencies Inc. c. Canada*, 2001 FCA 393 ("*CW Agencies* "), *Kam-Press Metal Products Ltd. vs. Canada*, 2021 FCA 88 ("*Kam-Press* ") and more recently in *National R&D Inc. c. Canada*, 2022 FCA 72 ("*National R&D* "), all from the Federal Court of Appeal.

[15] In *Kam-Press*, the Court indicated that although there is no mention of the term "scientific method" in the definition of SR&ED, the court's role is not simply to recite the exact words that are used by the legislator, but to interpret the provisions of the *Act* or the *Regulations* based on a

textual, contextual and purposive analysis. The Court added that Justice Bowman was interpreting the definition of SR&ED (para. 6).

[16] “To be eligible for SR&ED, each of the questions in the five-factor test must be answered in the affirmative.” *Lehigh Hanson Materials Limited c. The Queen*, 2017 ICC 205, para. 37. In *CRL Engineering Ltd. vs. La Reine*, 2019 TCC 65, I made the following analysis, which the appellant repeated in paragraphs 10 to 15 of its written argument:

[7] Each of the questions in this “five-factor test” must be answered in the affirmative: *Lehigh Hanson Materials Limited v. The Queen*, 2017 TCC 205, para. 37. With respect to the first criterion, Justice Bowman clarified that the term “technical risk or uncertainty” must be such that it “cannot be removed by routine engineering or standard procedures” and that if “the resolution of the problem is reasonably predictable using a standard procedure or routine engineering, there is no technological uncertainty”. The term “routine engineering” would refer to “techniques, procedures and data that are generally accessible to competent professionals in the field” (para. 16).

[8] With respect to the second criterion, Justice Bowman indicated (para. 16) that this involves five steps including i) the observation of the subject matter of the problem; ii) the formulation of a clear objective; iii) the identification and articulation of the technological uncertainty; iv) the formulation of a hypothesis designed to reduce or eliminate the uncertainty and finally v) the methodical and systematic testing of the hypothesis or hypotheses. Although it was important to articulate the “technological uncertainty” at the outset of the project, an integral part of the process was the identification of new technological uncertainties as the research progresses using the “scientific method”.

[9] With respect to the third criterion, Justice Bowman clarified that “intuitive creativity and even genius may play a crucial role in the process” provided they operate within the total discipline of the scientific method, and that “what may appear routine and obvious after the event may not have been before the work was undertaken”. What is important is “the adoption of the entire scientific method” to remove “technological uncertainty through the formulation and testing of innovative and untested hypotheses” (para. 16).

[10] With respect to the fourth criterion, Justice Bowman indicated (para. 16) that it referred to “an advancement in the general understanding (...) to persons knowledgeable in the field” and that “the rejection after testing of a hypothesis is nonetheless an advance in that it eliminates one hitherto untested hypothesis”, adding that failure may reinforce “the measure of the technological uncertainty”.

[11] The fifth criterion is understood in the notion of the “scientific method”. Again Justice Bowman clarified that “a detailed record of the hypotheses, tests and results must be kept as the work progresses” (para. 16), though this is not specifically

required by the Act or the Regulations. This seems apparent since the expression “systematic investigation” appears in the opening words of the definition.

[12] Justice Bowman commented (para. 11) generally that “[m]ost scientific research involves gradual, indeed infinitesimal, progress. Spectacular breakthroughs are rare and make up a very small part of the results of SRED in Canada” before concluding that “the tax incentives given for doing SRED are intended to encourage scientific research in Canada” and that the legislative provisions should be given a “fair, large and liberal construction and interpretation as best ensures the attainment of its object” in accordance with section 12 of the Interpretation Act, R.S.C, 1985, c. I-21.

[my underline]

[17] According to well-established case law, it is up to the appellant to demonstrate, on a balance of probabilities, that the factual assumptions are incorrect. The appellant must satisfy the Court that its research activities meet the definition of SR&ED activities and that the expenses it incurred are deductible expenses for SR&ED activities under section 37 of the Act *and* eligible expenses for the calculation of the ITC.

V. The Evidence

[18] Before the start of the hearing, the respondent objected to the admissibility of the expert report produced by the appellant, on the grounds that it did not meet the criteria established by case law, namely relevance, necessity and sufficient qualification of the expert. After a *voir dire* was held, the Court concluded that it should declare the report inadmissible. The reasons were delivered orally.

[19] Mr. Denis Chagnon and Ms. Dulce Gutierrez testified for the appellant and Ms. Julie Bernier and Ms. Heather Filiatrault testified for the respondent.

Mr. Denis Chagnon

[20] Mr. Denis Chagnon (“Mr. Chagnon”) is the appellant's general manager and the artist's brother, Anne-Marie Chagnon (“Ms. Chagnon”).

[21] He first describes Ms. Chagnon's artistic process leading to the creation of the jewellery, but recognizes that this is the "artisanal" or "design" phase of the jewelry that will be part of the collection of the appellant for the year, but which is not at issue in this proceeding.

[22] He explains that Ms. Chagnon begins with sketches made by hand and then moves on to sculpting a number of pieces in wax. Through a "lost wax" process, these pieces are reproduced, and the wax is replaced with "a molten metal", either pewter or bronze to form a master piece. There can be several master pieces forming the same jewel. The master piece is then delivered to the tin foundry workshop, which must be able to reproduce it "on a basis of tens of

thousands of copies" before passing it on to the assembly team. To do this, there are two steps, the first of which is the manufacture of the molds and the second is to establish the type of finish for the parts.

[23] According to Mr. Chagnon, some parts are difficult to reproduce, and it is in the manufacture of the molds into which the pewter is poured for the reproduction of the said parts that they encounter difficulties. Each "collection" of jewelry contains "new pieces" hence the need to make several moulds. These molds are made of organic rubber and must be able to reproduce a part identical to the master part and to "respond to a certain number of factors determined by Ms. Chagnon in the mold part". In particular, they must be reproducible and capable of withstanding heat at a high temperature and rotation at high speed to allow the tin to fill the cavities.

[24] In cross-examination, Mr. Chagnon acknowledged that the manufacture of the main pewter parts was subcontracted to a pewter foundry until 2013 and that, subsequently, the appellant made investments to be able to do it internally. However, they encountered challenges given the lack of expertise.

[25] Mr. Chagnon admits that all the steps in the manufacture of the jewelry are carried out in the same factory, that the appellant has "a single workshop for the manufacture of castings" including the polishing or finishing of the jewellery, and that the same employees work on all the stages of the production of the factory, including "the activities claimed" in this proceeding. Mr. Chagnon explains that to determine which work can be claimed as SR&ED, it is only at the end of a given period that they review their notes to identify everything that is "ostensibly R&D", in particular with "the consultant".

[26] In re-examination, Mr. Chagnon explained that in the broad field of jewellery, there are "the jewelry jewels" which are the subject of several study programs at high school or CEGEP and which are not subject to large-scale replication. However, for the appellant, it is "costume jewels" which are "made in thousands of copies, on an assembly line, in an industrial way(...)" and therefore the technicians who have studied jewelry have not necessarily learned "how production machines work (...) or mold manufacturing". He explains that there was "a transfer of knowledge from craftsman to craftsman", but that the pewter manufacturing industry is dead today as it has been moved to Asia, so local expertise no longer exists or 'is hard to acquire'.

Ms. Dulce Gutierrez

[27] Ms. Gutierrez joined the Appellant in 2013 and has been head of the workshop since 2014. She has a university education as an electronics engineer and worked for a chemical company for approximately twelve years.

[28] Her role is to manage the production of the pieces, the production team, to receive the orders and to manage the development of the molds in collaboration with the designer for the current collections. She gives him her observations on the technical aspects that could have an impact on production. In particular, she identifies the parts that could create "problems or challenges".

[29] Ms. Gutierrez recounts her collaboration with the creative work of Ms. Chagnon's, stating that the reproduction of the wax sculpture by the lost wax process is carried out by an external supplier. They receive "a single prototype in bronze or silver" and this is the master piece or "master".

[30] She must then ensure the reproduction of the master piece, without damaging it, by a process of "spin casting" by creating "a master mold". She must produce an identical piece taking into account shape, texture, appearance and weight. Once successful, she must create "a production mold" which is given to the production workshop for the mass reproduction of the part in question. The production mold is made of rubber that needs to be vulcanized to harden. In this whole process, it must take into account, among other things, centrifugal and centripetal force, gravity, heat, time, rotational speed, the flow of tin in liquid form and the hardening in metal. She explains that she has to do this analysis at the beginning and that is when she formulates her hypotheses.

[31] Ms. Gutierrez then addresses the issue of jewelry finishing. She explains that in 2016, they had an external supplier who brought "the already oxidized parts to create an old *look*". This work has been taken up internally. However, after several attempts, they failed to slow down the jewelry oxidation process. Ms. Chagnon, therefore, opted for a shinier finish in silver or bronze. They had to experiment with "different types of media" and a rotary or vibratory polisher to arrive at an acceptable finish, "according to Ms. Chagnon's taste". Depending on the desired finish, she had to develop "a recipe" that would be used by the production team.

[32] She explains that she uses a notebook in which she notes said "recipes" and the time required to complete each step and each type of finish. She also takes note of her meetings and discussions with Ms. Chagnon.

[33] She adds that she must satisfy "the expectations of the designer", in particular, "her needs, her desires, what she wants to project". If Ms. Chagnon is not satisfied, she must start the process again, redo the tests and "formulate new hypotheses" both at the level of the part and at the level of the finish.

[34] In cross-examination, Ms. Gutierrez admitted that she had no "training or experience in molding" and little training in 3D design before joining the appellant. When asked to identify "the technological uncertainty" related "to the finishing procedures of the parts", she explains that it was necessary to "slow down the process of oxidation of the parts". This was the uncertainty that came with the decision to do this work in-house rather than leaving it to the old supplier. Then, there was uncertainty related to how to achieve a shiny finish, according to the desires of the designer.

[35] Ms. Gutierrez also explains that she had prepared an Excel table to record the "technological problem to be solved", "the technological objective", "the hypothesis related to the activity", the "result of the activity carried out" and the hours spent per employee followed by the applicable expenses. According to her, there were "technological uncertainties", but some were rather a "challenge, something that we had not done before" for which she had "no knowledge" or even when there had been a lack of "knowledge transfer".

Mrs. Julie Bernier

[36] Ms. Bernier is a Research and Technology Advisor with the Canada Revenue Agency (“CRA”). She has a background in chemical engineering, a master's degree in manufacturing management and practical experience in research and development, the manufacture of molded parts and the design of molds.

[37] She visited the Appellant's premises “to fully understand their operations” and then completed the SR&ED review report. She did an overall analysis of the operations and concluded that there was no scientific or technological uncertainty or technological advancement. She tried to review the activities as a sub-project but came to the same conclusion.

[38] Ms. Bernier concluded that there was "a mixture of activities" without "systematic investigation" carried out "by trial and error to see if it worked or not" and therefore there was no systematic investigation. In addition, she concluded that the appellant "used techniques known in the molding industry" where it is often necessary to "make a few iterations and then sometimes start the mold again" and therefore there was no scientific or technological uncertainty. Ultimately, she saw no connection between research and development and the mass production of jewelry where the primary focus was the aesthetic or visual aspect of the piece.

[39] In cross-examination, Ms. Bernier acknowledged that she carried out about twenty SR&ED audits per year, including about five in the area of molds, but none in the area of jewellery. She acknowledged that depending on the context of the business, it was possible that “qualitative” elements were important in SR&ED, but that it was more at the level of precision.

Ms. Heather Filiatrault

[40] Ms. Filiatrault holds a bachelor's degree in chemistry, a doctorate in electronics and did postdoctoral work in an electrochemistry laboratory. She has been with CRA since 2016 and has been a Research and Development Advisor since 2020. Her work has focused on metalworking and jewelry, among others.

[41] For the audit in question, she reviewed the examination report prepared by Ms. Bernier and completed an addendum to her examination report following receipt of the appellant's representations. Since her analysis forms the basis of the assessment, there is no need to review her testimony in more detail.

[42] In cross-examination, she indicated that in her work with the CRA, she had carried out only one other verification in the field of jewellery, but with commercial and not artisanal production.

[43] She reiterated her understanding that Ms. Bernier took a holistic approach to determine if there was any technological uncertainty and then reviewed the various sub-projects. She came to the same conclusion.

VI. Analysis and conclusion

[44] First, the Court agrees with the respondent that notwithstanding the guides on the eligibility of SR&ED projects published by the Agency, the applicable law is still that of the Northwest Hydraulic decision which was repeated and confirmed in many decisions of the Federal Court of Appeal.

[45] Was there a scientific or technological uncertainty that could not be eliminated by standard procedures or routine engineering studies?

[46] In *Northwest Hydraulic*, Judge Bowman explained that there is "technological risk or uncertainty" when a problem cannot be "removed by routine engineering or standard procedures (...) generally accessible to competent professionals in the field", otherwise there is no technological uncertainty (para. 16). This knowledge must "really not exist in the base of scientific or technological knowledge, not simply be unknown to the claimant.": *Formadrain Inc. c. The Queen*, 2017 ICC 42 (para. 93). In other words, "the creation of a new product through the application of techniques, procedures and data generally accessible to competent specialists in the field will not constitute an SR&ED activity, even if there is doubt as to how the objective will be achieved": *Béton Mobile du Québec Inc. c. The Queen*, 2019 ICC 278, para. 43. The Respondent summarizes this in its written pleadings by stating that there is "no resolution of technological uncertainty if competent specialists in the field can solve problems in a predictable way using common and established techniques".

[47] In this proceeding, Mr. Chagnon talks about the challenges following the appellant's decision to produce key parts in-house, indicating that "we were not able to be as good as our supplier". There would have been a problem at the level of the "transfer of knowledge", but this knowledge already existed since he admitted that it was transmitted from craftsman to craftsman. The Court is of the opinion that it is logical to conclude that this supplier would also have had the knowledge necessary to manufacture the production moulds.

[48] Similarly, Ms. Gutierrez spoke of technological uncertainty while specifying that it was often a "problem" or "challenges" due to her "lack of knowledge". The Court further notes that the challenges in terms of finishing the parts arose when the appellant also decided to do this work internally. Furthermore, Ms. Gutierrez admitted that she had no knowledge in the field of molding before joining the appellant. She was therefore at the learning stage. It is the same for the finishing of the parts.

[49] The Court is of the opinion that the appellant could have solved the problems related to the manufacture of the molds and the finishing of the parts by "routine technical studies" or "usual procedures" known to "competent specialists in this field" and that the evidence as a whole demonstrates that there was no technological or scientific uncertainty. The same is true for the other sub-projects, including 3D printing and the improvement of the workshop.

[50] In the end, the Court is of the opinion that the appellant has not met its burden of proof and has not demonstrated, on a balance of probabilities, that there was technological uncertainty or that its activities constituted SR&ED activities. There is therefore no need to review the question of eligible expenses.

[51] The Court, therefore, concludes that the appellant's activities did not constitute SR&ED within the meaning of the definition in paragraph 248(1) of the *Act*.

[52] The appeal is dismissed without costs.

Signed at Ottawa, Canada, this 24th^{day} of March 2023.

"Guy Smith"
Justice Smith

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