

Docket: 2020-1663(IT)I

BETWEEN:

ANNE-MARIE CHAGNON INC.,

Appellant,

and

HIS MAJESTY THE KING,

Respondent.

[OFFICIAL ENGLISH TRANSLATION]

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

Before: The Honourable Justice Guy R. Smith

Appearances:

Agent for the Appellant: Yves Hamelin

Counsel for the Respondent: Anna Kirk  
Anne Poirier

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**JUDGMENT**

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 at Ottawa, Canada, this 24th day of March 2023.

“Guy Smith”

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Smith J.

Citation: 2023 CCI 35  
Date: 20230324  
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### **REASONS FOR JUDGMENT**

Smith J.

#### **I. Overview**

(1) This is an appeal from a reassessment made under the *Income Tax Act*, R.S.C., 1985, c. 1 (5th Supp.), as amended. This assessment in respect of the appellant for the taxation year ending June 30, 2016 was dated December 20, 2018.

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

(3) The appellant specializes in the jewelry and goldsmith industry and more specifically in the manufacture and resale of handcrafted jewelry. She began her operations by manufacturing handcrafted jewelry and in 2013 initiated industrial production with the use of moulds.

(4) For the year at issue, the appellant claimed SR&ED expenditures related to the following projects:

1. 2015-01 – Improvements and development of secondary operations;
2. 2015-02 – Tool development and mould design.

## **II. Issues**

(5) Do the activities performed within the framework of these two projects constitute SR&ED activities within the meaning of the definition set out in subsection 248(1) of the Act? If the Court finds that the activities did not constitute SR&ED, the appeal must be dismissed.

(6) If the Court finds that they did constitute SR&ED, it must then determine whether the expenditures incurred by the appellant are deductible under section 37 and may be used to compute the ITC under subsection 127(5) of the Act.

## **III. Assumptions of fact**

(7) In making the assessment at issue here, the Minister assumed certain facts in paragraph 16 of the Reply to the Notice of Appeal.

(8) Without reviewing all of these assumptions of fact, suffice it to say that the first project entitled “Improvement and Development of Secondary Operations” was a group of four sub-projects that aimed to improve the polishing finishing, manual finishing and 3D printing of pewter jewelry components and improve the layout of the workshop.

(9) In summary, the Minister found that the results were qualitative and did not advance the appellant’s scientific or technological knowledge and, generally, that the appellant did not have to deal with scientific or technological uncertainty.

(10) Also according to the assumptions of fact, the second project entitled “Tool Development and Mould Design” was a group of 10 sub-projects that aimed to create or optimize jewelry components and moulds and create or improve tools. The Minister again found 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 stipulates the following:

**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 the Honourable Mr. Justice Hogan indicated in 1726437 Ontario Inc. (AirMax Technologies) v. The Queen, 2012 TCC 376, the definition set out in the Act is based on a “catch and release” concept because it includes a broad category of developmental activities under paragraphs (a) to (c), then items otherwise included are excluded under paragraphs (e) to (k) (at paragraph 13).

(13) It is settled law that the leading case is *Northwest Hydraulic Consultants Ltd. vs. The Queen*, [1998] 3 CTC 2520 (*Northwest Hydraulic*) where the Honourable Mr. Justice Bowman, as he then was, set out the following five criteria for determining whether work constitutes SR&ED:

Q1: Was there a scientific or technological uncertainty which could not be removed by routine engineering or standard procedures?

Q2: Were hypotheses specifically aimed at reducing or eliminating that technological uncertainty formulated?

Q3: Was the overall procedure adopted consistent with routine investigation research including the formulation and testing of hypotheses through experiments or analysis?

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

Q5: Was a detailed record or report of the hypotheses tested and results kept as the work progressed?

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

(15) In *Kam-Press*, the Court indicated that even though there was no mention of the term “scientific method” in the definition of SR&ED, the role of the court is not merely to recite the exact words that are used by Parliament, but to interpret the provisions of the Act or Regulations based on a textual, contextual and purposive analysis. The Court added that Bowman J. was interpreting the definition of SR&ED (at paragraph 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 v. The Queen*, 2017 TCC 205, at paragraph 37. In *CRL Engineering Ltd. v. The Queen*, 2019 TCC 65, I made the following analysis, which the appellant took up at paragraphs 10 to 15 of her written argument:

[7] (. . .) 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 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 v, 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 a “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 field (sic)” and that “the rejection after testing of an 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 “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.

(Emphasis added.)

(17) It is settled law that it is for the appellant to demonstrate, on a balance of probabilities, that the assumptions of fact are incorrect. The appellant must satisfy the Court that her research activities meet the definition of SR&ED activities and that the expenditures she incurred are deductible as SR&ED expenditures under section 37 of the Act and may be deducted in computing the ITC.

## **V. 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, i.e. the relevance, necessity and sufficient qualification of the expert. After a *voir dire*, the Court found that it should declare the report inadmissible. The reasons were delivered orally.

(19) Denis Chagnon and Dulce Gutierrez testified for the appellant, and Julie Bernier and Heather Filiatrault testified for the respondent.

### **Denis Chagnon**

(20) Denis Chagnon (Mr. Chagnon) is the appellant's general manager and the brother of the artist Anne-Marie Chagnon (Ms. Chagnon).

(21) He first described the artistic process that Ms. Chagnon follows to create jewelry, but recognized that this was the "handcrafting" or "design" phase of the jewelry that would be part of the appellant's collection for the year, but which was not at issue in this proceeding.

(22) He explained that Ms. Chagnon starts with hand-made sketches and then sculpts a number of pieces in wax. These pieces are reproduced using a lost-wax process during which the wax is replaced with "a molten metal", either pewter or bronze to make a master. It may take several masters to make one jewel. The master is then sent to the pewter foundry shop, which must have the capacity to reproduce "tens of thousands of copies" before they are sent to the assembly team. This is a two-step process. The first is to manufacture the moulds, and the second is to establish the type of finish for the pieces.

(23) According to Mr. Chagnon, some pieces are difficult to reproduce. Where they run into difficulties is in manufacturing the moulds in which the pewter is to be

poured to reproduce the pieces. Each jewelry “collection” contains “one-of-a-kind pieces” hence the need to make multiple moulds. These moulds are made of organic rubber and must be designed to reproduce a piece identical to the master and “comply with a number of factors determined by Ms. Chagnon in the moulding step”. In particular, they must be reproducible and able to withstand high temperatures and high rotation speeds to ensure that the pewter fills every cavity.

(24) On cross-examination, Mr. Chagnon acknowledged that the manufacture of the pewter masters was subcontracted to a pewter foundry until 2013 and that, subsequently, the appellant invested in equipment to manufacture them internally. However, they encountered challenges given their lack of expertise.

(25) Mr. Chagnon admitted that all the steps in the manufacture of the jewelry are performed in the same factory. He said the appellant has “a single workshop for manufacturing castings” including the polishing or finishing of the jewelry. He also said the same employees work on all phases of the factory’s production, including “the activities for which claims were submitted” in this proceeding. Mr. Chagnon explained that they only review their notes at the end of a given period to identify everything that is “apparently R&D”, in particular with “the consultant” and to determine which work can be claimed as SR&ED expenditures.

(26) On re-examination, Mr. Chagnon explained that “fine jewelry” is part of the broad spectrum of jewelry. Several programs in high school or CEGEP deal with fine jewelry, which is not reproduced on a large scale. However, according to the appellant, these items are “costume jewellery”. “Thousands of copies are made on an industrial assembly line (...)” Therefore technicians who have studied jewelry may not have learned “how the production (...) or mould manufacturing machinery works.” He explained that “knowledge was transferred from craftsman to craftsman”, but that “the pewter making industry is dead today” because it was transferred to Asia. As a result, local expertise no longer exists or is “hard to come by”.

### **Dulce Gutierrez**

(27) Ms. Gutierrez joined the appellant in 2013 and has been the shop foreman since 2014. She has a university degree in electronic engineering and worked about 12 years for a chemical company.

(28) She is responsible for managing production of the pieces, the production team, receiving orders and managing the development of the moulds in conjunction with



the designer for the current collections. She provides the appellant with observations on technical issues that could affect production. In particular, she identifies pieces that could create “problems or challenges”.

(29) Ms. Gutierrez told the Court how she collaborated with Ms. Chagnon on her creative work, noting that an external supplier reproduced the wax sculpture using the lost wax process. They received “a single bronze or silver prototype”. This was the master.

(30) She then had to reproduce the master without damaging it. She used the “spin casting” method, which involved creating “a master mould”. She had to produce an identical piece taking into account its shape, texture, appearance and weight. After creating a master mould, she had to create a “production mould” which was sent to the production shop where it was used for mass reproduction of the piece. The production mould was made of rubber that needed to be vulcanized to make a hard mould. Throughout this whole process, she had to take various factors into account including centrifugal and centripetal force, gravity, heat, time, rotational speed, flow of liquid pewter and metal hardening. She explained that she had to perform this analysis at the beginning and that was when she formulated her hypotheses.

(31) Ms. Gutierrez then discussed jewelry finishing. She said that in 2016, they had an outside supplier who brought in “pre-oxidized parts to create an old look.” They tried to perform this work in-house. However, after several attempts, they were unable to slow down the jewelry oxidation process. Ms. Chagnon therefore opted for a shinier silver or bronze finish. They had to experiment with “different types of media” and a rotary or vibrating polisher to come up with a finish that suited “Ms. Chagnon’s taste.” Depending on the desired finish, she had to develop “a recipe” for the production team to follow.

(32) She said she used a notebook where she recorded her “recipes”, the time required to complete each step and each type of finish. She also noted the meetings and discussions she had with Ms. Chagnon.

(33) She also said she had to meet “the designer’s expectations”, including “her needs and desires and what she wanted to project”. If Ms. Chagnon was not satisfied, she had to redo the process, which involved running new trials and “formulating new hypotheses” both in terms of the piece and the finish.

(34) On cross-examination, Ms. Gutierrez acknowledged that she did not have any “moulding training or experience” and little 3D design training before joining the

appellant. When asked to identify the “technological uncertainty” related to “piece finishing procedures”, she said the “piece oxidation process had to be slowed down”. This uncertainty arose from the decision to perform this work in-house rather than having the former supplier do it. There was also uncertainty related to achieving a glossy finish, that met the designer’s requirements.

(35) Ms. Gutierrez also said she had created an Excel table to record the “technological problem to be solved”, “the technological objective”, “the hypothesis related to the activity”, the “outcome of the activity performed” and hours spent per employee, followed by applicable expenditures. According to her, there were “technological uncertainties”. However some were more of akin to a “challenge, something that we hadn’t done before” of which she had “no knowledge” or where there had been a lack of “knowledge transfer”.

### **Julie Bernier**

(36) Ms. Bernier is a Canada Revenue Agency (CRA) Research and Technology Advisor. Trained as a chemical engineer, she has a master’s degree in manufacturing management and practical experience in research and development, the manufacture of moulded parts and mould design.

(37) She visited the appellant’s premises “to develop a clear understanding of their operations.” She then completed the SR&ED review report. She performed an overall analysis of the operations and found that there was no scientific or technological uncertainty or technological advancement. She tried to review the sub-project activities, but came to the same conclusion.

(38) Ms. Bernier found there was “a mixture of activities” without “systematic investigation” done “by trial and error to see if it worked or not” and therefore there was no systematic investigation. She also found that the appellant was “using known moulding industry techniques” where often “a few iterations must be performed, and the mould must sometimes be redone”. Therefore there was no scientific or technological uncertainty. Ultimately, she did not see any connection between research and development and the mass production of jewelry where the primary focus was the aesthetic or visual appearance of the piece.

(39) On cross-examination, Ms. Bernier acknowledged that she performed about 20 SR&ED audits per year, including about five in the field of moulds, but none in the field of jewelry. She recognized that depending on the business, “qualitative” elements may be important in SR&ED, but more in terms of precision.

### **Heather Filiatrault**

(40) Ms. Filiatrault has a bachelor's degree in chemistry, a doctorate in electronics, and she completed a post-doctorate in an electrochemical laboratory. She has been with the CRA since 2016 and has been a Research and Development Advisor since 2020. Her work has focused on metallurgy and jewelry.

(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 the assessment was based on her analysis, there is no need to review her testimony in greater detail.

(42) On cross-examination, she indicated that she had performed only one other jewelry audit for the CRA, but that it involved commercial production and not handcrafted production.

(43) She reiterated that she understood that Ms. Bernier took a holistic approach to determining whether 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 current applicable law was set out in *Northwest Hydraulic*, which was taken up and confirmed in many decisions of the Federal Court of Appeal.

(45) Was there a scientific or technological uncertainty which could not be removed by routine engineering or standard procedures?

(46) In *Northwest Hydraulic*, Bowman J. explained that there is a "technical 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 (at paragraph 16). This knowledge must "really not exist in the base of scientific or technological knowledge, not simply be unknown to the claimant": *Formadrain Inc. v. The Queen*, 2017 TCC 42 (at paragraph 93). In other words, "creating a new product using techniques, procedures and data that are generally accessible to competent professionals in the field is not SR&ED even if there is doubt concerning the way in which the objective will be achieved": *Béton Mobile du Québec Inc. v. The Queen*,

2019 TCC 278, at paragraph 43. The respondent summarized this in his written pleadings indicating that there is (TRANSLATION) “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 talked about the challenges following the appellant’s decision to produce the masters in-house, indicating that (TRANSLATION) “we were unable to be as good as our supplier.” Apparently, there was a problem with 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 find that this supplier would also have had the knowledge required to manufacture the production moulds.

(48) Similarly, Ms. Gutierrez talked about technological uncertainty while specifying that the uncertainty was often a “problem” or “challenges” arising from her “lack of knowledge”. The Court further notes that the challenges involved in finishing the pieces arose when the appellant also decided to perform this work in-house. Furthermore, Ms. Gutierrez admitted that she had no knowledge of moulding prior to joining the appellant. She was therefore at the apprenticeship level. The same applies to piece finishing.

(49) The Court is of the opinion that the appellant could have solved the problems related to manufacturing the moulds and finishing of the pieces by following “standard procedures” or by using “routine engineering” known to “competent specialists in this field” and that the overall evidence demonstrates that there was no technological or scientific uncertainty. The same is applies to the other sub-projects, including 3D printing and improving the workshop.

(50) Ultimately, the Court is of the opinion that the appellant did not meet her burden and did not demonstrate, on a balance of probabilities, that there was technological uncertainty or that her activities constituted SR&ED activities. There is therefore no need to review the issue of eligible expenditures.

(51) Accordingly the Court finds that the appellant’s activities did not constitute SR&ED within the meaning of the definition set out 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”  

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Smith J.

CITATION: 2023 TCC 35

COURT FILE NO.: 2020-1663(IT)I

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APPEARANCES:

    Agent for the appellant: Yves Hamelin

    Counsel for the respondent: Anna Kirk  
    Anne Poirier

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