Tax Court of Canada Judgments

Dock Edge + Inc. v. The Queen

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Docket: 2016-539(IT)G

BETWEEN:

DOCK EDGE + INC.,

Appellant,

and

HER MAJESTY THE QUEEN,

Respondent.

Appeal heard on May 8-9-10, 2018, at Toronto, Ontario

Before: The Honourable Justice B. Russell

Appearances:

Counsel for the Appellant:	Harvey S. Consky Rana Nosrat Panah
Counsel for the Respondent:	H Annette Evans Kelly Smith Wayland

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JUDGMENT

The appeal from the reassessment raised March 8, 2013 under the federal *Income Tax Act* for the Appellant's 2011 taxation year, ended August 31, 2011, is dismissed, with costs.

Signed at Halifax, Nova Scotia, this 16th day of January 2019.

"B. Russell"

Russell J.

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BETWEEN:

DOCK EDGE + INC.,

Appellant,

and

HER MAJESTY THE QUEEN,

Respondent.

REASONS FOR JUDGMENT

Russell J.

Introduction:

[1] The appellant, Dock Edge + Inc. (DEI), is a privately held Canadian company with head office in Woodbridge, Ontario, engaged in the manufacture and sale of various marine products for docks and boats - within Canada and internationally. DEI appeals the March 8, 2013 reassessment under the federal *Income Tax Act* (Act) of its 2011 taxation year ended August 31, 2011. In so reassessing the Minister of National Revenue (Minister) denied DEI's claim that certain expenditures in that taxation year totalling $204,786 were scientific research and experimental development (SR&ED) "qualified expenditures". This led the Minister to deny claimed SR&ED investment tax credits (ITCs) of $71,675.

[2] These SR&ED tax incentives were claimed in respect of five projects DEI had undertaken in its 2011 taxation year, being:

a) illuminated dock cleat development;

b) flush mount solar dock light development;

c) boat fender valve development;

d) dock bumper corner material development; and

e) pvc recycling development.

[3] The issue is whether the Minister erred in so reassessing.

Evidence:

[4] At the hearing two witnesses testified for DEI - Michael Szwez and George Prendergast. The respondent Crown called no witnesses. Neither party sought to call any expert witnesses.

[5] Michael Szwez testified that he was a lawyer by training and had practised law for a year before joining the family business, DEI, earlier commenced by his father Walter (Wally) Szwez. He was and is a director of DEI, also is in charge of sales and marketing and he also managed DEI's product development committee. He annually attends most of 25 marine trade shows in Canada and abroad, to keep abreast as to what marine products are on the market, where the demand is and potential for innovation. He sometimes has been held out as "general counsel" of DEI although he professed not to have been particularly cognizant of that. Two brothers - Christopher and David - also were DEI senior employees - neither with a scientific or engineering background. Wally Szwez remains active as the head - presumably president - of DEI. He has no scientific or engineering training either but as of 2011 had some 30 years experience (as stated in the SR&ED application) in the marine and recreational industries. Michael Szwez also has no scientific or engineering training, but currently has some 20 years of experience with DEI.

[6] DEI's product development committee was an in-house committee. It would supervise whatever new product or process projects were on the go. It operated utilizing a "PDCA" corporate format approach to its work – said by Michael Szwez to mean Plan, Develop, Conclude/Correct, Act. The frequency of this committee's meetings was variable - apparently at times twice a day and other times maybe twice a week or less. No records were kept detailing discussions at meetings of the committee. Meeting room whiteboards were used to write information on, but would not for long escape being erased. At these meetings apparently would be discussed new information in respect of any ongoing project(s), including any testing results, with a view as to what to do next. Michael Szwez referred to anticipated and actual obstacles as "challenges", and in testimony tended to equate that word indiscriminately with the term "technological uncertainties" (of which more below). Also he tended to refer to project goals or targets as "hypotheses".

[7] Walter, Michael, Christopher and David Szwez were the primary members of this internal committee. Other persons would also attend meetings of this committee depending on which project was being discussed. David Fleming was a regular attendee of this committee's meetings in 2011. Apart from Michael Szwez no members of this internal committee were called as witnesses, nor were any DEI employees or consultants having actual hands-on experience in and/or specific responsibility for DEI's production processes. We heard little evidence as to specific testing methods and/or processes.

[8] The aforementioned David Fleming was described as a former employee and subsequently a consultant of DEI. Michael Szwez said he thought Mr. Fleming was an engineer. However, Mr. Fleming's description in the SR&ED application reads that he was a, "machinist, mechanic and industrial engineering technologist". Mr. Fleming was not called as a witness and DEI counsel did not assert he was an engineer. An unnamed third party developed prototype dies. That person did not testify either.

[9] Michael Szwez described the above noted five projects. The first was the illuminated dock cleat development project. The goal was to produce a dock cleat with, embedded in its structure, a solar light, akin to a solar garden light, able to withstand a marine environment and meeting specified capabilities of illumination and duration, and with the dock cleat itself retaining necessary strength and sturdiness. DEI, with its world-wide contacts, was unaware of the existence of any comparable dock cleat with built-in illumination. Several prototypes were prepared as testing proceeded. Variables in the development of this solar cleat were several, including water salinity, whether to use silicone or glue, effect of moisture and corrosion, whether and if so how to vent, optimal die casting, size of solar light cavity and size of cleat footprint.

[10] Research was done by Michael Szwez and/or other members of the DEI product development committee and also by consultant Mr. Fleming. Research included "googling" relevant topics generally relating to structural integrity and illumination capacity, *i.e.* becoming informed as to technical aspects, and reviewing patents. Testing was done including at the family cottage in Georgian Bay and through so-called third party field testing, in the form of obtaining customer feed-back upon distribution through sale of some 3,000 prototype style cleats throughout DEI's extensive domestic and international sales network.

[11] The evidence left unclear whether these customers knew they were buying a product still at the testing stage. In any event apparently some 150 customers purchasing these initial solar cleats provided feed-back over an ensuing year, particularly to report problems such as water leakage into the solar light cavity and or longevity of the light itself. Such feed-back led to and informed design

changes. Ultimately an illuminating dock cleat was developed that DEI found acceptable as to performance, and the product became included in DEI's commercial offerings.

[12] Michael Szwerz stated (transcript, pp. 55-56):

> Essentially what we decided through an analysis is that on a weekly basis, we allocated a percent of our time that was put aside for research and development on the particular project, and in all projects as it went through. We would then take that into account with field testing that we would be required to do, and that might be going up north [of Toronto, to Georgian Bay area] and visiting a dock builder, and seeing what his analysis was, and working with him at that point. It's very difficult on a field test to sort of pinpoint the exact time that you spent conducting these tests. As you can imagine, it was not always controlled tests. We needed to have a lot of field testing done because that's where we were going to get the true results of what we needed to do... [Underlining added for emphasis]

[13] The second project was development of a flush mount solar dock light. It is a solar light recessed in a dock (such as a dock made of aluminum), of course to illuminate upwards. It could serve to illuminate dock steps. Claimed "uncertainties" in this project included electrolysis inherent as between two metals, including where two differing metals, such as aluminum and galvanized steel, are present. Testing led to trying a teflon coating of the light, then a plastic gasket coating and finally a rubber gasket coating. Michael Szwez testified [transcript, p. 77] that in this project, "[t]he uncertainty was developing a solar panelled light that could be placed inside an aluminum structure in a marine environment that would be utilized in an area where there could potentially be electrolysis and galvanic reactions."

[14] He said also that there was much research on behalf of the committee regarding solar technology and galvanic reactions. Fresh water field testing was carried out by Christopher Szwez in the Georgian Bay area and also prototypes were sent to saltwater areas for testing. Mr. Fleming helped source some materials for prototype construction. DEI counsel asked what DEI had learned in this project, and asked this also for most or all of the other projects. What was not asked was whether and if so what general knowledge new to the pertinent scientific community had been developed.

[15] The third project was the boat fender valve development. DEI's roto moulded inflatable fenders leaked air, from the air valve edges. DEI sought to change the valve type from a glued in screw valve to a basketball style needle valve, moulded into the material of the fender itself. This would eliminate valve edges through which air tended to escape. The functional objective was that in piercing a valve using an air needle, the hardness of the fender material

had to be such that upon the needle's withdrawal the material would immediately self-seal, preventing air escape.

[16] Basketballs have had this technology for a long while, but the difference here was that boat fenders have to be able to withstand substantial external pressures from boats pressing up against docks. Basketballs just have to bounce. The variables were material design and composition including hardness/elasticity, and the moulding process. An inserted needle would tear material that was too hard and material too soft would not seal itself.

[17] DEI's materials supplier made up compositions of plastisol (the material of fenders) having differing measures of hardness. Two persons involved in this, in addition to the four Szwez family members and Mr. Fleming, were DEI's roto moulding production manager Anthony Maccia, and a related company's warehouse manager Sal Peruzza who had 50 years of roto moulding and extrusion experience. They tested variations of material compositions going through the moulding process. Ultimately the group came up with an acceptable material composition and moulding process. Again there was substantial field testing via customers as to actual usage. Neither of Messrs. Maccia and Peruzza were called to give evidence.

[18] The fourth project was the dock bumper corner material development. Some corner bumpers had been returned for looking like they had been set on fire or damaged by ultraviolet radiation (UV). Field testing showed DEI's initial theory, or hypothesis, that this was caused by a particular dock stain, as incorrect. Other testing showed it was not an incident of the moulding process. Ultimately the DEI committee concluded it was a pigment issue, noting that this damage only happened to beige coloured corner bumpers, not as well or at all to the black, white, green and grey corner bumpers DEI also sold.

[19] The matter was then referred to a third party laboratory for pigment testing, with that lab concluding that the beige pigment was unstable not during the moulding process but when it reacted with sunlight and UV inhibitors placed in the plastisol moulding material. DEI moulds, but does not make the pigment, which is purchased for DEI to apply. DEI's material compound supplier had never heard of this so it had been left to DEI to pursue the question. Again the four family members on the committee were involved, plus Messrs. Peruzza and Fleming. This was resolved by somewhat adjusting the respective amounts of pigmentation, UV stabilizers and plastisol in the moulding compound for beige dock corners. Three pages of notes, attributed by Michael Szwez to Mr. Fleming, appearing to contemporaneously reference steps taken in this project between March and August of 2011, were accepted into evidence [Exhibit A-1, pp. 290-2]. As noted, Mr. Fleming did not testify.

[20] Finally, project five was the pvc (in the form of plastisol) recycling development project. DEI utilized pvc in the manufacture of products utilizing two different processes - roto moulding and extrusion. In the roto moulding process there is typically substantial cured pvc scrap left over, including defective product itself. The idea was to re-cycle this otherwise waste material through use in the other extrusion process, *i.e.*, the extrusion process, in combination with what was identified as "virgin" pvc compound. The testing according to Michael Szwez involved trying combinations of variables including processing speed, temperature, desired hardness of the intended product in terms of mixture of cured and virgin pvc, utilizing experience of Mr. Peruzza. The eventual result was realization it would not work for all products but would for some bumpers not requiring particular hardness, and that only 10 percent of the roto moulding waste product could be used in the compound mixture for the extrusion process.

[21] In cross examination Michael Szwez was asked if DEI has a methodology it followed when conducting experiments. His answer was yes and that the methodology was the above-noted PDCA approach. He described this approach [transcript, p. 150] as a "quality management system that a company would have in place." He elaborated as to the "D" (development) aspect of this approach [transcript, p. 152], which his committee followed, covering research and conduct of experiments:

> Essentially, we have a whiteboard we use, and we write out the proposed plan. We revisit it going through a checklist of things we agreed that we need to - obstacles that we need to overcome, and science that we need to learn about. Research we need to do. For instance, solar technology, we instruct someone to do some research of what technologies are out there, what the sciences [*sic*] is, and kind of correlate to what we're trying to do, and if not, how do we overcome the uncertainties that we would have.

He testified this work would typically lead to testing they would do themselves at their Georgian Bay cottage, and to customer field testing, which he said was important and could take a year or more.

[22] George Prendergast also testified for the appellant. He was an employee of a DEI related company, after a long and varied career particularly in plastics including production and sales thereof, in Canada and latterly the U.S. He said his involvement with four of these five DEI projects (excluding the pigment project) was that of "oversight", attending at meetings of the internal committee utilizing the PDCA business model. He did not testify as an expert, and there were objections by respondent's counsel, upheld, as to questions seeking opinion responses, asked of Mr. Prendergast by appellant's counsel. His hours were not included as part of DEI's SR&ED claims. His actual fact evidence seemed not appreciably at variance with the evidence of Michael Szwez.

Issues:

[23] The issues here are whether all or any of the five noted projects qualify as SR&ED; and if and to the extent so, are three items that were specifically pleaded by the respondent in relation to the claimed SR&ED expenditures allowable?

Legal Analysis:

[24] Subsection 127(5) of the Act provides for deduction by way of an "investment tax credit" in respect of a "SR&ED qualified expenditure pool" – both of which terms are defined in subsection 127(9).

[25] The term "qualified expenditure", which in aggregate is a factor in the make-up of the SR&ED qualified expenditure pool, is defined in subsection 127(9) to include expenditures that are current SR&ED relating to a business in Canada directly undertaken by a taxpayer, pursuant to subparagraph 37(1)(a)(i).

[26] Subparagraph 37(1)(a)(i) provides:

> **Scientific research and experimental development**
>
> 37 (1) Where a taxpayer carried on a business in Canada in a taxation year, there may be deducted in computing the taxpayer's income from the business for the year such amount as the taxpayer claims not exceeding the amount, if any, by which the total of
>
> > (a) the total of all amounts each of which is an expenditure of a current nature made by the taxpayer in the year or in a preceding taxation year ending after 1973
> >
> > > (i) on scientific research and experimental development related to a business of the taxpayer, carried on in Canada and directly undertaken by the taxpayer,

[27] The term "scientific research and experimental development" is defined at length at subsection 248(1) of the Act, 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; [underlining added]

[28] The starting point for SR&ED analysis is the decision of Bowman, J. as he then was, in *Northwest Hydraulic Consultants Ltd. v. Her Majesty*, 98 DTC 1839 (TCC). The decision identified five criteria for assisting judicial determination of whether a taxpayer's particular activities constitute SR&ED, as follow. (Subsequently the Federal Court of Appeal endorsed these five criteria, see *C.W. Agencies Inc. v. Canada*, 2002 DTC 6740 (FCA).)

> 1. Is there a technical risk or uncertainty?
>
> a. Implicit in the term "technical 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.

2. Did the person claiming to be doing SR&ED formulate hypotheses specifically aimed at reducing or eliminating that technological uncertainty? This involves a five stage process:

a. the observation of the subject matter of the problem;

b. the formulation of a clear objective;

c. the identification and articulation of the technological uncertainty;

d. the formulation of an hypothesis or hypotheses designed to reduce or eliminate the uncertainty;

e. the methodical and systematic testing of the hypotheses.

It is important to recognize that although a technological uncertainty must be identified at the outset an integral part of SR&ED is the identification of new technological uncertainties as the research progresses and the use of the scientific method, including intuition, creativity and sometimes genius in uncovering, recognizing and resolving the new uncertainties.

3. Did the procedures adopted accord with established and objective principles of scientific method, characterized by trained and systematic observation, measurement and experiment, and the formulation, testing and modification of hypotheses?

a. it is important to recognize that although the above methodology describes the essential aspects of SRED, intuitive creativity and even genius may play a crucial role in the process for the purposes of the definition of SRED. These elements must however operate within the total discipline of the scientific method.

b. What may appear routine and obvious after the event may not have been before the work was undertaken. What distinguishes routine activity from the methods required by the definition of SR&ED...is not solely the adherence to systematic routines, but the adoption of the entire scientific method described above, with a view to removing a technological uncertainty through the formulation and testing of innovative and untested hypotheses.

4. Did the process result in a technological advance, that is to say an advancement in the general understanding?

a. by general I mean something that is known to, or at all events, available to persons knowledgeable in the field. I am not referring to a piece of knowledge that may be known to someone somewhere. The scientific community is large, and publishes in many languages. A technological advance in Canada does not cease to be one merely because these is a theoretical possibility that a researcher in, say, China,

> may have made the same advance but his or her work is not generally known.
>
> b. The rejection after testing of an hypothesis is nonetheless an advance in that it eliminates one hitherto untested hypothesis. Much scientific research involves doing just that. The fact that the initial objective is not achieved invalidates neither the hypothesis formed nor the methods used. On the contrary it is possible that the very failure reinforces the measure of the technological uncertainty.
>
> 5. Although the Income Tax Act and the Regulations do not say so explicitly, it seems self-evident that a detailed record of the hypotheses, tests and results be kept, and that it be kept as the work progresses. [underlining added]

A. Technical risk or uncertainty?

[29] The first of the listed criteria is whether for any of the projects there was a "technical risk or uncertainty". As noted above, implicit in this term is that it be a type of uncertainty that cannot be removed by routine engineering or standard procedures. If resolution of the problem is reasonably predictable using standard procedure or routine engineering there is no technical uncertainty. And, the term "routine engineering" describes, "…techniques, procedures and data…generally accessible to competent professionals in the field."

[30] DEI counsel submitted that in this context of "techniques, procedures and data…generally accessible to competent professionals in the field", the word "data" means "information…and experience", and is one of three legs of a three legged stool (the other two legs being "techniques" and "procedures") altogether constituting "routine engineering" [transcript, p, 420-1]. He continued, that absent the "data" leg, said to mean information and experience (in particular in this instance the 30 years of experience of Wally Szwez in the recreational and marine products industries was cited), the stool could not stand. That is, there would or could not be "routine engineering" pertinent to any of the five projects in this appeal. No authority was cited for this submission. Wally Szwez was not called as a witness.

[31] I respectfully reject this submission. The word "data" references, in my view, information obtained or presented that is or are akin to measurements or observations of a particular condition, static or dynamic (such as an experiment). It does not mean information writ large, nor does it reasonably or at all mean or infer experience.

[32] In the context in which the former Chief Justice used this term - *i.e.*, "techniques, procedures and data that are generally accessible to competent professionals in the field" - it means part of the general knowledge a competent professional in the particular technical field(s) – here metallurgy

and or solar lighting - would be expected to have. While a competent professional might include someone with extensive experience but no relevant formal training, the relevant experience would not be experience in an industry. It would have to be experience from which knowledge as to techniques, procedures and data applicable to a scientific or otherwise technical field of knowledge has been absorbed.

[33] In this case there was no informed testimony as to what was or was not routine engineering or standard procedure in respect of technologies underlying any of the five projects. No engineers or other persons having relevant technical or scientific training were called as experts to testify. While experts are not necessarily necessary in SR&ED cases, they do fill an evidentiary void where no persons having a relevant technical background and who actively participated in the testing have testified - which was the case here. In this case appellant DEI particularly did not call as a witness engineering technologist Mr. Fleming, who apparently had had active participation in at least some of these five projects.

[34] DEI counsel referred to language in the April 24, 2015 administrative publication of Canada Revenue Agency (CRA) entitled, "Changes to the Eligibility of Work for SR&ED Investment Tax Credits Policy", at item. 2.1.1, under the heading, "Was there a scientific or a technological uncertainty?" Of course language in administrative publications of or on behalf of CRA is not legally binding. Here CRA stated:

> Technological uncertainties may arise from shortcomings or limitations of the current state of technology that prevent a new or improved capability from being developed. In other words, the current state of technology may be insufficient to resolve a problem.

And, further,

> Technological uncertainty may arise from limitations of the current technology that prevent you from developing a new or improved capability. Technological uncertainty exists when you don't know whether you can achieve a certain result or objective or how to achieve it based on generally available scientific or technological knowledge or experience.

[35] In my view this language is not, nor intended to be, at variance with the above-noted jurisprudential statements which have been recognized as valid statements of law as to what constitutes technological uncertainty.

[36] DEI's counsel also argued that at least projects one and two involved integration of standard technologies, constituting a technological uncertainty called "system uncertainty". Reference was made to a decision of this Court styled, *1726437 Ontario Inc. o/a Airmax Technologies v. The Queen*, 2012

TCC 376. At para. 17 of that decision, my colleague Justice Hogan accepted language in CRA's Information Circular 86-4R3 at para. 4.8 that,

> [w]ork on combining standard technologies, devices and/or processes is eligible if non-trivial combinations of established (well-known) technologies and principles for their integration carry a major element of technological uncertainty...called a 'system uncertainty'.

In that appeal CRA already had accepted a portion of that appellant's SR&ED claim. This informal procedure decision did not elaborate as to what technologies were considered integrated.

[37] In the case at bar, project one was the illuminating dock cleat development. The technologies said to have been integrated were, as I understand, metallurgy technology of maintaining strength of the cleat and solar illumination technology. In essence a solar light was inserted within a cavity provided for same in the cleat. I query whether this surmounted being a trivial combination of technologies. At the end of the day, with the resultant product, the light did its job and the cleat carried out its job - these being two separate jobs. Unfortunately we lacked any expert or equivalent evidence as to whether this combination involved or constituted a meaningful integration of technologies.

[38] Project two was the flush mounted dock light development. Again I am unsure as to what would have been the non-trivially integrated technologies, if any. The objective was to have a solar light work effectively, while flush mounted in a dock structure. That posed a challenge but to what extent it involved system integration is unclear - a solar light not flush mounted on a dock versus a solar light that was flush mounted on the dock. Again we lacked expert or equivalent evidence that spoke to whether this involved integration of technologies at all, and if so of a meaningful rather than trivial nature.

[39] DEI's counsel briefly suggested, in addressing a question from the bench, that project five (combining regrind pvc from roto moulding process and virgin pvc together into an extrusion process for manufacture of certain products), also involved integration of technologies in a non-trivial manner, leading to system uncertainty constituting technological uncertainty [transcript, p. 462]. Once again, there was a complete dearth of evidence from any expert or participant in these activities with an adequate technical background, supporting this proposition.

[40] Respondent's counsel, in argument, cited two decisions pertinent to the question of whether there was technological uncertainty. The first was *Joel Theatrical Rigging v. Her Majesty*, 2017 TCC 6, an informal procedure decision of my colleague Justice Sommerfeld. He wrote with respect to the

first of the five *Northwest Hydraulic* factors, being was there technological uncertainty, as follows:

> To constitute SR&ED, a particular project must address a problem or a type of uncertainty (typically described in the jurisprudence as 'technical risk or uncertainty' or 'technological uncertainty') that cannot be resolved by routine engineering or standard procedures. While there may not be a definitive definition of the term 'routine engineering', the term typically 'describes techniques, procedures and data that are generally accessible to competent professionals in the field.' The difficulty that I have is that no scientists or engineers testified, with the result that I was given no authoritative evidence as to the techniques, procedures and data in respect of theatrical rigging that were generally accessible to mechanical engineers in 2008 and 2009. [underlining added]

[41] As indicated above, I have the same issue here - no one of competence to do so testified as to what were the routine engineering and standard procedures inherent in any of the subject marine products projects.

[42] The second decision particularly cited by respondent's counsel was the Federal Court of Appeal decision of *Jentel Manufacturing Ltd. v. Her Majesty*, 2011 FCA 355, of which para. 6 provides:

> The jurisprudence establishes the criteria for determining whether work performed constitutes SR&ED. In *CW Agencies* [*supra*]...this Court adopted the criteria set out in *Northwest Hydraulic* [*supra*]. The judge specifically referred to these criteria...and additionally cited specific passages from *Northwest Hydraulic*... The judge concluded that *Jentel* had not met the first criterion, that is, was there a technical risk or uncertainty which could not be removed by routine engineering or standard procedures. Since the finding in this respect was dispositive, it was not necessary for him to go further. [underlining added]

[43] I have found in this matter that there was lack of evidence as to whether there were technical risks or uncertainties, essentially due to lack of evidence as to what constituted routine engineering and standard procedures for the relevant technologies.

B. Formulated hypotheses specifically aiming to reduce or eliminate technological [*i.e.* technical] uncertainty?

[44] The second of the five *Northwest Hydraulic* criteria is whether DEI, in claiming to have done SR&ED, formulated hypotheses specifically aimed at reducing or eliminating that technological uncertainty? I accept that the DEI product development committee, through discussions at its meetings, did develop theories or, it could be loosely said, hypotheses, as to next steps in advancing development of the target products. The committee also had identified "challenges" that its hypotheses sought to overcome.

C. Did procedure adopted accord with the total discipline of the scientific method?

[45] The third of the five *Northwest Hydraulic* criteria is, did the procedure adopted in each project accord with the total discipline of the scientific method including the formulation, testing and modification of hypotheses? I accept that the DEI committee approached project development in an organized and logical way, using the corporate PDCA approach. Nevertheless, this is not enough to equate with the discipline of the scientific method. Had detailed minutes of these meetings been kept, not to mention records of hypotheses and tests, this criterion could likely have been established (assuming also that one or more technical uncertainties had been identified). But as it is I cannot conclude that DEI's procedures (of which we heard little) accorded with the total discipline of the scientific method including the formulation, testing and modification of hypotheses.

[46] In this regard also, I refer to *Zeuter Development Corp. v. Her Majesty*, 2006 TCC 597. At para. 28 former Justice Little for the Court wrote:

> In passing, an overall observation of the case is that no adequate supporting documentation has been provided by the Appellant. While not absolutely necessary, it is beyond doubt that a taxpayer who creates a well-supported claim will facilitate the process in determining whether something qualifies as SR&ED. As stated in RIS-Christie Ltd. v. The Queen, 99 D.T.C. 5087 (FCA), the only reliable method of demonstrating that scientific research was undertaken in a systematic fashion is to produce documentary evidence. The Appellant has not presented sufficient facts to support his claim as a systematic investigation or search that is carried out in a field of science or technology as specifically required in the definition of SR&ED. [underlining added]

D. Technological advancement?

[47] The fourth *Northwest Hydraulic* criterion is, did the process result in a technological advancement? A technological advancement is the gaining of new knowledge that advances general understanding. We had no informed testimony or evidence indicating that DEI had advanced general understanding, as distinguished from advancement of its own specific knowledge. DEI counsel's questions on this point tended to be, as noted above, whether DEI's own knowledge had been advanced re these several projects. No doubt it was, in each case. DEI is to be commended on its innovative approach and success in developing new or improved commercial products.

[48] DEI counsel submitted that DEI had achieved technological advancements insofar as, "knowledge acquired by the appellant was not generally accessible to a competent professional in the field" [transcript, p.

426]. Apart from lack of evidence supporting that proposition, a technological advancement is achieved actually when general knowledge has been advanced through application of the scientific method.

[49] I again cite *Zeuter*, at para. 24:

> Mr. Slater [representing the therein appellant] argued that the software is useful, valuable and does not exist. The Court is not in disagreement with that statement. However, not every worthwhile project is eligible for as [sic] a SR&ED expenditure. The scientific research must meet the express requirements contained in the Act. Novelty or innovation in a product is not sufficient to illustrate technological advancement; rather, it is how these features arise that is important, that is whether or not they arise through the process of SR&ED. [underlining added]

E. Detailed records kept?

[50] The fifth and final criterion specified in *Northwest Hydraulic* is, was a detailed record of the hypotheses tested, and the results kept as the work progressed? The answer to this, in the case at bar, is a definite "no". Only a few photographs of prototypes and three pages of someone's handwritten notes for one of the projects were entered in evidence. The evidence was uncontroverted in this regard that no detailed records were made or in any event kept. This is a factor the presence of which is indicative of the scientific methodology. *ACSIS EHR (Electronic Health Record) Inc v. The Queen*, 2015 TCC 263, was cited for the proposition that this is not a necessary factor and that oral testimony as to what was done can suffice. However, in *ACSIS* there were significant contemporaneous records submitted in evidence (specified in *ACSIS*, para. 37), plus ample oral testimony from the actual trained software technicians who carried out subject work. This in total was adjudged by the Court as sufficient to have established that the scientific methodology had been observed.

Conclusion:

[51] As it was not specifically pleaded or cited by the respondent I have not contemplated the potential for application in this appeal of clause (f) of the subsection 248(1) definition of SR&ED - stating (as set out above) that SR&ED, "does not include work with respect to the commercial production of a new or improved material, device or product or the commercial use of a new or improved process."

[52] In conclusion, as several of the *Northwest Hydraulics* criteria have been adjudged not met in the circumstances of the DEI projects, the appeal is dismissed, with costs.

Signed at Halifax, Nova Scotia, this 16th day of January 2019.

"B. Russell"

Russell J.

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COURT FILE NO.:	2016-539(IT)G
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DATE OF HEARING:	May 8-9-10, 2018
REASONS FOR JUDGMENT BY:	The Honourable Justice B. Russell
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