Submission to the CRA Regarding *Policy on the Eligibility of Work for SR&ED Investment Tax Credits (Draft)*

Recommendations by:
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Dear Sir/Madam:

The InGenuity Group appreciates this opportunity to provide feedback regarding the Policy on the Eligibility of Work for SR&ED Investment Tax Credits. This submission focuses on how the clarity, readability, and completeness of the policy document may be improved to ensure the objectives of the SR&ED program are met.

Canada's SR&ED program has been lauded as one of the most successful and beneficial research and development programs in the world during its 25-year lifespan.[1] Technology, and more importantly the technological process, has changed considerably in that time period. It is therefore a positive and welcome development that the SR&ED policies are being updated.

The primary concern set out in this submission is that certain word choices in the current draft document leave gaps and/or omissions in the information, which can be easily resolved by changing particular expressions to improve clarity of the text and language. These suggestions are directly in line with the request for feedback on the public consultation webpage. These comments are hereby submitted after having carefully reviewed all existing SR&ED eligibility documentation, current draft policies, and all relevant legal cases since the inception of the program, with particular emphasis on Tax Court of Canada rulings since 1993, and with our experience working with the SR&ED program since 1986.

Summary of Recommendations

These recommendations relate to ensuring that the policies are complete, easily read, and – most importantly – clear in their instructions. The recommendations are in point form below; the remainder of the document outlines the nuances of the existing policy text, potential issues that may arise due to lack of clarity, and reasoning behind the suggestions.

- Include a 'reasonable' clause in Section 2.1.1 to avoid 'absolute' documentation requirements and allow reviewers to take into account each company's circumstances.
- Clarify Section 2.1.2 to indicate that the use or presence of existing technology will not disqualify a claim when used to achieve a separate advancement.

[1] Parsons, Mark and Nicholas Phillips. "An Evaluation of the Federal Tax Credit for Scientific Research and Experimental Development." Department of Finance Working Paper. Sept. 2007. Ottawa: Department of Finance Canada. 4 Aug. 2011 <dsp-psd.pwgsc.gc.ca/collection_2008/fin/F21-8-2007-8E.pdf>.

- Clarify Section 2.1.2 to acknowledge the linked and incremental nature of hypotheses.
- Emphasize the quotation from Section 2.2.1 regarding how "support work can be in a field of science or technology that is different from that of the basic research, applied research, or experimental development work."
- Modify the description of trial and error in Section 3.3 to address an experimenter's need to take test results into account when designing future tests.
- The first three sections of Section 3.3 require considerable revision before they are sufficiently clear for the typical taxpayer.

POLICY DOCUMENT REVIEW

2.1.1 – DOCUMENTATION

The scientific method is mentioned throughout the document, but this passage is of particular interest:

> *Documentation is naturally produced during SR&ED. In adopting the scientific method, the progression of work is built on analyzing results from step to step. It is expected that the indicators or measures to be used to determine if the scientific or technological objectives of the work are met will be identified and documented at an early stage of the work. The scientific method requires a detailed record of the scientific or technological uncertainty, the hypotheses for its resolution, tests, and results. These records must be kept as the work progresses. In order to systematically build on the results of work undertaken during the experimentation and analysis, the work must be documented. This is a basis for being able to capture, communicate, and, if necessary, repeat the work leading to the advancement of scientific knowledge or the technological advancement.*

This paragraph is an accurate description of the scientific method in a laboratory setting. While good recordkeeping standards are beneficial for everyone involved, the requirement that every aspect of a project be documented to the strictest scientific standards places an unrealistic burden on many small- and medium-sized businesses (SMBs).

In related government documents, it has been demonstrated that "businesses with fewer than 20 employees are disproportionately affected by compliance: a small business with 1 to 4 employees incurs at least seven times more costs per employee than its larger counterparts (i.e., those with 20 to 99 employees)."[2] Furthermore, Industry Canada has previously estimated that small business owners spend $1.1 billion a year to comply with only 12 of the key federal, provincial and municipal information obligations.[3]

[2] Government of Canada. Measuring the Costs of Red Tape for Small Businesses: Briefing #2. Nov. 2007. 3 Aug. 2011 <http://www.ic.gc.ca/eic/site/pbri-iafp.nsf/vwapj/PBRI_SurveyBriefingNo2_Eng.pdf/$FILE/PBRI_SurveyBriefingNo2_Eng.pdf>.

[3] Government of Canada. Red Tape Reduction Commission. Why Cutting Red Tape Matters. 13 Jan. 2011. 3 Aug. 2011 <http://www.reduceredtape.gc.ca/about-apropos/why-pourquoi-eng.asp>.

The CRA participated in the Action Task Force on Small Business Issues, releasing a report (RC4483) in November of 2009 outlining its initiatives to date.[4] As written, this paragraph on documentation goes directly against the statements made by the CRA regarding their work towards reducing the compliance burden for SMBs.

To address the ambiguity and inconsistencies of this paragraph, **it is recommended that a *'reasonable'* clause be added to the above paragraph to allow the reviewer, under a strict interpretation of the policy, to evaluate each company in its own circumstances.** It will also help avoid the dilemma SMBs would otherwise face: they either slow down their development work and risk losing their competitive edge, or attempt to compete on the world stage without the full support of the Canadian tax system.

2.1.2 - Scientific and Technological Advancement

The following phrase appears in section 2.1.2:

> *It is important to note that creating new or improvement of existing, materials, devices, products, or processes can be achieved without conducting experimental development. For example, the use or implementation of existing technology that may result in product or business benefits is not evidence of technological advancement. Also, novelty, innovation, uniqueness, feature enhancement, or increased functionality of a product or process does not represent technological advancement. Instead, it is how these features arise (that is, whether they arise through basic research, applied research, or experimental development) that is important.*

This is a complex topic in SR&ED and this paragraph does not sufficiently clarify how the CRA distinguishes between innovative/eligible and innovative/ineligible work. The original wording, which points to the *underlying technology*, was significantly clearer. Section 6.3 of IC86-4R3 reads: "It is how the novelty arises (i.e., whether or not it arises from the resolving technological uncertainties) which is important."[5] The paragraph above also tries to provide specific examples that are best left in the sector-specific guidelines.

Furthermore, this section seeks to "define by omission" – namely, indicating what SR&ED *is not.* The highlighted text shows the excessive use of negatives (in yellow, above). By doing so, it frames the use of existing technology in a negative – rather than neutral – light. **It should be clearly stated that the presence of existing technology is a neutral indicator that will not condemn a claim that describes its use to achieve a separate advancement.** A strict interpretation of the standards being set in this paragraph could cause claims to be audited unnecessarily.

A suggested rewrite is as follows:

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[4] Canada Revenue Agency. RC4483 - Action Task Force on Small Business Issues - Update on Final Report on Action Items Nov. 2009. 3 Aug. 2011 <http://www.cra-arc.gc.ca/formspubs/pbs/rc4483-ctntmspdt-eng.html>..

[5] Canada Revenue Agency. IC86-4R3 Scientific Research and Experimental Development. 24 May 1994. 3 Aug. 2011 <http://www.cra-arc.gc.ca/E/pub/tp/ic86-4r3/ic86-4r3-e.html>.

> *Creating new or improving existing materials, devices, products, or processes can be achieved both through experimental (eligible) and routine (ineligible) development. It is important to clearly differentiate between the two approaches; namely, by examining how a new product or process arises (i.e. whether or not it arises from the resolution of technological uncertainties and/or represents a technological advancement).*

2.1.2 - TECHNOLOGICAL UNCERTAINTIES

The paragraph describing 'technological uncertainties' is quoted below:

> *Technological uncertainties arise from shortcomings or limitations of the current state of technology that prevent the development of a new or improved capability. In other words, the current state of technology is insufficient to resolve a problem that is faced during development. This implies that if, after exhausting available experience, scientific knowledge, and technology, one still cannot know whether the technological objectives can be achieved at all or the route by which they can be achieved, then a technological uncertainty exists. A hypothesis, designed to reduce or eliminate that technological uncertainty, is then developed.*

Requiring a hypothesis at the outset of a project is a relatively new development in SR&ED policy requirements. It is supported by the recent case *Jentel Manufacturing v. The Queen*, where the judge cited the following passage as a key consideration in his ruling:

> *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?*[6]

What is worth noting is that the current draft policy wording implies that each project will have a *single* hypothesis. The existing description of the hypothesis does not take into account a *series* of progressing hypotheses that move towards a higher technological goal or advancement, as noted in most experimental development. There are few projects that can be completely encompassed using a single hypothesis. As the current wording does not address this concept of linked development, it is therefore recommended that this idea be taken into account and addressed in the next revision.

Currently, the draft document implies that if work progresses from the original hypothesis, then the activity starts to enter the realm of trial and error: a concept which the SR&ED program has deemed ineligible (non-systematic). Progressive hypotheses require that you learn from the previous hypothesis and apply the knowledge to the new situation that exists. This concept will be discussed in greater detail with regards to standard practice.

[6] *Jentel Manufacturing Ltd v. The Queen*, 2011 TCC 261 (CanLII) at para 9.

For this section **it is recommended that stipulations regarding multiple hypotheses be introduced to aid the reader's understanding.**

2.2.1 - SUPPORT WORK

The following quotation should be noted and perhaps emphasized in the final document:

> *It is important to note that support work can be in a field of science or technology that is different from that of the basic research, applied research, or experimental development work.*

Additional emphasis of this phrase would help draw attention to this particular nuance; namely, that advances are frequently cross-disciplinary and often require the combination of various skill groups, including those that might normally be excluded from the SR&ED program in isolation.

3.3 - STANDARD PRACTICE

This section contains many phrases that are unclear, especially in light of the rest of the program. As written, this section has the potential to alter the entire scope and direction of the SR&ED program in Canada. **The written definition of standard practice used in the current draft is extremely broad, which will invariably lead to a lack of uniformity in allowing or disallowing claims for SR&ED work.** By extension, it will result in a lack of faith by the taxpayer in regard to the equal application of the policies to all participants.

With the absolute definitions currently being used, there is little recourse for a company to defend a claim if a casual review by someone unfamiliar with the details of the technology has categorized the activities as "standard practice." As such, it is evident that **the first three sections of Section 3.3 require considerable revision before they are sufficiently clear for the typical taxpayer.**

Furthermore, the following paragraph contains a confusing definition regarding "trial and error":

> *Sometimes problems are solved by trial and error rather than by experiment or analysis. Trial and error involves executing a series of tests not sequenced in a systematic pre-plan. The objective in such a case is to resolve a functional problem (that is, a problem in how something operates or works) rather than to address a problem in the underlying technology that may have caused this functional problem. The lesson, learned in each iteration of trial and error, is simply that "an option did not work," which is not applicable in a broader sense. The test conditions that are judged to be the most efficient in resolving the immediate problem are chosen for the subsequent iteration. The process simply moves from iteration to iteration. Solving problems by trial and error is not experiment or analysis within the framework of a systematic investigation or search.*

According to the above paragraph, trial and error is defined as a series of tests that are not sequenced in a systematic pre-plan. In order to meet the requirement of SR&ED (as described above) one would have to develop foreknowledge of all possible outcomes from any given test or experiment. If, in order to satisfy the scientific method requirement, all tests have to be planned in advance, one would either require sufficient knowledge of the scenario to do so (which implies a

lack of uncertainty) or be unable to take the test results into account when designing future tests (since everything must be planned in advance). In addition, when planning the experimental testing procedures, is it not normal to follow 'standard practices' in order to setup/verify the success or failure of experiments?

In particular, one statement is clearly incorrect: "*The lesson, learned in each iteration of trial and error, is simply that 'an option did not work,' which is not applicable in a broader sense."* In many cases, what is learned is, "This option did not work due to [insert technological constraints discovered that were not previously known]" which would, by extension, increase the general understanding of the technology as a whole. This would meet the definition provided in the glossary regarding 'Scientific or Technological Advancement': "One of the three criteria that means that the work must generate information or lead to the discovery of knowledge that advances the understanding of scientific relations or technologies."[7]

The current description appears to ignore that scientific progress often requires the experimenter to learn and adapt. Everything does not always go according to a pre-plan generated before the experiment was conducted. This *uncertainty*, as mentioned elsewhere in the document, drives the experiment and it is possible that it can morph during the investigation; real-world companies engaged in cutting edge development need to be able to show this during the SR&ED claim. **The existing description of trial and error seems to associate any kind of changing protocol as an ineligible activity.** This criticism is related to an earlier discussion with regard to the 'single hypothesis'; addressing one issue will take into account the other.

FINAL NOTES

Overall, the new policy is an improvement to existing documentation; however, it appears that in the process of condensing ~40 SR&ED policy documents into 5 guides, many nuances have been "lost in translation". Clarification on these points will allow for improved uniformity in applying the criteria to assess the eligibility of work performed. An additional, related benefit of further refinement will be the reduction of court cases related to disputes over eligibility; the clearer the criteria, the less likely it is that disputes regarding eligibility will be elevated to being heard at the Tax Court of Canada.

The SR&ED program was created to provide aid for industrial development as well as laboratory research; we sincerely hope that it will continue to have positive economic impacts for many years to come across all fields of science and technology. All that is required is a little "experimental development" (trial and error?) with regards to the drafting of the new policies.

Sincerely,

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[7] Canada Revenue Agency. Policy on the Eligibility of Work for SR&ED Investment Tax Credits (Draft). 20 June 2011. 3 Aug. 2011 <http://www.cra-arc.gc.ca/txcrdt/sred-rsde/nttvs/lgblty-wrk-drftplcy-eng.html#_Toc293063975>.