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**COMMERCIAL VS. EXPERIMENTAL PRODUCTION**
**CP VS. EP**

## Contents

# Sample Fact Scenario:

- Client developed prototypes & tested them in a commercial setting.
- included operators of machines to test specific situations.
- All design work accepted as eligible SR&ED by CRA
- work for operator time for the testing of these prototypes denied
- rationale: performed in a commercial operation or site

This position can be summarized in the following CRA statements:

According to the CRA

> "the claimant must demonstrate that the intent of the work was solely for SR&ED or support that the work was experimental production."[1]
>
> "The RTA explained that work that is performed in a commercial facility that results in commercial products may be EP but that **it is the claimant's requirement to show** that it was undertaken to develop the technology and **only resulted in a commercial benefit as a consequence of the EP**.
>
> The opposite appears true in this case as it seems that the **company choose to test during normal commercial operations to reduce the expenses related to the testing**.
>
> (RTM) added to this explanation by stating that EP requires risk to the commercial product be identified. He added that in this case, the work was never at risk of meeting commercial expectations."

[1] Appendix B page 1

# Issue:

**Should operator costs for testing of prototypes be excluded if this testing was performed on a commercial environment or site?**

## 1. *CRA guidance documents*

### Current - SR&ED Salary or Wages Policy (policy document Dec. 19, 2012)

Section 7.1.1 Non-specialized employees who are directly engaged

**"Directly engaged"** work could include hands-on work performed by both specialized and non-specialized employees. Whether the work of a non-specialized employee can be considered work "directly engaged in SR&ED" is a question of fact. This would be the case only if the following conditions are met:

- The work performed by the non-specialized employee must be directly in support and be an integral part of the basic or applied research or experimental development work &.

- The non-specialized employee's work must be supervised by staff with scientific or technological qualifications. ….

**Examples of tasks** performed by a non-specialized employee who **could qualify as directly engaged** in SR&ED include:

- **operating a machine for the purposes of an experiment** that requires the use of this machine;

- **feeding raw materials into a machine for the purposes of an experiment**;…

## SR&ED During Production Runs Policy (Dec. 19, 2012)

Experimental production

> "Experimental production is defined as the production output of experimental development **that is required to verify whether the objectives of the SR&ED work have been met or if a technological advancement is achievable**. The purpose of the production run, in which the output is experimental production, is to evaluate the technical aspects of the SR&ED project."

Excess production

> "Any production beyond that required for the SR&ED is called "excess production". When the context of the production run is ED+EP, only the amount of production output required for the SR&ED is the experimental production."

2.2 Determining the context of a production run that is part of the experimental development work

> The context is determined by assessing the characteristics of the production run against the requirements that establish its context to be ED+EP. If the requirements are met, the context of the production run is ED+EP. If they are not met, the context of the production run must be ED+CP.
>
> The context of the production run is ED+EP when there is a technical risk to the process or product, provided that the technical risk be attributable to the technological uncertainties.
>
> This **technical risk arises mainly because of the need to test process parameters (including combinations thereof) outside normal established process, procedures, ranges and tolerances.** Whether the technical risk to the process or product justifies the ED+EP determination is based on technical considerations (see section 2.2.1) and applicable evidence (see section 2.2.2)

## SR&ED During Production Runs Policy (July 19, 2016)

ED+EP

When there is experimental development and the production output is experimental production, the context of the production run is ED+EP. For example, the production run (and therefore the experimental production) may be necessary to establish technological advancements that are applicable in practice, to further resolve technological uncertainties, or to evaluate the SR&ED project.

Although this document focuses on production runs conducted in commercial facilities, the production output from the operation of a pilot plant is experimental production and, therefore, the context of the production run in a pilot plant is ED+EP.

When the context of the production run is ED+EP, there is no simultaneous commercial work occurring and the costs associated with the production may be allowable SR&ED expenditures. For more information on allowable SR&ED expenditures, please refer to the Pool of Deductible SR&ED Expenditures Policy.

ED+CP

When SR&ED is involved in a production run, but the context of that production run is not ED+EP , the context of the production run is ED+CP (experimental development in conjunction or simultaneously with commercial production).

For example, when SR&ED is conducted in an existing manufacturing or processing facility, it is generally carried out for process or product improvement while commercial operations are taking place. In this situation, while process indicators are being monitored, changes are made to the process in a way that minimizes the adverse effects on the quality of the output or stability of the process in order to continue with regular production. There is no technical risk to the product or process. Applying the concepts explained in this policy will lead to the determination that the context of the production run is not ED+EP. In this scenario, even though there is SR&ED work being performed, because the context is not ED+EP, the context of the production run is ED+CP.

2.2 Determining the context of a production run that is part of the experimental development work

The context is determined by assessing the characteristics of the production run against the requirements (see sections 2.2.1 and 2.2.2) that establish its context to be ED+EP . If the requirements are met, the context of the production run is ED+EP. If they are not met, the context of the production run must be ED+CP .

The context of the production run is ED+EP when there is a technical risk to the process or product, provided that the technical risk be attributable to the technological uncertainties. This technical risk arises mainly because of the need to test process parameters (including combinations thereof) outside normal established process, procedures, ranges and tolerances. Whether the technical risk to the process or product justifies the ED+EP determination is based on technical considerations (see section 2.2.1) and applicable evidence (see section 2.2.2).

2.2.1 Technical considerations to establish technical risk

The following technical considerations help to make a preliminary evaluation that there is technical risk to the process or product:

The extent of the changes being undertaken is such that it is uncertain how the experiment will impact the process or the manufactured product.

The SR&ED involves a change to the process resulting in a potential change to the technical specifications of the product and / or there is a risk that the process itself may become unstable leading to output inconsistencies, production interruptions and / or stoppages, or even equipment damage.

The efficiency of a new process combination is uncertain. The SR&ED could result in yield losses, over and above normal yield losses. There is potential for a negative impact on the modified process.

The characteristics of the new product and associated processes being studied are different from normal or existing products and their associated processes, i.e. the normal, established operating states, such that it is uncertain how the experiment will impact on the process or the product manufactured.

# Relevant legislation & directives:

## 2. *Income tax Act*

The definition of scientific research and experimental development appears in subsection 248 (1) of the ITA

> "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, ..
>
> (b) applied research, ..
>
> (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 to 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."

## 3. *Tax Court Cases*

### Cultures Laflamme[2]

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The **CRA proposed**

"Concerning the first matter in dispute, counsel for the respondent pointed out to the Court, that, according to the respondent, the tax credit in respect of scientific research and experimental development is **available only to those who cannot finance their own scientific research with proceeds of disposition.** It is economic assistance intended to stimulate scientific research and experimental development, and this assistance must be granted only in cases where there is no income from that research.

The respondent's position was that, considering the income from production or scientific research, given that income exceeded current expenditures, there was no right to the investment tax credit.

As regards the theory of matching, counsel for the respondent referred to a number of decisions indicating that accounting principles apply in the calculation of income in the absence of provisions of the Act to the contrary

The claimant countered:

**It is correct and in no way denied that nowhere in the Income Tax Act, in particular in these sections, will you find any mention that you must take income into account**.

[2] Les Cultures Laflamme (1984) Inc v MNR, (TCC) June 17, 1992. [Docket: 89-2514(IT)]

The judge then concluded (page 8):

"As stated in Part 7.7 of this circular, **a project is complete when the technological objectives have been met.** Ongoing commercial production is not included at this stage.

I therefore conclude that this proposition concerning matching has no foundation in the circumstances ….

that the sums received from the sale of experimental products do not have to be deducted for the purposes of calculating the amount of qualified expenditures within the meaning of subsection 127(5) of the Act."

## Consoltex[3]

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"To put the problem in a nutshell, the appellant in 1988 and prior years carried on SR & ED on a substantial scale in connection with the textiles business in which it was engaged. **It sold some of the products that were produced in the course of that development** -- evidently in some cases for proceeds that exceeded the cost of the SR&ED expenditures.

Different approaches were considered by the Department of National Revenue, specifically:

(a) should the sale proceeds of the fabrics produced in the course of prosecuting the SR &ED be applied against the cost of SR & ED (the "netting" approach)?

(b) should some portion of the costs claimed as SR & ED expenditures be attributed not to SR & ED but to the cost of inventory (the "carve out" approach)? One of the premises on which this approach is based is that the appellant in the course of its development produced more material than was needed for its development purposes and accordingly some portion of the cost should be attributed to production."

Page 14 – Ruling & rationale  On this issue the judge ruled,

> "It is not, after all, as if a taxpayer who incurs current scientific research expenses is being given a double deduction or one that it would not otherwise have. The appellant would have been able to deduct these expenses even if section 37 did not exist.  **All it is getting is the incentive of an investment tax credit.**
>
> All expenditures, whether capital or current, that give rise to ITCs are deductible one way or another in computing income, either currently or over time, and all of them, one way or another, result, or are intended to result in or the production of income.
>
> **It runs counter to the entire philosophy of fiscal incentives, whether in the form of SR & ED allowances or ITCs, to say that if the expenditures giving rise to the incentives result, actually or potentially, in income they should be watered down.**"

[3] Consoltex Inc. v The Queen (TCC)  (Docket: 94-990(1T)G)

# Analysis:

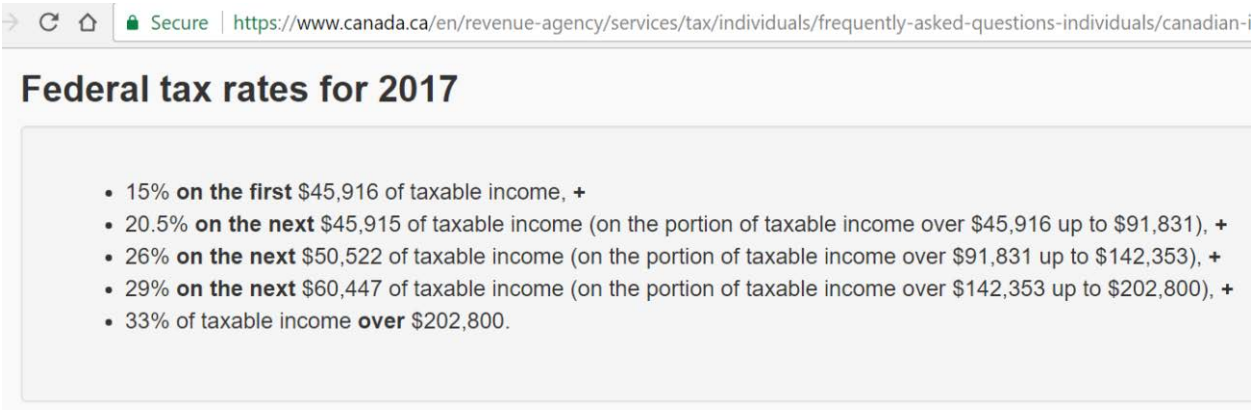
The key fact is that the **objectives of the project could NOT have been met without the operators testing each prototype.** As such all operator time was **directly engaged with respect to testing.**

**In the author's option the CRA's analysis is convoluted & irrelevant.**

## ***ITC on SR&ED wages "hedged" transaction***

As illustrated below the ITC paid out is a fraction of the income taxes paid on wages

- Federal rate on employee wage likely 20%+
- SRED payback to company if non-CCPC = 15%




| **SR&ED claim intake** | Year end Mar 31, 2007 | | Year end Mar 31, 2016 | | Variance | |
|---|---|---|---|---|---|---|
| | Claims | ITC's | Claims | ITC's | Claims | ITC's |
| National | 22,640 | $ 4,081,256 | 22,839 | $ 3,978,969 | -0.9% | 2.6% |
| Refundable (35%) | 12126 | $ 1,094,970 | 14033 | $ 1,215,561 | -13.6% | -9.9% |
| Refundable TPR (35%) | 4724 | $ 220,968 | 3220 | $ 133,143 | 46.7% | 66.0% |
| Non-Refundable (15%) | 3635 | $ 2,219,760 | 3691 | $ 1,946,626 | -1.5% | 14.0% |
| Non-Refundable TPR (15%) | 1779 | $ 512,599 | 1582 | $ 447,486 | 12.5% | 14.6% |
| Other | 376 | $ 32,959 | 313 | $ 236,153 | 20.1% | -86.0% |

***Source: CRA Redbook***

# Conclusions & related recommendations

In summary we believe that;

Correlation to Income tax act & tax court precedence:

As illustrated in the cases of Culture Laflamme & Consoltex the fact that testing was performed on a commercial site should NOT preclude the inclusion of the operators time to perform related & necessary testing activities.

The determining factor is **whether this work was necessary to resolve the stated technology uncertainties** and thereby attain the technological objectives.

The elected officials who passed the legislation understood the effect of a tax hedge.

This does not appear to be understood by proponents of the current CRA position.

Sincerely,

David Sabina, CPA