

Simple solutions for claiming SR&ED Tax credits

On overview of the:

-eligibility criteria

-Tax credit rates &

-Methods to simplify claims

Presented by:

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Simple solutions for claiming SR&ED Tax credits

A - SR&ED legislation re. Eligible costs & tax credits

7-8 types of “supporting” SR&ED activities – “commensurate with project needs”

SR&ED does NOT include

B - Eligible Research fields:

C - Eligible SR&ED project

Phase 1: Define “Standard Practice” (The Square)

Phase 2: Technical Uncertainty (Triangle)

Phase 3: Systematic Investigation (Circles)

Realm of Experimental Development

D – Project costs & descriptions – the rdbase.net solution

Project #1 : improve compounding equipment

Project #2: Software - database methodology

Project #3: Optimize DA Catalyst

Project #4: Plant breeding example

E - Eligible costs & tax credit rates

F- Common documentation problems

G- How MEUK can help



Suggested Webinar protocols

Please:

- ✿ Reserve questions until end of session
- ✿ Press “*6” on your phone to mute
- ✿ Feel free to follow-up via
 - ✿ Email : dsabina@meuk.net OR
 - ✿ Phone 905-631-5600
 - ✿ with any questions

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PRESENTATION OVERVIEW

- ✱ A - Income Tax Act - Eligible Activities
- ✱ B - Eligible Research fields
- ✱ C - Eligible SR&ED project – CRA
- ✱ D - Sample project descriptions
- ✱ E - Eligible costs & tax credit rates
- ✱ F - Common documentation problems
- ✱ G - How MEUK can help

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A - SR&ED legislation re. Eligible costs & tax credits

The Income Tax Act defines SR&ED as

- ✱ “**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 *

advancement for the purpose of **creating new, or improving existing, materials, devices, products or processes*

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SR&ED is defined for income tax purposes^[1], 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 to a taxpayer,*

[1] in subsection 248(1) of the Act

**7-8 types of “supporting” SR&ED activities
– “if commensurate with project needs”**

d) 8 areas of supporting work:

- ✱ Engineering
- ✱ Design
- ✱ Operations Research
- ✱ Mathematical analysis
- ✱ Computer programming
- ✱ Data gathering
- ✱ Testing &
- ✱ (sometimes - Psychological research)*

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Analysis of inclusions

With respect to amounts included in ITA paragraph 248(1) definition of “SR&ED,”

(a-d) Generally speaking, the legislation above provides that all work aimed at incremental technical improvements is eligible for credit to the extent that it was “commensurate with the needs” involved with the resolution of some predetermined technical uncertainty.

SR&ED does NOT include

- ✱ **commercial production, market research or sales promotion**
- ✱ **quality control or routine testing**
- ✱ **social sciences or the humanities,**
- ✱ **aesthetic or “style” changes, or**
- ✱ **Claims filed > deadline (18 months from year end for corporations).**

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Exclusions:

(e, h & i) **market research, sales promotion and the commercial production** are excluded activities to the extent that they extend beyond the resolution of the significant technical **uncertainties**. Where work which may normally be considered market research involves issues such as the quantification of future project objectives, this work may be eligible SR&ED.

(f & k) **quality control, routine testing and routine data collection** - generally speaking, routine activities are those which can not be considered, “**commensurate with the needs, and directly in support of,**” the resolution of one or more technical uncertainties.

(g) research in the **social sciences or the humanities**, includes work in any non technical field such as accounting, finance, business studies, economics and psychology to name a few. Some may note that psychological research is mentioned as a potentially supporting activity in paragraph (d) of the legislation. The CRA’s formal position is that this research will be limited to pharmaceutical medical industries where it is tied to other technical or scientific drug studies.

(j) **style changes** include any work aimed at aesthetic improvements rather than objective and verifiable advancements of technical knowledge.

B - Eligible Research fields:

INCLUDE:

- ✱ Chemical & Materials research
- ✱ Food & life sciences
- ✱ Machinery development
- ✱ Software
- ✱ Moulds Tooling and Dies & Plastics
- ✱ Consulting & Environmental Engineering

Log-in to rdbase.net for project examples

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SR&ED project examples - by industry R&D Base log-in: name / password

Chemical & Materials research	user@chemicals / user
Food & life sciences	user@agri / user
Machinery development	user@machinery / user
Software	user@software / user
Moulds Tooling and Dies & Plastics	user@mtd / user
Consulting & Environmental Engineering	user@enviro / user

C - Eligible SR&ED project (CRA)

“Set of interrelated activities that:

1. Attempt **technological advancement** and
2. Overcome **technological uncertainty**, and are
3. Pursued through **systematic investigation by qualified individuals.**”

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Definition of a “project”

Excerpts from CRA form T4088[1]:

“To establish whether or not the work you claim is eligible, we have to examine eligibility **at the project level**. You must present your claim showing your work organized as SR&ED projects.”

“An **SR&ED project consists of a set of interrelated activities** that meet the **three criteria** of SR&ED defined in the current version of Information Circular 86-4, *Scientific Research and Experimental Development*. This means that the set of activities must be necessary for:

the attempt to achieve specific scientific or **technological advancement** and overcome scientific or **technological uncertainty**, and

must be pursued through a **systematic investigation** by means of experiment or analysis performed **by qualified individuals.**”[2]

Technical objectives

The CRA requires that the scientific or **technological objectives** you state:

“be quantifiable or verifiable,

contemplate a reasonable timeframe (generally ≤ 3 years)” &,[3]

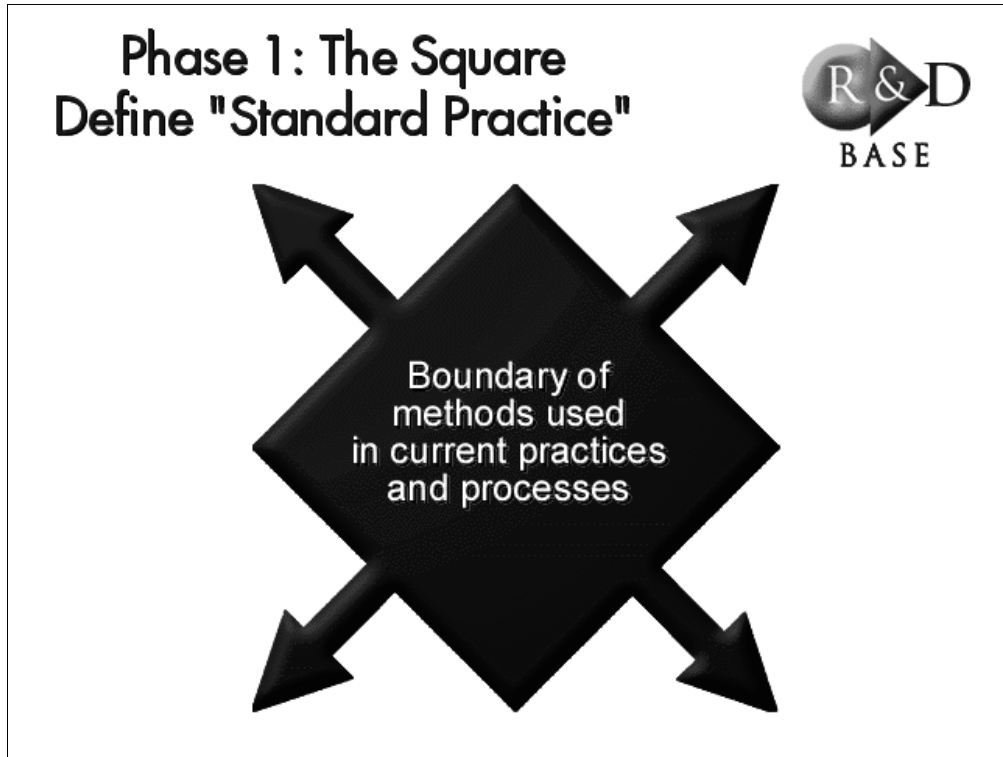
“be clearly stated at an early stage in the project's evolution”[4].

[1] This is the CRA's guide to the T661 form

[2] Excerpts from CRA form T4088[2]- the Guide to completing an SR&ED claim

[3] CRA form T4088, part 2, paragraph A – Guide to the T661 form.

[4] Information Circular 86-4R3, paragraph 2.10.3



“Commonly available sources of knowledge or experience are those that can reasonably be assumed to be **readily available to those with basic training or experience in the field of concern**. These resources enable them to be sufficiently **qualified to participate** in SR&ED. They also include knowledge that is available in the **business context** of the firm...An enterprise may not have **practical access** to information proprietary to a competitor, or known in specialist or academic circles.” [1]

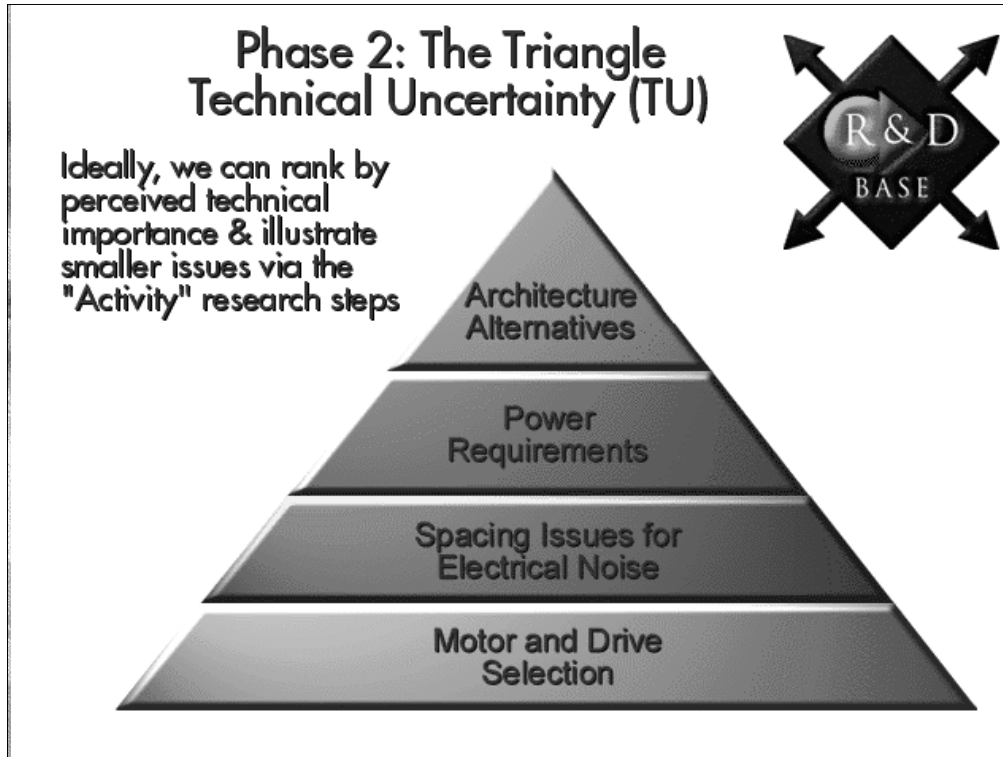
“Essentially, the **presence of a technological uncertainty puts the project into the realm of experimental development** when solutions cannot be based on standard practice alone. A claim for qualifying expenditures should clearly explain all **departures from standard practice** in the experimental development activity.”[2]

“The **search for a meaningful advance** in the body of scientific or technological knowledge should be present as a guiding element in every eligible project. This requirement is **satisfied whether or not the activity is successful**. In other words, determining that **a hypothesis is incorrect also represents a scientific or technological advance**.”[3]

[1] CRA IC 86-4R3 – glossary

[2] CRA IC 86-4R3 paragraphs 4.3 & 4.4

CRA Guidelines[3] Excerpt from IC 86-4R3 paragraph 2.12



“Specifically, **scientific or technological uncertainty** may occur in either of two ways:

[**scientific uncertainty**] it may be uncertain whether the goals can be achieved at all ; or

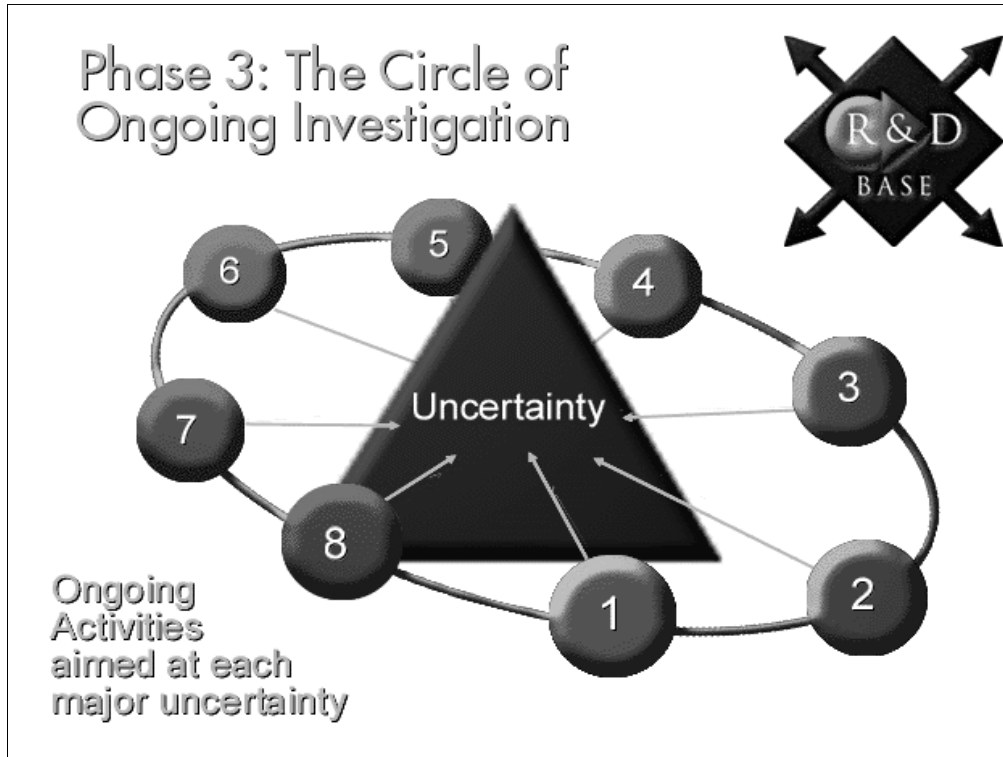
[**system uncertainty**] the taxpayer may be fairly confident that the goals can be achieved, but may be **uncertain which of several alternatives (i.e., paths, routes, approaches, equipment configurations, system architectures, circuit techniques, etc.)** will either work at all, or be feasible to meet the desired **specifications or cost targets**, or both of these... Work 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**; this may be called a "system uncertainty.”^[1]

“If the technological specifications or objectives to resolve the "system uncertainty" are such that the basic design of the **underlying technologies must be changed** to achieve the integration, the current **costs of the overall project may qualify.**”^[3]

^[1] CRA IC 86-4R3 paragraph 2.10.2

^[2] CRA IC 94-2 – SR&ED Machinery & equipment industry application paper

^[3] Excerpts from CRA IC 86-4R3 paragraph 4.8 – characteristics of SR&ED



The CRA requires work **to be supervised by personnel with appropriate technical backgrounds** and clarifies that in describing activities performed.

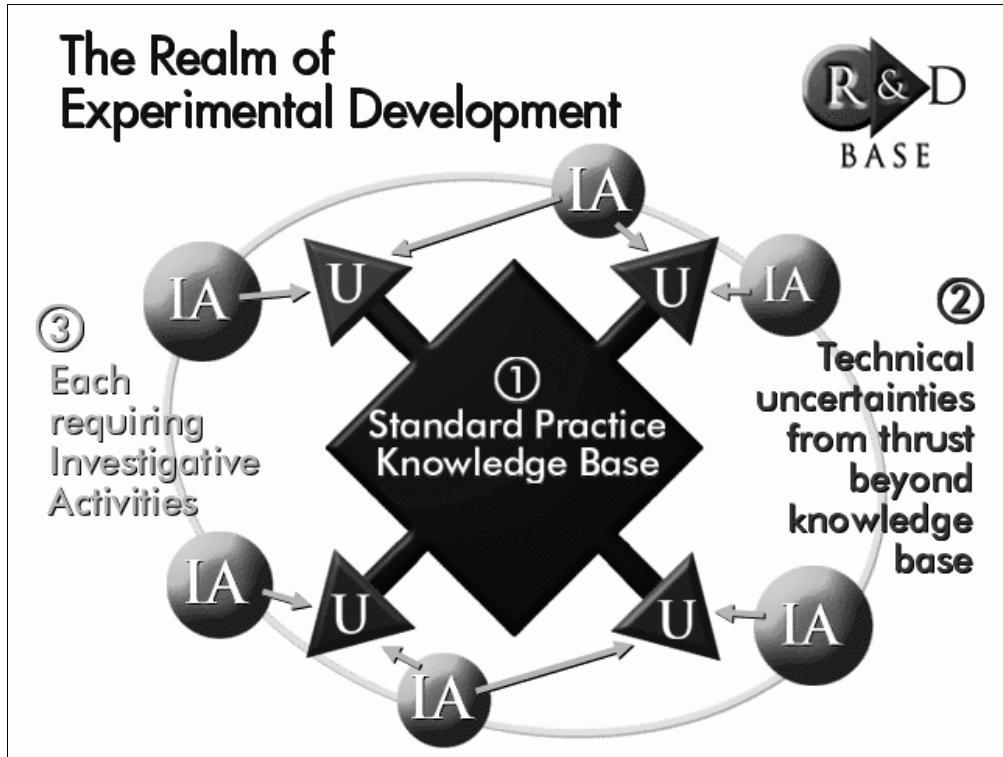
“It **must demonstrate the presence of analysis or experiment** in the methodology you used to carry out the work. It must also include the results you obtained **and the conclusions you made**. For example, the types of technical records that are appropriate to support your claim are:

- an analysis of the problem,
- internal design documents and drawings,
- test data and results, &
- progress reports.”^[1]

“The improvement of existing technologies or methodologies using well-established "routine engineering or routine development" would be ineligible if the outcome is predictable. However,...if the .. **activity is carried out in support of an eligible experimental development project, then the activity is eligible.**”^[2]

Form T4088 – Guide to form T661

[2] Excerpt from IC 86-4R3 paragraph 2.13



“An SR&ED project consists of a set of interrelated activities that meet the **three criteria** of SR&ED defined in the current version of Information Circular 86-4, *Scientific Research and Experimental Development*. This means that the set of activities must be necessary for:

1. 1) the attempt to achieve specific scientific or **technological advancement** and
2. 2) overcome scientific or **technological uncertainty**, and
3. 3) must be pursued through a **systematic investigation** by means of experiment or analysis performed **by qualified individuals**.”

The model above represents the three components of an eligible SR&ED project.

“Essentially, the **presence of a technological uncertainty puts the project into the realm of experimental development** when solutions cannot be based on standard practice alone.”

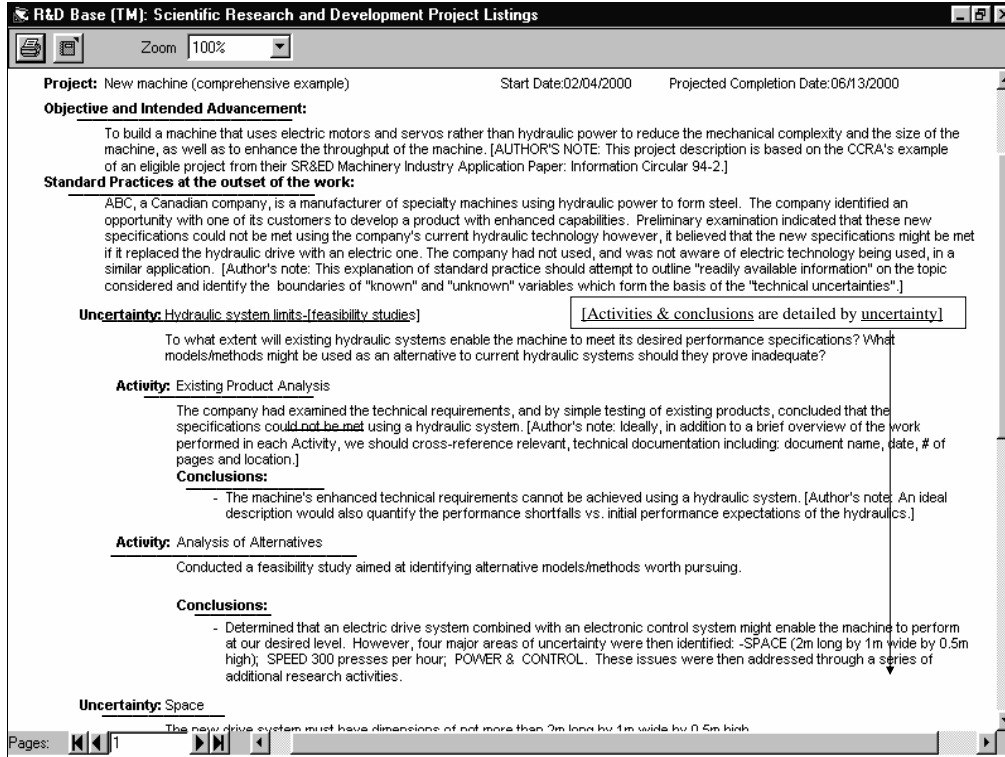
Excerpt from IC 86-4R3 paragraph 4.3

“Achieving a **technological advance** would require removing the element of **technological uncertainty** through a process of **systematic investigation**... For an experimental development activity to be eligible the **technological advance** achieved **has only to be slight**.”

Excerpt from CRA, IC 86-4R3 paragraph 2.13

“In the context of experimental development, scientific or **technological advancement is the knowledge acquired in carrying out the SR&ED project**, which advances the understanding of the underlying scientific relations or technology. ..For an experimental development activity to be eligible ... it must seek to advance the taxpayer's technological knowledge base. The **technological advance** achieved **has only to be slight**.”

Excerpt from IC 86-4R3 paragraph 2.13



SAMPLE PROJECT DESCRIPTION TEMPLATE [1]

Project #:
Project Name:
SR&ED for the Fiscal Year Ending _____
Date Project Started:
Actual or estimated Completion date:

OVERALL PROJECT OBJECTIVE: *(Related to the corporation's existing technical practices)*

I) EXISTING SCIENTIFIC OR TECHNOLOGICAL KNOWLEDGE BASE:

II) TECHNOLOGICAL ADVANCEMENT:

TECHNOLOGICAL UNCERTAINTIES: *(Which variables are unpredictable with respect to determining the "optimal combination of components?" These issues are created by departures from standard practices.)*

III) SYSTEMATIC INVESTIGATION (ACTIVITIES TO RESOLVE EACH STATED UNCERTAINTY)

A) EXPERIMENTATION & ANALYSIS PERFORMED THIS TAXATION YEAR: *(Try to clarify variables in question and illustrate any unexpected inter-relations.)*

B) CONCLUSIONS & RELATED EXPLANATION(S): *(Illustrate any unexpected results & try to provide technical conclusions)*

C) TECHNICAL DOCUMENTATION RETAINED: *(Notes, drawings, diagrams, and any third party correspondence which indicates that methodologies behind the solutions were not "readily available" at the outset)**

Primary Investigator

[1] Form T661 available for download at www.CRA-adrc.gc.ca/E/pbg/tf/t661/ - See working paper T-1.4



D – Project costs & descriptions

Summary of costs by project

Project descriptions # 1-4

#1 - Improve compounding equipment (D-1's)

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ADDITIONAL EXAMPLES - log into our “R&D Base” “demo” database at, www.rdbase.net.

Project #1 : improve compounding equipment

I) OBJECTIVE: modifying older equipment (the Gelimat) to produce a unique form of compounding equipment

DEPARTURES FROM STANDARD PRACTICE

- * -high output rates,
- * -high dispersivity,
- * -absence of shear

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[Author's note: **FOR ADDITIONAL "MACHINERY" INDUSTRY EXAMPLES** - log into our "R&D Base" database at, www.rdbase.net.
Username: `user@machinery`, Password: `user`]

ADDITIONAL EXAMPLES on "MOULDS, TOOLS & DIES" - log into our "R&D Base" database at, www.rdbase.net. Username: `user@mtd`, Password: `user`]

Project #1

II) TECHNOLOGICAL ADVANCEMENTS / UNCERTAINTY:

- ✱ practical ways to sense and
- ✱ control the temperature

III) SYSTEMATIC INVESTIGATION

- ✱ Activity 1 - thermocouples
- ✱ Activity 2 - fibre optics



Projects #2 to #4

New database method (D-2's)

Chemicals - catalyst process (D-3's)

Plant breeding - new cultivar (D-4's)

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Project #2: Software - database methodology

I) OBJECTIVE:

Develop a new data basing method to double the speed of the database

DEPARTURES FROM STANDARD PRACTICE

- ✱ Existing DMS works well with small data sets, but has excessive access times (>30 seconds) with large databases (>1 gigabyte).

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[Author's note: FOR ADDITIONAL "SOFTWARE" SPECIFIC EXAMPLES - log into our "R&D Base" database at, www.rdbase.net. Username: user@software , Password: user]

Project #2:

II) TECHNOLOGICAL ADVANCEMENTS / UNCERTAINTY:

Relational Environment Issues

III) SYSTEMATIC INVESTIGATION

- ✱ experimented with existing data communications model
- ✱ uncovered new uncertainty with respect to the optimal method to combine relational and packet access methods.

Project #3: Optimize DA Catalyst

I) OBJECTIVE:

- ✱ develop improved analytical procedures for chemical analysis of various metals in catalyst systems.

DEPARTURES FROM STANDARD PRACTICE
minimize catalyst batch-to-batch variability

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[Author's note: FOR ADDITIONAL EXAMPLES SPECIFIC TO THE "PLASTICS" AND "CHEMICAL" industries, log into our "R&D Base" database at, www.rdbase.net :

Username: user@chemicals , Password: user]

Project #3

II) TECHNOLOGICAL ADVANCEMENTS / UNCERTAINTY:

- ✱ which catalyst fabrication conditions (such as metal ratio, zinc concentration, OH/Cl ratio) would impact powder properties

III) SYSTEMATIC INVESTIGATION

- ✱ Lab testing

Project #4: Plant breeding example

I) OBJECTIVE:

- ✱ develop new cultivar that embodies genetic traits for higher yield & resistance

DEPARTURES FROM STANDARD PRACTICE

- ✱ 10% improved yield
- ✱ 10% improved lodging resistance over currently available cultivars
- ✱ no sacrifice of resistance to leaf disease(s) or Phytophthora root rot.

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[Author's note: FOR ADDITIONAL "AGRICULTURAL" AND "LIFE" SCIENCE EXAMPLES

log into our "R&D Base" database at, www.rdbase.net. Username: user@agri, Password: user]

Project #4:

II) TECHNOLOGICAL ADVANCEMENTS / UNCERTAINTY:

- ✱ feasibility of combining the desirable genetic traits from different germplasm sources without sacrificing disease resistance

III) SYSTEMATIC INVESTIGATION

- ✱ Over 10,000 experimental crosses were made & analyzed in the nursery

E - Eligible costs & tax credits

Qualified expenditures include Canadian;

- ☀ ➤ Wages,
- ☀ ➤ Materials,
- ☀ ➤ Subcontractors,
- ☀ ➤ Overheads &
- ☀ ➤ Capital equipment

Expenditure pool & tax credits

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<u>Project</u>	<u>#</u>	<u>Total Wages</u>	<u>Materials</u>	<u>Subcontractors</u>	<u>Capital</u>	<u>Proxy Overhead</u> 65% OF WAGES	<u>Total for ITC purposes</u>
Improve compounding equipment	1	104,582	20,000	35,000		67,978	227,560
New database method	2	100,000	5,000	-		65,000	170,000
Chemical - catalyst process improvement	3	100,000	-	-		65,000	165,000
Plant breeding - new cultivar	4	95,418	-			62,022	157,440
SR&ED capital					15,000		15,000
Total SR&ED		<u>400,000</u>	<u>25,000</u>	<u>35,000</u>	<u>15,000</u>	<u>260,001</u>	<u>735,000</u>

SR&ED Tax credits

- Basic federal (20%)
 - Corporations, GP's & individuals
- Enhanced credits
 - (35% CRA & 10% Ontario)
 - Phase outs – income & capital
 - refundability
- Other provincial incentives

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	<u>Expense type</u>		<u>Total</u>
	<u>Current</u>	<u>Capital</u>	
I <u>Eligible Expenses: for deduction</u>			
Labour	400,000		
Materials	25,000		
Subcontractors - Arm's length	35,000		
	460,000		
ASA R&D Capital		15,000	
Eligible (deductible) R&D Expenses			475,000
II <u>Qualified Expenses: for calculation of ITC's</u>			
<u>Add</u>			
Proxy (overhead allocation) if elected	260,000	-	
Qualified Expenditures for SR&ED ITC	720,000	15,000	735,000
III <u>Credits:</u>			
Ontario Innovation Tax Credit (OITC)			
Current Expenditures (10%)	72,000	-	
Capital expenses - ASA SR&ED (4%)	-	600	
Total Ontario Innovation Tax Credit (OITC)			72,600
Qualified Expenditures for Federal SR&ED ITC	648,000	14,400	662,400
Federal Investment Tax Credit Earned (35%)			
Current Expenditures (35%)	226,800	-	
Capital expenses - ASA SR&ED (35%)	-	5,040	
Total Federal Investment Tax Credit	226,800	5,040	231,840
Expected Investment Tax Credit refunds	298,800	2,616	301,416
Investment Tax Credit carryforward	-	3,024	3,024
Total Investment Tax Credits earned	298,800	5,640	304,440

F - COMMON DOCUMENTATION PROBLEMS

Optimal implementation:

- ✱ Willing contributions of “investigators”
- ✱ Ability to identify and rank the relative significance of technical uncertainties
- ✱ Ability to provide “conciseness and brevity” by focusing on significant technical issues

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The next series of slides will try to illustrate some of the common documentation problems for the R&D industry in general and software in particular.

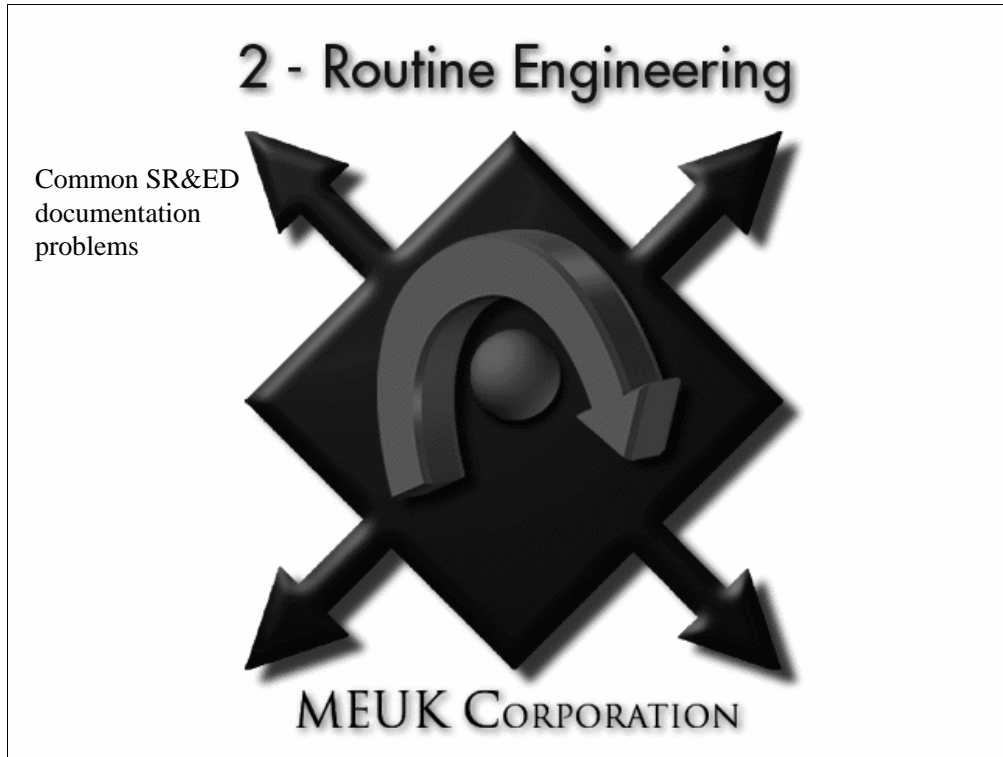


The first of the most common SR&ED documentation problems is the failure to define standard practice. **An example** of this might be seen where description starts, **“This product will be the first of it’s kind in the world”**

While this may be indicative of an advancement at least from a business perspective, it generally **requires some benchmark** of similar technology or method to clarify:

- 1) that the anticipated results are not readily apparent, and
- 2) what is to be learned, which basically = the ability to illustrate valid technical uncertainties.

In summary, the researchers goal is to identify issues that are “routine engineering.” This would typically be any technical thrusts whose results are readily predictable within a proper definition of the company’s knowledge base.



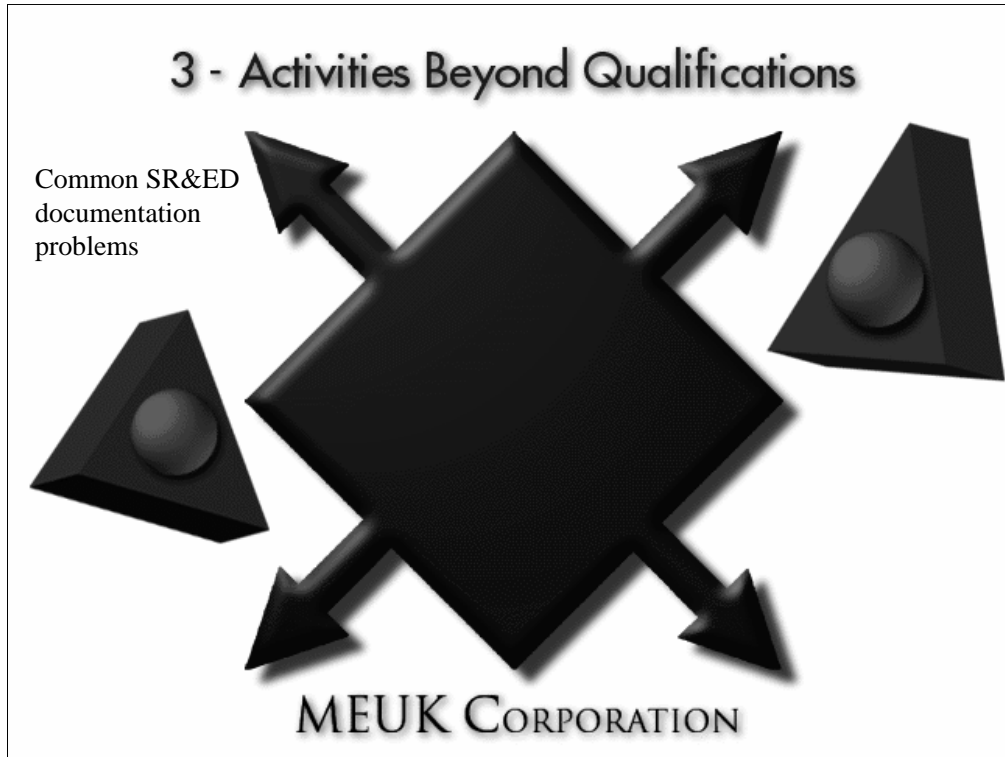
Generally speaking, “Routine engineering,” represents any Activity that is NOT correlated with one, or more, technical uncertainties.

Typically these Activities are **within the standard practice “knowledge base.”**

Recommendations

Perhaps one of the best illustrators of **technical uncertainty** is provided by a **comparison of results to initial expectations.**

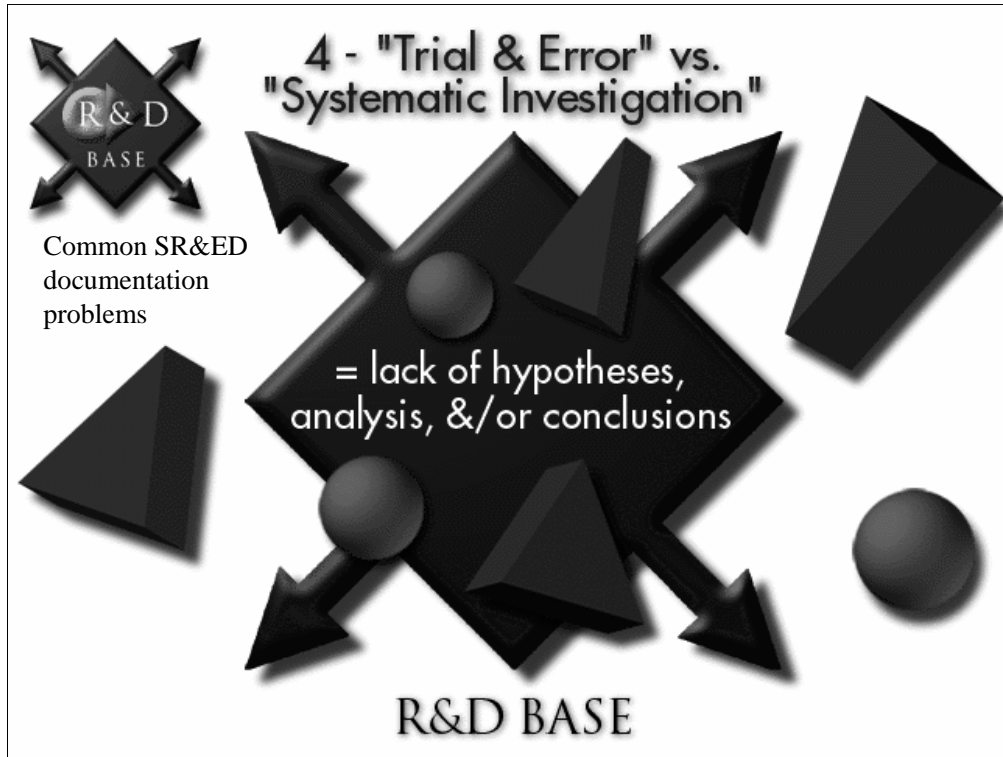
Since the R&D Base program requires the correlation of **Activities to Uncertainties**, by definition, “routine engineering” activities should NEVER be input into the system.



Given the state of change of technology in most industries there is an ongoing requirement for research personnel to continually stay abreast of new developments which will impact their ongoing research activities.

Often there is considerable amount of judgment required to determine whether a particular individual is qualified to be dealing with the specific technologies in question, particularly where the project contemplates a variety of technologies.

Perhaps the best evidence as to “when” someone becomes qualified to perform the experimentation in question, is the point where he or she can formulate relevant technical hypothesis with respect to this work.



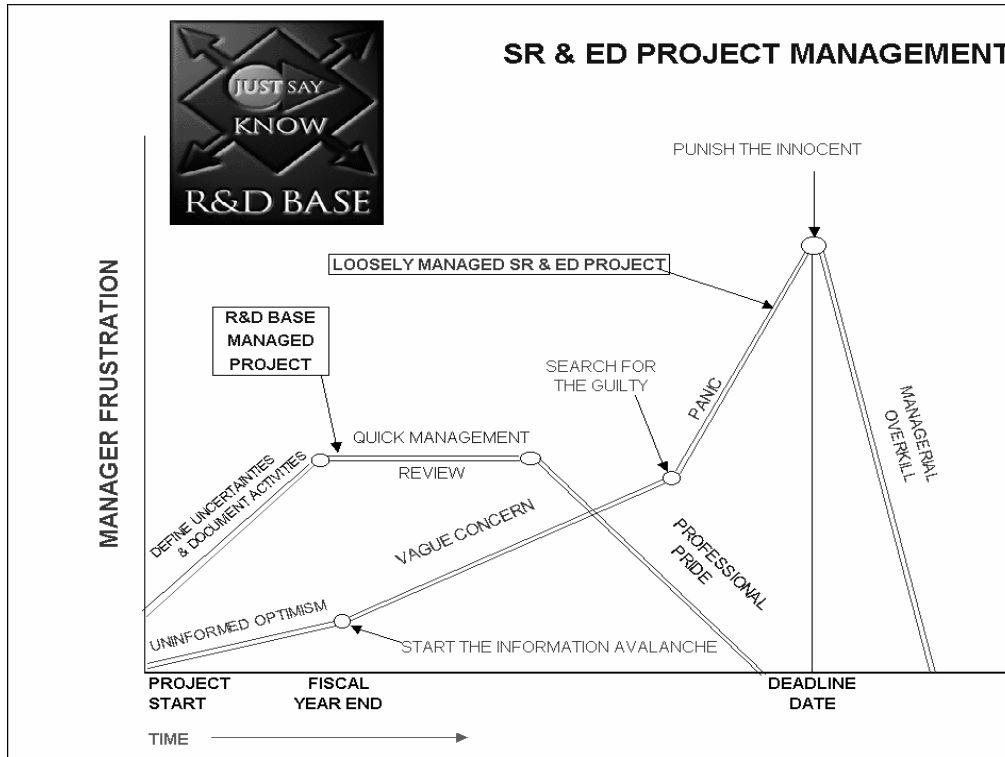
In the author's opinion, "Trial and error" (which, according to the CRA's definitions, is NOT an eligible form of experimentation) generally examines potential solutions to a problem without the ongoing evaluation of why these results occurred.

The major difference between "Trial and error" and "systematic investigation" is the existence of :

- specific technical hypotheses and
- related technical conclusions.

Recommendation:

There is nothing wrong with "quick & dirty experiments" however, we should keep adequate evidence of the work performed as well as explanations for (product) failures as well as successes. In this way a technical advancement can be made even if the project itself becomes a "business" failure.



Learning from “mistakes”

According to Leon Royer, executive director organizational learning services, 3M.

"This company has long tradition of letting people make mistakes. It was part of Mr. McKnight's philosophy when he founded 3M in 1905. As long as someone was going in the right direction, a mistake is really about gaining knowledge. It's a learning experience."

In this regard, we hope that R&D Base will help each of its users leverage the full potential of their “useful mistakes.”

G - HOW MEUK CAN HELP

- ✱ **R&D Base.net - \$1,000/ year / user**
- ✱ Technical documentation support
- ✱ Financial / tax filing support

- ✱ **Full claim preparation – using your existing accountants (typical fee 20% of ITC recovery) – see www.meuk.net**

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