

BETWEEN:

BUHLER VERSATILE INC.,

Appellant,

and

HIS MAJESTY THE KING,

Respondent.

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Appeal heard on September 23-25, 2019, at Winnipeg, Manitoba and on November 15-16, 2021, January 17-20, 2022, January 24-25, 2022, and March 22-23, 2022 virtually

Before: The Honourable Justice Susan Wong

Appearances:

Counsel for the Appellant: Jeff D. Pniowsky  
Matthew Dalloo

Counsel for the Respondent: David Silver  
Kelsey Desjardine

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**JUDGMENT**

1. The appeal is allowed on the basis that:
  - a) the appellant's activities with respect to the 535-HP tractor in project 5 (4WD Phase D Tier II High HP) constituted SR&ED in the 2005 taxation year; and
  - b) the appellant incurred qualified SR&ED expenditures in the amount of \$972,066 in 2005.
2. In light of the appellant's substantial success on the first issue and partial success on the second issue, the appellant is entitled to costs.

3. The parties shall have until March 31, 2023 to reach an agreement as to costs, failing which the appellant shall file written submissions by April 28, 2023 and the respondent shall file a written response by May 29, 2023. Any such submissions shall not exceed ten pages in length. If the parties do not advise the court that they have reached an agreement and no submissions are received by these dates, then costs shall be awarded to the appellant in accordance with Tariff B.

Signed at Ottawa, Canada, this 6th day of February 2023.

“Susan Wong”

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Wong J.

Citation: 2023TCC18  
Date: 20230206  
Docket: 2012-4373(IT)G

BETWEEN:

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### **REASONS FOR JUDGMENT**

Wong J.

#### **Introduction/Overview**

[1] The appellant is an agricultural equipment manufacturer and specializes in the manufacture of agricultural tractors.

[2] The Minister of National Revenue disallowed the appellant's 2005 SR&ED claim for qualified expenditures totalling \$3,591,220 with respect to seven projects.

[3] This hearing commenced in September 2019 and its in-person continuation was postponed three times due to risks/challenges presented by the COVID-19 global pandemic. It was ultimately completed virtually over a 5-month intermittent period. I commend both parties and their counsel for their flexibility and willingness to adapt to the changing, unpredictable circumstances during this period.

#### **Issues**

[4] The issues are as follows:

- a) Were the appellant's tractor projects scientific research & experimental development (SR&ED) in 2005 and specifically, did the appellant's activities constitute experimental development?

- b) If so, then what amount are qualified expenses under clause 37(8)(a)(ii)(B) (i.e. the proxy method)?

[5] The Minister says that the appellant's activities did not meet the definition of SR&ED and were more accurately described as routine testing, quality control, and/or product development.

### **Legal framework**

[6] The definition of SR&ED has not changed since before the taxation year under appeal and reads as follows:<sup>1</sup>

**“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.

[7] With respect to the deduction of SR&ED expenditures, the relevant portion of paragraph 37(1)(a) read as follows in 2005:

**37. (1) Scientific research and experimental development [in Canada]** – 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 carried on in Canada, directly undertaken by or on behalf of the taxpayer, and related to a business of the taxpayer, ...

[8] When calculating SR&ED expenditures using the proxy method under clause 37(8)(a)(ii)(B) as it read in 2005, expenses on or in respect of SR&ED include only those incurred by the taxpayer in the year each of which is:

- (I) an expenditure of a current nature for, and all or substantially all of which was attributable to, the lease of premises, facilities or equipment for the prosecution of scientific research and experimental development in Canada, other than an expenditure in respect of general purpose office equipment or furniture,
- (II) an expenditure in respect of the prosecution of scientific research and experimental development in Canada directly undertaken on behalf of the taxpayer,
- (III) an expenditure described in subclause (A)(III), other than an expenditure in respect of general purpose office equipment or furniture,
- (IV) that portion of an expenditure made in respect of an expense incurred in the year for salary or wages of an employee who is directly engaged in scientific

research and experimental development in Canada that can reasonably be considered to relate to such work having regard to the time spent by the employee thereon, and, for this purpose where that portion is all or substantially all of the expenditure, that portion shall be deemed to be the amount of the expenditure,

- (V) the cost of materials consumed in the prosecution of scientific research and experimental development in Canada, or
- (VI) ½ of any other expenditure of a current nature in respect of the lease of premises, facilities or equipment used primarily for the prosecution of scientific research and experimental development in Canada, other than an expenditure in respect of general purpose office equipment or furniture.

[9] For the purposes of subclause 37(8)(a)(ii)(B)(III) above, subclause (A)(III) describes the following type of expenditure (as it read in 2005):

(III) an expenditure of a capital nature that at the time it was incurred was for the provision of premises, facilities or equipment, where at that time it was intended

1. that it would be used during all or substantially all of its operating time in its expected useful life for, or
2. that all or substantially all of its value would be consumed in,

the prosecution of scientific research and experimental development in Canada,  
...

[10] The criteria first set out in *Northwest Hydraulic Consultants Ltd.*<sup>2</sup> continue to be used when determining whether a set of activities fits within the definition of SR&ED. The Federal Court of Appeal has endorsed this approach on numerous occasions<sup>3</sup> and summarized the criteria as follows:<sup>4</sup>

- a) Was there a technological risk or uncertainty which could not be removed by routine engineering or standard procedures?
- b) Did the person claiming to be doing SR&ED formulate hypotheses specifically aimed at reducing or eliminating that technological uncertainty?
- c) Did the procedure adopted accord with the total discipline of the scientific method including the formulation, testing and modification of hypotheses?

- d) Did the process result in a technological advancement?
- e) Was a detailed record of the hypotheses tested, and results kept as the work progressed?

**Witnesses**

[11] The following witnesses testified:

- a) Willy Janzen – joined Buhler Industries Inc. in 2006 as corporate controller and became its chief financial officer;
- b) Dr. Donald Himbeault – senior manager of R&D Tax at PricewaterhouseCoopers since 2012. Previously worked for Deloitte and assisted the appellant in the preparation of its SR&ED claim. Professional engineer (mechanical) since about 1998;
- c) Barry Thompson – service representative and engineer for Versatile since about 1980. Joined Buhler Industries Inc. when it bought Versatile in 2000 and retired in 2014. Professional engineer (mechanical) since 1991;
- d) Keith Chrystall – research & technology advisor for Canada Revenue Agency since 2004. Professional engineer with a bachelor of applied science in mechanical engineering and master of science in mechanical engineering;
- e) Allan Minaker – engineer with Versatile for about 10 years, followed by about 10 years with Buhler Industries Inc., followed by about 10 years with the appellant (from 2001 to 2011). Professional engineer since about 1982 with a bachelor of science in agricultural engineering specializing in power and machinery;
- f) James Pell – mechanical engineer and senior applications engineer with Cummins Inc., a U.S. engine manufacturer; and
- g) Scott Lagadyn – qualified as an expert in the area of mechanical engineering including the design, development, and manufacture of mobile heavy equipment and machinery. Research & technology advisor for CRA since 2016, with no prior involvement on the appellant's file. Professional engineer since 2015 with a bachelor of engineering

(mechanical) and master of science in mechanical engineering and industrial management.

**Factual background**

*The appellant*

[12] The appellant is based in Winnipeg and a wholly owned subsidiary of Buhler Industries Inc., which is a publicly traded company.<sup>5</sup> Buhler Industries Inc. purchased agricultural tractor manufacturer Versatile in 2000, resulting in the appellant. Versatile mass-produced the first 4-wheel drive articulated tractor in 1966<sup>6</sup> and the appellant is currently the only agricultural tractor manufacturer in Canada.<sup>7</sup>

[13] Mr. Janzen testified that the appellant exports approximately 60 percent of its tractors internationally.<sup>8</sup> As a tractor manufacturer, it competes with much larger companies such as John Deere and Case New Holland.<sup>9</sup> He stated that even though its competitors were significantly bigger, the appellant inherited the Versatile ideology to value innovation.<sup>10</sup>

[14] He stated that the appellant’s manufacturing plant is 684,000 square feet in size and includes a testing chamber within which there is a rocks tester and a machine for testing the rollover protection system (ROPS). He testified that the appellant also has an 80-acre test track which includes a 500-foot bump track (with bumps of varying severity).<sup>11</sup>

*The projects*

[15] The appellant’s fiscal year-end is September 30<sup>th</sup> and its 2005 SR&ED claim consisted of seven projects:<sup>12</sup>

<b>Project number</b>	<b>Name</b>	<b>Start date</b>	<b>Finish date (Actual or expected)</b>
1	FWD RTT – Four Wheel Drive Rubber Track Phase E	January 2002	September 2009
2	4WD Phase C Tier II	September 1999	September 2005
3	Genesis Upgrade Phase A Tier II	January 2003	September 2005



4	Genesis Upgrade Phase G Tier III High HP	September 2001	April 2007
5	4WD Phase D Tier II High HP	January 2002	October 2006
6	4WD Phase C-2 Tier III	October 2004	December 2007
7	Phase “J” Plus 600 HP 4WD Tractors	October 2004	October 2008

[16] With respect to the abbreviations and terminology used to describe the seven projects:

- (a) “4WD” and “FWD” mean four-wheel drive;
- (b) “RTT” means rubber track tractor (i.e. as opposed to rubber tires);<sup>13</sup>
- (c) “HP” means horsepower;
- (d) “Phase” appears to refer to testing or development phases;
- (e) “Tier” refers to emission standards set by the U.S. Environmental Protection Agency, Tier II standards being older and lower than Tier III;<sup>14</sup> and
- (f) “Genesis” refers to a specific line of tractors, with 4WD being another tractor line.

[17] The bulk of the appellant’s SR&ED claim is associated with project 5 (4WD Phase D Tier II High HP). During the hearing, both parties focused their respective presentations on this project.

*Project 5: 4WD Phase D Tier II High Horsepower Tractor*

[18] The appellant’s goal in this project was to create a line of high-horsepower 4WD tractors which met Tier II emission standards and were suitable for agricultural and commercial construction (e.g. scraping/earth-moving/levelling) applications.<sup>15</sup> Within this line, they sought to build a 4WD tractor with over 500 horsepower, which would be above industry levels at the time.<sup>16</sup> Mr. Janzen explained that more powerful agricultural tractors were needed as farms and farm implements had increased in size while the number of farm employees decreased.<sup>17</sup>

[19] Mr. Minaker testified that the appellant's larger competitors were also building four-wheel-drive tractors at the time.<sup>18</sup> He recalled that there may have been 450-HP 4WD tractors on the market but no one had yet built one with a horsepower of 500 or greater.<sup>19</sup> The appellant did not know what its competitors might be working on or have access to their research and development, even if it was similar to the appellant's own.<sup>20</sup>

[20] The project began in 2002 and by the end of the 2004 fiscal year, the appellant had built three prototypes.<sup>21</sup> During the 2005 fiscal year, three pilots were built with 435, 485, and 535 horsepower respectively.<sup>22</sup> Building the pilots meant using the appellant's production line facilities to build tractors with near-production line specifications, which tested both the manufacturing readiness of the design and the effectiveness of the manufacturing process.<sup>23</sup>

[21] At the time of this project, the appellant's largest 4WD tractor had 425 horsepower and used a Cummins N-14 engine. More stringent (i.e. Tier II) emission requirements were coming and the N-14 engine was being phased out as a result.<sup>24</sup> For this project, the appellant decided to build its line around the Cummins QSX-15 engine, which was Tier-II compliant.<sup>25</sup> Mr. Minaker stated that they would be starting from scratch because the existing 425-HP tractor design had already exceeded its design limits by 25 horsepower and the QSX-15 engine was significantly more powerful.<sup>26</sup>

[22] Mr. Pell described his role as being one of ensuring that Cummins' OEMs (original equipment manufacturers) installed its engines correctly in order to meet the emissions standard.<sup>27</sup> He also stated that correct installation was important to ensure that the engine survives and does not fail.<sup>28</sup> As part of his role, he gave the appellant feedback on whether its design would meet Cummins' requirements in order to achieve emissions compliance.<sup>29</sup> In other words, he focused on Cummins' requirements and left it to the OEM to figure out how to get there.<sup>30</sup> He explained that the conditions in which an engine operates affect its emissions.<sup>31</sup>

[23] The QSX-15 consisted of a base engine which was a regular on-highway truck engine, but then further developed by Cummins for the off-highway market.<sup>32</sup> In other words, the QSX-15 was intended for off-highway purposes.<sup>33</sup> Mr. Pell explained that having the same base engine meant the major components (e.g. crankshaft, pistons) were the same but the software in the ECM (engine control module) was customized for off-highway use. He stated that the QSX-15 was bespoke for off-highway use but not modified.<sup>34</sup>

[24] Mr. Pell testified that among other things, the appellant wished for the QSX-15 engine to provide an approximate 8% power bulge for this tractor line. He explained that a power bulge is reserve power which enables a tractor to maintain its power even when the tractor meets resistance, i.e. when the engine rpm (rotations per minute) slows because the tractor hits a hard spot in a field, the tractor would ordinarily lose power but for the power bulge.<sup>35</sup> He was unaware of any other tractor manufacturers attempting to install the QSX-15 engine into a tractor or incorporate a power bulge back in 2005.<sup>36</sup>

(a) *Torsional coupler*

[25] While field-testing the prototype and pilot tractors in 2005, the appellant encountered a major durability problem involving the torsional coupler, which is located on the back of the engine.<sup>37</sup> The term “torsional coupler” is interchangeable with “torsional damper”,<sup>38</sup> while the word “coupler” is also interchangeable with “coupling”. The coupler’s description might also be based on the mechanism/material that provides the dampening effect, e.g. a rubber coupling or a spring coupler.

[26] Mr. Minaker described the torsional coupler as the connection between the engine and the rest of the powertrain.<sup>39</sup> He explained that the QSX-15 engine ran at 2,100 rpm, which produces pressure pulses and exerts vibrational pressure on the crankshaft (which converts linear movement to rotational movement in an engine).<sup>40</sup> He stated that the transmission (which controls the engine’s power) would itself consist of multiple gears, shafts, and bearings rotating at various speeds.<sup>41</sup>

[27] He explained that in this system of spinning components, a torsional coupler is needed to isolate and minimize vibration to prevent the vibrations from destroying the system itself.<sup>42</sup> Mr. Lagadyn described the purpose of the torsional coupler as that of forcing the power of the engine to go through it, thus providing its dampening effect to the rest of the drive line.<sup>43</sup>

[28] The appellant’s 425-HP tractor used a version of the torsional coupler referred to as an LCD rubber coupler; Mr. Minaker described it as essentially a very large rubber ring in a metal shell and fairly commonly used in the tractor industry.<sup>44</sup> To accommodate the larger QSX-15 engine, it was necessary to raise the engine which resulted in a 5-degree operating angle between the engine crankshaft and the transmission input shaft (which receives power from the engine).<sup>45</sup> The LCD coupling ordinarily required the crankshaft and transmission input shaft to be in-line

(i.e. at a 0-degree angle) so the 5-degree operating angle resulted in a whipping motion that greatly reduced the lifespan of the coupling.<sup>46</sup>

[29] The appellant decided to move away from a rubber coupling and try a spring coupler, i.e. which has no rubber and instead uses a series of springs for dampening. It started with spring couplers made by a company called Torsion Control, testing them both in the field and using a dynamometer (an engine-testing device which measures torque).<sup>47</sup> Mr. Minaker explained that a torsional coupler should last over 5,000 hours but it was failing after less than 100 hours with the QSX-15 engine.<sup>48</sup>

[30] In the process of determining why the coupler failed, the appellant consulted with Torsion Control who in turn gave feedback and suggestions. Mr. Lagadyn succinctly summarized the appellant's approach as follows:

The appellant created a bench test apparatus. The apparatus, or test bed, featured a flywheel and a driveshaft operating at an angle. The intent of the test was to first fail the coupler and observe the baseline reliability, and then test improved coupler designs to measure the incremental reliability gained, if any. However, during bench testing, the appellant recognized that the testing was not matching the failures seen in the field. The appellant considered that the bench testing was creating steady state loads, whereas in the field the loads would be intermittent spike loads.

The appellant also considered the possibility that the coupling might be failing due to axial thrust loads on the coupler. The driveshaft contained a slip joint which would in theory prevent thrust loads. The appellant considered that high torque might be creating enough friction to prevent the slip joint from slipping as intended. The appellant considered the thrust loading could be occurring on the coupler from relative movement between the engine and transmission (due to the engine and transmission shifting on their elastomer mounts).

The appellant pursued the measurement of actual in-service loads and movements on the coupler and driveshaft on a full scale loaded tractor. The tractor driveshaft was outfitted with a strain gauge arrangement to measure the torque passing through the coupler and driveshaft. The appellant carried out dedicated testing with the tractor on a test track and collected and analysed data. The appellant observed in detail the nature of the loads and movements affecting the coupler. Notably, the torque spikes were significantly higher than expected at approximately four times rated torque. Based on their new understanding, the appellant and Torsion Control made further design changes in the coupler. The primary design changes were making the coupler larger (larger bearings, larger stub shaft) and eliminating the two-piece design which had a welded joint which was subject to fatigue failure. The end result was a larger, heavier duty, one-piece style spring coupler.

[31] Mr. Minaker testified that the end design was one piece with 12 sets of springs (up from 9), which was larger and heavier but also more durable and more expensive.<sup>49</sup>

*(b) Cooling*

[32] The larger QSX-15 engine presented the appellant with multiple challenges in terms of keeping it cool, thereby maintaining Tier II emissions compliance. Either a sufficient airflow must be created or a cooling system devised because insufficient cooling in turn negatively affects emissions.<sup>50</sup> Mr. Minaker explained that a tractor typically operates in much dustier conditions than a highway truck. The dust and debris tend to plug the tractor's cooling system components and make it more difficult to keep the engine cool.<sup>51</sup>

[33] As explained by Mr. Pell, an engine in a vehicle burns fuel to produce power but heat is produced as a by-product. A fast-moving highway vehicle will generate ground air which circulates through the radiator and a cooling stack, all of which serve to cool the engine and prevent overheating. On the other hand, the maximum speed of a tractor is significantly lower than that of a highway vehicle so its movement does not generate the same natural airflow for cooling.<sup>52</sup>

[34] The difference between a highway vehicle moving at a slow speed versus an inherently slow-moving tractor is the amount of power being drawn from the engine. Mr. Pell stated that a highway truck driving at a slow speed does not pull a high degree of power from the engine so does not require the cooling; when it drives at a fast speed, it pulls more power and needs cooling.<sup>53</sup> When a highway truck goes uphill while pulling a heavy load, it moves slowly but the engine will get some of its power from ram air (i.e. airflow created by movement).<sup>54</sup> He explained that going uphill is only one part of a highway truck's duty cycle while a tractor pulls power from the engine continuously over an extended period, thus generating heat.<sup>55</sup>

[35] The cooling system for the previous (Cummins N-14) engine had a built-in intercooler (also called a "charge air cooler") to cool the air entering the turbocharger, which in turn compresses air going into the engine. Mr. Minaker explained that the QSX-15 engine had an external/separate charge air cooler which was part of a cooling system consisting of the radiator to cool the engine coolant, the charge air cooler to cool the air, an oil cooler for the transmission, an oil cooler for the hydraulic system, a fuel cooler (which was new with the QSX-15), an air-conditioning condenser, and the fan plus its shroud.<sup>56</sup>

[36] The appellant's initial challenge was the orientation of the larger cooling system at the front of the tractor. The components were too large to position side-by-side so a layered/stacking approach was required. However, the layered/stacking approach had the undesired effect of pre-heating the air as it entered the cooling system. Mr. Minaker stated that the appellant had to find a way to balance the need for maximum cooling with serviceability.<sup>57</sup>

[37] With respect to serviceability, the components had to be oriented in such a way that they could be cleaned of the debris that regularly collects. For that reason, the appellant arrived at a system in which the first two layers of components were hinged so that one could access the third layer for cleaning.<sup>58</sup>

[38] For maximum cooling, the appellant was challenged by the need to accommodate the physical size of the components while achieving proper fin-spacing; each component had protrusions called fins to increase their surface area for cooling.<sup>59</sup> Mr. Minaker explained that the tighter the fin-spacing, the better the heat rejection but the worse the airflow, and the appellant only had a limited amount of tractor face area to work with.<sup>60</sup> He testified that it was important to keep the tractor at a reasonable size but they ultimately had to widen it twice in order to house the components.<sup>61</sup>

[39] The appellant tested the cooling system using the dynamometer (called dyno testing) as well as doing field testing. Mr. Minaker stated that the dyno testing took place in a test cell which was a large enclosed room. The tractor would run at full throttle for 6 to 8 hours at a time and approximately 30 variables such as temperatures, pressures, and flows would be measured to determine how the cooling system was working.<sup>62</sup>

[40] In particular, the appellant monitored the limiting ambient temperature (LAT), i.e. the maximum ambient temperature at which the cooling system would still function properly. Mr. Minaker stated that Cummins' maximum threshold was conservative in this regard and particularly challenging in that a functional temperature range would be smaller in the field because of the real-world conditions.<sup>63</sup> For example, the appellant's tractors had to be able to operate in Arizona and Texas which were hotter locations with large amounts of dust/sand to clog the cooling system.<sup>64</sup> He stated that as another example, it is common in the field for customers to refrain from operating the engine at full throttle in order to save fuel, which results in more heat being created due to the fan turning more slowly (due to the reduced throttle), reduced airflow, and less cooling.<sup>65</sup>

[41] Another challenge involving the cooling system involved the charge air cooler itself. Mr. Minaker stated that Cummins had a very tight system specification called the intake manifold temperature differential (IMTD); it required that the air be cooled by at least 63 degrees Fahrenheit while the engine was operating at maximum horsepower. The appellant changed the design of the charge air cooler to create a turbulent airflow which increased cooling but simultaneously reduced the air pressure inside the charge air cooler to an unacceptable level. Conversely, increasing the air pressure inside the charge air cooler led to an unacceptable IMTD. The appellant ultimately increased the face area of the charge air cooler to compensate but in turn had to reduce the size of the oil coolers mounted underneath.<sup>66</sup>

(c) *Additional testing*

[42] The appellant put its tractors through a suite of other tests such as noise levels, steering, rollover protection system (called the cab test), braking, air conditioning, power train, manual transmission, bump track (involving random speed bumps), hydraulic system, and air seeder fans. As discussed above, the appellant also conducted field tests of its tractor by operating it in real-world conditions. Mr. Minaker testified that the appellant would make design adjustments in response to these various tests as well.<sup>67</sup>

[43] A limited number of these tractors went into production in late 2005. Mr. Janzen testified that at the time, this 4WD tractor was known to have the highest horsepower in the world.<sup>68</sup> He stated that when its product life ended in 2014, the appellant sold the intellectual property associated with it for \$2.6M in 2017.<sup>69</sup>

*The Minister's technical review*

[44] During the Minister's SR&ED technical review, Mr. Chrystall noted multiple deficiencies in the records provided by the appellant in support of its claim. For example, the appellant provided copies of engineering change orders (ECOs) which showed that engineering work was done, but he did not find they gave him a sense of how the various engineering activities were organized or how they supported the achievement of a technological advancement. Mr. Chrystall also noted that some of the ECOs dealt with things such as licence plates and the color-coordination of control knobs.<sup>70</sup>

[45] The appellant also provided copies of test data collected, configuration and functional specifications, as well as copies of emails and excerpts of minutes from various meetings during which the tractors were discussed.<sup>71</sup> Dr. Himbeault testified

that he gave CRA a representative sample of those records (which he had in turn received from the appellant), and acknowledged that presenting the emails and excerpts from minutes of meetings as contemporaneous records in support of an SR&ED claim would likely not be received well by CRA.<sup>72</sup>

[46] On June 3, 2008, Mr. Chrystall informed the appellant of his preliminary conclusion that the appellant's activities were not SR&ED in nature and sent the appellant a preliminary technical review report detailing his findings. He invited the appellant to provide additional information by July 3, 2008, following which his preliminary report would become his final report if the additional information was unpersuasive. The preliminary report did ultimately become the final report, although it is unclear as to why both were signed and dated June 3, 2008. Some issue was made during the hearing as to whether the appellant provided additional (albeit unsatisfactory) information to Mr. Chrystall or none at all. Regardless of the lack of clarity in terms of the timeline of events, I do not believe that anything turns on it.

[47] At the hearing, Mr. Lagadyn testified that in his opinion, the appellant's work with respect to the torsional coupler constituted SR&ED while the remainder was product development and routine engineering.<sup>73</sup>

### Expenditures

[48] The appellant claimed SRED expenditures totalling \$3,546,564, broken down as follows:<sup>74</sup>

<b>Project number</b>	<b>Name</b>	<b>Labour</b>	<b>Materials</b>	<b>Contracts</b>
1	FWD RTT – Four Wheel Drive Rubber Track Phase E		\$954	
2	4WD Phase C Tier II	\$55,196	\$32,217	
3	Genesis Upgrade Phase A Tier II	\$82,992	\$35,793	
4	Genesis Upgrade Phase G Tier III High HP	\$52,266	\$53,791	
5	4WD Phase D Tier II High HP	\$953,745	\$1,973,069	\$31,360
6	4WD Phase C-2 Tier III	\$46,909	\$222,350	



7	Phase “J” Plus 600 HP 4WD Tractors	\$5,922		
<b>Total</b>		\$1,197,030	\$2,318,174	\$31,360

[49] The Minister reassessed to disallow \$3,591,220, which appears to include related/consequential SR&ED amounts (referred to as “proxy” and “government assistance”) that are not relevant for the purposes of my determination.<sup>75</sup> In disallowing \$3,591,220 as SR&ED expenditures, the Minister allowed the full amount as business expenses.<sup>76</sup>

[50] While the technical review was ongoing, a CRA financial reviewer commenced his review of the appellant’s expenditures and requested breakdowns and details with respect to the amounts claimed.<sup>77</sup> Mr. Janzen acknowledged that the appellant decided not to provide the additional financial information until/unless the technical review concluded that the activities were SR&ED.<sup>78</sup> The financial reviewer concluded that none of the claimed expenditures qualified for SR&ED, based on the outcome of the technical review.<sup>79</sup>

[51] At the hearing, the appellant conceded labour amounts recorded under code number 020513 (“513”), which represented 428.5 hours of work or \$10,617 of the claimed labour expenditure.<sup>80</sup> The appellant also conceded the contract expenditure of \$31,360 which was an amount paid to Deloitte.

[52] With respect to the labour expenditures, Mr. Janzen acknowledged that the appellant used the hourly rate of \$24.78 for every employee rather than their actual wage/salary. He stated that he was not involved in creating the records in question but that the appellant should have used the actual amounts paid.<sup>81</sup>

## **Discussion and analysis**

### (a) Did appellant’s activities constitute SR&ED?

[53] To answer this question, one must specifically determine whether the activities constitute experimental development as described in paragraph (c) of the definition of SR&ED, i.e. was the work undertaken for the purpose of achieving technological advancement for the purpose of creating new, or improving existing, materials, devices, or products or processes, including incremental improvements thereto?<sup>82</sup>

[54] In considering paragraph (c) of the definition, Chief Justice Bowman's comments in *Northwest Hydraulic* are very helpful:<sup>83</sup>

[8] The appellant relies particularly on paragraph (c) of that definition. Paragraph (c) in the French version reads:

(c) le développement expérimental, à savoir les travaux entrepris dans l'intérêt du progrès technologique en vue de la création de nouveaux matériaux, dispositifs, produits ou procédés ou de l'amélioration, même légère, de ceux qui existent.

[9] I quote this paragraph simply because the words, "de l'amélioration, même légère, de ceux qui existent" seem to clarify any ambiguity that may be found in the words "including incremental improvements thereto".

[10] The addition of these words in 1995 applicable to taxation years ending after December 2, 1992 appears to have been in response to a concern that the achievement or attempted achievement of slight improvements was not covered. I should not have thought it was necessary to say so. Most scientific research involves gradual, indeed infinitesimal, progress. Spectacular breakthroughs are rare and make up a very small part of the results of SRED in Canada.

[11] The tax incentives given for doing SRED are intended to encourage scientific research in Canada (*Consoltex Inc. v. The Queen*, 97 DTC 724). As such the legislation dealing with such incentives must be given "such fair, large and liberal construction and interpretation as best ensures the attainment of its objects" (*Interpretation Act*, section 12).

[55] In applying the five *Northwest Hydraulic* criteria, I am limiting my analysis and conclusions to project 5 which was the 4WD Phase D Tier II High HP tractor.

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

[56] Technological uncertainty cannot be removed by routine engineering or standard procedures, and the problem's resolution is not reasonably predictable.<sup>84</sup> "Routine engineering" consists of techniques, procedures and data that are generally accessible to competent professionals in the field in question.<sup>85</sup>

[57] I am of the view that the technological uncertainty in this case fits squarely under the description of a system uncertainty. In other words, the integration of non-trivial combinations of established (well-known) technologies and principles carried a major element of technological uncertainty.<sup>86</sup> When all the individual parts were

combined, their individual uncertainties were merged into a system uncertainty and the system uncertainty was the entire tractor.<sup>87</sup> All of the constituent parts needed to function in unison to achieve the appellant's objective.<sup>88</sup>

[58] The appellant aimed to build a four-wheel-drive tractor with 535 HP at a time when there were none with over 500 HP and the most powerful one may have had 450 HP. For the appellant, the power increase was 110 HP over its previous model and at least an 85-HP increase over its competition. The QSX-15 engine was bespoke for off-highway use in terms of the software but the major components remained that of a highway engine. It was significantly more powerful and larger than the predecessor N-14 engine, and the increased power and size came with attendant challenges in terms of the heat and sheer force generated by its moving parts. It is logical that with a horsepower increase of this magnitude, the obvious problems might not have had obvious solutions.

[59] In using this engine to build such a tractor, the appellant also faced the overarching requirement that it must stay within specific Cummins parameters in order to meet the desired Tier II emission requirements. The fact that the appellant had to comply with Cummins' parameters did not make the project a Cummins project. Based on Mr. Pell's testimony, Cummins builds engines for the use of OEMs (original equipment manufacturers) who in turn build original equipment using their engines. Similarly, the fact that Torsion Control gave feedback and suggestions as to how the appellant might design a sufficiently durable coupler, did not make the project a Torsion Control project. I would say that the makers of the individual components which comprise a tractor likely make their respective components with the expectation that these components will end up as parts of a larger thing over which the component-maker does not have proprietorship.

[60] In this case, the appellant achieved its goal of building a tractor that for a time, was the most powerful one on the market by at least 85 HP and included a power bulge function which was not known by Mr. Pell to exist in other tractors. While the techniques and testing methods were known, the resolution of this system uncertainty was not reasonably predictable, as can be seen by the number of directions the appellant went in its efforts to resolve the cooling and coupler challenges. The system uncertainty was so unpredictable that the appellant had to build a customized torsional coupler in order to continue with its larger goal of incorporating the QSX-15 engine in the process of building a Tier-II-compliant 535-HP tractor.

[61] Similar to the court's comments in *Northwest Hydraulic*, while it is true that any one of the features of the final design may have been known, it is the innovative combination and alignment of these factors which made this project unique.<sup>89</sup>

(ii) *Did the appellant formulate hypotheses specifically aimed at reducing or eliminating that technological uncertainty?*

[62] *Northwest Hydraulic* says that there are five stages to this process:<sup>90</sup>

- (a) observation of the subject matter of the problem;
- (b) formulation of a clear objective;
- (c) identification and articulation of the technological uncertainty;
- (d) formulation of an hypothesis or hypotheses designed to reduce or eliminate the uncertainty; and
- (e) methodical and systematic testing of the hypotheses.

[63] Although a technological uncertainty must be identified at the outset, identifying new technological uncertainties along the way and using the scientific method (including intuition, creativity, and sometimes genius) to uncover, recognize, and resolve them is an integral part of SR&ED.<sup>91</sup>

[64] The appellant was focused and methodical in the way it uncovered, recognized, and resolved the issues involving cooling and the torsional coupler, as two examples of the larger challenges. It did not always know whether a specific theory would successfully resolve a particular issue but it always knew why it was testing that theory.

[65] For example, the appellant moved away from rubber couplers to spring-based ones because the rubber was breaking; however, the appellant did not know that the spring couplings would work. The appellant then eventually moved away from a 2-piece welded design to a one-piece design. As another example, the appellant knew that the larger cooling system must be accommodated without knowing how to do so. It systematically formulated and tested theories, resulting in a combination of changes to component orientation, spacing, the design of the charge air cooler, and two increases in the size of the tractor itself, among other things.

[66] With the technological uncertainty being a system uncertainty (i.e. a merging of individual uncertainties) in this instance, the various hypotheses formulated would logically vary in magnitude and relative importance to the system as a whole. The appellant's process was systematic and methodical, but also creative. I am of the view that this criterion is satisfied.

*(iii) Did the procedure adopted accord with the total discipline of the scientific method including the formulation, testing and modification of hypotheses?*

[67] As stated by the court in *Northwest Hydraulic*, what may appear routine and obvious afterwards may not have been so at the outset. Routine activity is not distinguished from SR&ED solely by adherence to systematic routines, but the adoption of the entire scientific method (including intuitive creativity) with a view to removing a technological uncertainty through the formulation and testing of innovative and untested hypotheses.<sup>92</sup>

[68] In the present situation involving a system uncertainty, the appellant formulated and tested hypotheses involving individual uncertainties. For the reasons stated under the second criterion, I am of the view that this criterion is satisfied.

*(iv) Did the process result in a technological advancement?*

[69] The appellant did not know whether its competitors were working on a similar high-HP tractor but it did know that a 535-HP 4WD tractor would significantly exceed what was available on the market. Given the fact that the new tractor was for a time, the most powerful one of its kind available by a significant margin, I am of the view that this criterion is satisfied. It is further evidenced by the fact that the associated intellectual property was sold many years later.

*(v) Was a detailed record of the hypotheses tested, and results kept as the work progressed?*

[70] The appellant kept contemporaneous records sufficiently detailed and thorough such that it could systematically test hypotheses involving individual uncertainties, on its way to resolving the system certainty. These records seemed to largely consist of test results, copies of emails, and excerpts from minutes of meetings. While imperfect and incomplete, they were sufficient for the purposes of the work and on a balance, I am of the view that this criterion is satisfied.

*Conclusion with respect to whether the activities were SR&ED*

[71] With respect to project 5 (the 4WD Phase D Tier II High HP tractor), I am satisfied that the appellant's work in 2005 with respect to the 535-HP tractor was SR&ED qualified work and specifically, experimental development. The appellant's evidence focused on the 535-HP tractor and no specific evidence was led with respect to the 435-HP and 485-HP models developed as part of this tractor line. The horsepower of the latter two models was less than or relatively close to that of competitors' models already on the market, so system uncertainty is either less clear or absent. Without specific evidence as to these lower-horsepower models, I am not inclined to find that the work in this regard is SR&ED.

[72] With respect to the remaining six projects, no evidence was led to rebut the Minister's assumptions. Therefore, the appellant's activities in these regards do not qualify as SR&ED.

(b) What amount is deductible under the proxy method?

[73] As noted in paragraph 48 of these reasons, the amounts claimed for project 5 in 2005 were as follows:

Labour	\$ 953,745
Materials	\$1,973,069
Contracts	\$ 31,360

[74] After subtracting the amounts conceded by the appellant, i.e. \$10,617 for labour and \$31,360 for contracts, the remaining claimed expenditures total \$2,916,197. Given that the Minister allowed the appellant's claimed expenditures as business expense deductions, I am not inclined to consider the Minister's alternative position that the expenditures were not incurred.

[75] Subsection 230(1) of the Act requires every taxpayer carrying on business to keep records and books of account such that taxes and deductions can be determined. It is the heart of Canada's self-assessing tax system.

[76] The appellant's recordkeeping was sufficient for the purposes of doing the SR&ED qualified work but insufficient for the purposes of clearly ascertaining the amount of qualified expenditures. It was understandable why Mr. Janzen (who inherited the recordkeeping choices made by his predecessor) might have difficulty gathering the necessary records and why the appellant might weigh the practical cost-benefit of attempting to do so in light of an impending negative technical review

from the Minister. On the other hand, that choice now makes it more challenging to determine the qualified expenditures. Still on another hand, the appellant performed SR&ED qualified work with respect to the 535-HP tractor and my finding in that regard implies that the Minister should have found so as well.

[77] The 535-HP tractor was one of three models in that 4WD line and as indicated earlier, I consider the 435-HP and 485-HP models to lack the necessary system uncertainty to qualify for SR&ED absent specific evidence. The claimed expenditures for project 5 do not distinguish amongst the three models and the appellant used an average hourly rate of \$24.78 for every employee in calculating the labour amount, rather than their actual wage/salary; as a result, the amount claimed by the appellant is inherently inaccurate.

[78] As a principled basis, I would allow one-third of \$2,916,197 as qualified SR&ED expenditures, i.e. \$972,065.67 (rounded to \$972,066) based on the 535-HP tractor being one of three models in the line.

### **Conclusion**

[79] The appeal is allowed on the basis that:

- a) the appellant's activities with respect to the 535-HP tractor in project 5 (4WD Phase D Tier II High HP) constituted SR&ED in the 2005 taxation year; and
- b) the appellant incurred qualified SR&ED expenditures in the amount of \$972,066 in 2005.

[80] In light of the appellant's substantial success on the first issue and partial success on the second issue, the appellant is entitled to costs.

[81] The parties shall have until March 31, 2023 to reach an agreement as to costs, failing which the appellant shall file written submissions by April 28, 2023 and the respondent shall file a written response by May 29, 2023. Any such submissions shall not exceed ten pages in length. If the parties do not advise the court that they have reached an agreement and no submissions are received by these dates, then costs shall be awarded to the appellant in accordance with Tariff B.

Signed at Ottawa, Canada, this 6th day of February 2023.

“Susan Wong”

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Wong J.



CITATION: 2023TCC18

COURT FILE NO.: 2012-4373(IT)G

STYLE OF CAUSE: Buhler Versatile Inc. v. His Majesty the King

PLACE OF HEARING: Winnipeg, Manitoba

DATE OF HEARINGS: September 23-25, 2019 (Winnipeg);  
November 15-16, 2021 (virtual);  
January 17-20, 2022 (virtual);  
January 24-25, 2022 (virtual); and  
March 22-23, 2022 (virtual)

REASONS FOR JUDGMENT BY: The Honourable Justice Susan Wong

DATE OF JUDGMENT: February 6, 2023

APPEARANCES:

For the Appellant: Jeff D. Pniowsky  
Matthew Dalloo

For the Respondent: David Silver  
Kelsey Desjardine

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For the Respondent: François Daigle  
Deputy Attorney General of Canada  
Ottawa, Canada

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<sup>1</sup> Subsection 248(1)

<sup>2</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16

<sup>3</sup> *National R&D Inc. v. Canada*, 2022 FCA 72 at paragraphs 9 and 11, affirming 2020 TCC 47; *Kam-Press Metal Products Ltd. v. Canada*, 2021 FCA 88, 2021 CarswellNat 1288 at paragraph 7, affirming 2019 TCC 46; *R&D Pro-Innovation Inc. v. Canada*, 2016 FCA 152, 2015 D.T.C. 5066 at paragraph 4; *Jentel Manufacturing Ltd. v. Canada*, 2011 FCA 355, 2012 D.T.C. 5031 at paragraph 6; *C.W. Agencies Inc. v. Canada*, 2001 FCA 393, 2002 D.T.C. 6740 at paragraph 17

<sup>4</sup> *C. W. Agencies Inc. v. Canada*, 2001 FCA 393, 2002 D.T.C. 6740 at paragraph 17

<sup>5</sup> Transcript of proceedings (September 23, 2019) at page 42, lines 1 to 16; Notice of appeal at paragraph 1

<sup>6</sup> Transcript of proceedings (September 23, 2019) at page 44, lines 18 to 21; Transcript of proceedings (September 25, 2019) at page 5, lines 27 to 28

<sup>7</sup> Transcript of proceedings (September 23, 2019) at page 43, line 22

<sup>8</sup> Transcript of proceedings (September 23, 2019) at page 46, lines 24 to 26

<sup>9</sup> Transcript of proceedings (September 23, 2019) at page 43, lines 19 to 24; Transcript of proceedings (November 16, 2021) at page 8, lines 15 to 28 and page 9, lines 1 to 6

<sup>10</sup> Transcript of proceedings (September 23, 2019) at page 45, lines 1 to 11

<sup>11</sup> Transcript of proceedings (September 23, 2019) at page 42, lines 18 to 23

<sup>12</sup> Notice of appeal at paragraph 7; Reply to notice of appeal at paragraph 25; Form 661 Claim for SR&ED with T661 Supplement at page 5 of 31 (Exhibit R-2, Binder 2, page 643)

<sup>13</sup> Form 661 Claim for SR&ED with T661 Supplement at page 6 of 31 (Exhibit R-2, Binder 2, page 644)

<sup>14</sup> Form 661 Claim for SR&ED with T661 Supplement at page 6 of 31 (Exhibit R-2, Binder 2, page 641)

<sup>15</sup> Form 661 Claim for SR&ED with T661 Supplement at page 21 of 31 (Exhibit R-2, Binder 2, page 659)

<sup>16</sup> Form 661 Claim for SR&ED with T661 Supplement at page 22 of 31 (Exhibit R-2, Binder 2, page 659)

<sup>17</sup> Transcript of proceedings (September 23, 2019) at page 50, lines 1 to 7

<sup>18</sup> Transcript of proceedings (January 17, 2022) at page 36, lines 16 to 19

<sup>19</sup> Transcript of proceedings (January 17, 2022) at page 36, lines 3 to 6

<sup>20</sup> Transcript of proceedings (January 17, 2022) at page 63, lines 4 to 21

<sup>21</sup> Form 661 Claim for SR&ED with T661 Supplement at page 22 of 31 (Exhibit R-2, Binder 2, page 659); SR&ED Technical Review Report at page 8 of 23 (Exhibit R-2, Binder 2, page 859)

<sup>22</sup> Form 661 Claim for SR&ED with T661 Supplement at page 23 of 31 (Exhibit R-2, Binder 2, page 659); SR&ED Technical Review Report at page 8 of 23 (Exhibit R-2, Binder 2, page 859)

<sup>23</sup> Form 661 Claim for SR&ED with T661 Supplement at page 23 of 31 (Exhibit R-2, Binder 2, page 659); SR&ED Technical Review Report at page 8 of 23 (Exhibit R-2, Binder 2, page 859)

<sup>24</sup> Transcript of proceedings (January 17, 2022) at page 16, lines 15 to 28

<sup>25</sup> Form 661 Claim for SR&ED with T661 Supplement at page 22 of 31 (Exhibit R-2, Binder 2, page 660)

<sup>26</sup> Transcript of proceedings (January 17, 2022) at page 17, lines 16 to 28; page 18, lines 8 to 9

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- <sup>27</sup> Transcript of proceedings (January 20, 2022) at page 2, lines 21 to 22; page 4, lines 12 to 18; page 17, lines 20 to 28
- <sup>28</sup> Transcript of proceedings (January 20, 2022) at page 17, lines 1 to 2
- <sup>29</sup> Transcript of proceedings (January 20, 2022) at page 13, lines 22 to 26
- <sup>30</sup> Transcript of proceedings (January 20, 2022) at page 14, lines 12 to 18
- <sup>31</sup> Transcript of proceedings (January 20, 2022) at page 5, lines 26 to 28
- <sup>32</sup> Transcript of proceedings (January 20, 2022) at page 4, line 24 to 26
- <sup>33</sup> Transcript of proceedings (January 20, 2022) at page 15, lines 2 to 5
- <sup>34</sup> Transcript of proceedings (January 20, 2022) at page 15, lines 9 to 16
- <sup>35</sup> Transcript of proceedings (January 20, 2022) at page 6, lines 11 to 28; page 7, lines 1 to 4
- <sup>36</sup> Transcript of proceedings (January 20, 2022) at page 5, lines 1 to 6; page 7, lines 5 to 13 and lines 27 to 28; page 8, lines 1 to 2
- <sup>37</sup> Form 661 Claim for SR&ED with T661 Supplement at page 23 of 31 (Exhibit R-2, Binder 2, page 661)
- <sup>38</sup> Transcript of proceedings (January 17, 2022) at page 72, lines 26 to 28
- <sup>39</sup> Transcript of proceedings (January 17, 2022) at page 72, lines 15 to 17
- <sup>40</sup> Transcript of proceedings (January 17, 2022) at page 72, lines 17 to 20
- <sup>41</sup> Transcript of proceedings (January 17, 2022) at page 72, lines 20 to 23
- <sup>42</sup> Transcript of proceedings (January 17, 2022) at page 72, lines 26 to 28; page 73, lines 1 to 6
- <sup>43</sup> Transcript of proceedings (January 24, 2022) at page 62, lines 13 to 16
- <sup>44</sup> Transcript of proceedings (January 17, 2022) at page 73, lines 7 to 13
- <sup>45</sup> Transcript of proceedings (January 17, 2022) at page 73, lines 23 to 28; page 74, lines 1 to 7; Expert report of Mr. Lagadyn at page 7, paragraph 4.1.2.1
- <sup>46</sup> Transcript of proceedings (January 17, 2022) at page 74, lines 8 to 16
- <sup>47</sup> Transcript of proceedings (January 17, 2022) at page 75, lines 17 to 28
- <sup>48</sup> Transcript of proceedings (January 17, 2022) at page 75, lines 8 to 16
- <sup>49</sup> Transcript of proceedings (January 17, 2022) at page 77, lines 22 to 27
- <sup>50</sup> Transcript of proceedings (January 20, 2022) at page 5, lines 22 to 28; page 6, lines 1 to 3
- <sup>51</sup> Transcript of proceedings (January 17, 2022) at page 21, lines 13 to 17
- <sup>52</sup> Transcript of proceedings (January 20, 2022) at page 5, lines 11 to 21
- <sup>53</sup> Transcript of proceedings (January 20, 2022) at page 18, lines 18 to 22
- <sup>54</sup> Transcript of proceedings (January 20, 2022) at page 18, lines 27 to 28; Transcript of proceedings (January 17, 2022) at page 21, lines 9 to 11
- <sup>55</sup> Transcript of proceedings (January 20, 2022) at page 19, lines 3 to 6
- <sup>56</sup> Transcript of proceedings (January 17, 2022) at page 24, lines 9 to 22
- <sup>57</sup> Transcript of proceedings (January 17, 2022) at page 24, lines 23 to 28; page 25, lines 1 to 24
- <sup>58</sup> Transcript of proceedings (January 17, 2022) at page 25, lines 5 to 23
- <sup>59</sup> Transcript of proceedings (January 17, 2022) at page 26, lines 2 to 14
- <sup>60</sup> Transcript of proceedings (January 17, 2022) at page 27, lines 13 to 19
- <sup>61</sup> Transcript of proceedings (January 17, 2022) at page 27, lines 20 to 24
- <sup>62</sup> Transcript of proceedings (January 17, 2022) at page 28, lines 3 to 18
- <sup>63</sup> Transcript of proceedings (January 17, 2022) at page 29, lines 1 to 13
- <sup>64</sup> Transcript of proceedings (January 17, 2022) at page 29, lines 17 to 28; page 30, lines 1 to 3
- <sup>65</sup> Transcript of proceedings (January 17, 2022) at page 30, lines 6 to 18

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- <sup>66</sup> Transcript of proceedings (January 17, 2022) at page 31, lines 3 to 28; page 32, lines 1 to 12
- <sup>67</sup> Transcript of proceedings (January 17, 2022) at page 57, lines 19 to 24; page 58, lines 5 to 22
- <sup>68</sup> Transcript of proceedings (September 23, 2019) at page 46, lines 19 to 23
- <sup>69</sup> Transcript of proceedings (September 23, 2019) at page 50, lines 8 to 16
- <sup>70</sup> Letter dated April 19, 2007 from Mr. Chrystall (CRA) to Mr. Janzen (Exhibit R-2, Binder 3, page 906)
- <sup>71</sup> Letter dated April 19, 2007 from Mr. Chrystall (CRA) to Mr. Janzen (Exhibit R-2, Binder 3, pages 907 and 908); Letter dated June 12, 2007 from Dr. Himbeault to Mr. Chrystall (CRA) ((Exhibit R-2, Binder 3, pages 914 to 917)
- <sup>72</sup> Transcript of proceedings (September 24, 2019) at page 108, lines 19 to 28; page 109, lines 1 to 10; Letter dated June 12, 2007 from Dr. Himbeault to Mr. Chrystall (CRA) (Exhibit R-2, Binder 8, page 4576)
- <sup>73</sup> Transcript of proceedings (January 24, 2022) at page 65, lines 8 to 16; Expert report of Mr. Lagadyn at page 19, paragraph 6.2.1
- <sup>74</sup> Notice of appeal at paragraph 7
- <sup>75</sup> Reply at paragraph 21; Notice of confirmation (Exhibit R-2, Binder 2, page 902); T401 Report on objection (Exhibit R-2, Binder 2, page 898)
- <sup>76</sup> Notice of confirmation (Exhibit R-2, Binder 2, page 902)
- <sup>77</sup> Memo dated April 18, 2007 from Jack Bornholdt (CRA) to Mr. Janzen (Exhibit R-2, Binder 3, pages 909 and 910)
- <sup>78</sup> Transcript of proceedings (September 23, 2019) at page 128, lines 3 to 9
- <sup>79</sup> Letter dated July 28, 2008 from Jack Bornholdt (CRA) to appellant (Exhibit R-2, Binder 2, pages 628 and 629); SR&ED Financial Report (Exhibit R-2, Binder 2, pages 876 to 878)
- <sup>80</sup> Tables entitled “2005 Engineering R&D Manpower” (Exhibit R-2, Binder 4, pages 1738 and 1739)
- <sup>81</sup> Transcript of proceedings (September 23, 2019) at page 88, lines 22 to 25; page 92, lines 8 to 23
- <sup>82</sup> Subsection 248(1)
- <sup>83</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraphs 8 to 11
- <sup>84</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16
- <sup>85</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16
- <sup>86</sup> *1726437 Ontario Inc. (AirMax Technologies) v. The Queen*, 2012 TCC 376 at paragraph 17; *A & D Precision Limited v. The Queen*, 2019 TCC 48 at paragraphs 57 and 58
- <sup>87</sup> *A & D Precision Limited v. The Queen*, 2019 TCC 48 at paragraph 59
- <sup>88</sup> *1726437 Ontario Inc. (AirMax Technologies) v. The Queen*, 2012 TCC 376 at paragraph 16
- <sup>89</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 64
- <sup>90</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16
- <sup>91</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16
- <sup>92</sup> *Northwest Hydraulic Consultants Ltd v. The Queen*, 1998 CanLII 553 (TCC) at paragraph 16