Tom Black
President - Ontario Landowners Association
www.ontariolandowners.ca
1-613-831-9061

Are there any renewable energy regulations that apply to wind turbine projects?
This is the question asked by the majority of people who plead their case at the Environmental Review Tribunals (ERT). Time and time again people have attended these tribunals for issues ranging from sound to sleepless nights, decreased property values, ice throw concerns, animal concerns, the entire gambit to try and stop these turbines. These efforts have been to no avail, as there are even areas in Ontario with signage along the road sides saying "Caution when lights flashing due to Turbine ice shedding."

So why, you may ask has no one had success at the ERTs? Because right in the Environmental Protection Act and Ontario Regulation 359/09 the turbines are exempt from "*Any other activity prescribed by the regulations*." It's all there! Below are the questions we have proposed to an ERT in hopes of shedding (not ice) but some light on why people's attempts to protect themselves, their families, their property and their livelihoods have failed. The proof is in the legislation and how that legislation is worded. For more information on these questions, and if you need more proof, please contact us. We have the proof, but it's a long explanation.

QUESTIONS FOR ERT

First, it states on the ELTO web-site the mandate, mission and core values of the Environmental Review Tribunals. Specifically, on your web-site states that the proceedings will be conducted impartially and that decisions will be principled and based on the facts; the applicable law and policy; as well as the merits of the case. It continues to state that the members and the staff involved with the tribunals shall act with honesty, integrity and be professional, exhibiting the highest standards of public service inclusive of building public confidence involving the administration of justice. The tribunal is to not only to be seen to be; but must remain neutral, unbiased and independent from improper influence.[1] This falls in with the Principle of any judicial office and society has a right to expect those appointed to be honourable and worthy of society's trust and confidence.

[1] http://elto.gov.on.ca/about-elto/mandate-mission-core-values/
As of April 1, 2016

There are certain expectations that the average Jane and John Doe have, when appointments are made to a tribunal, These include, but are not limited to:

- there can be no influences by partisan or personal interests
- objectivity must be maintained
- there cannot be, by words or conduct, any favour, bias or prejudice towards any party or interest.
- relevant law to the facts and circumstances must be adhered to
- they must approach their duties in a spirit of cooperation and mutual assistance.[2]

These are high standards; but Jane and John Doe can expect nothing less – after all their lives depend on your decisions.

I have questions that may help bring clarification for Jane and John Doe, pertaining to the legislation involved in the Environmental Protection Act and related Statutes, as these pertain to the issue of health and safety.

The Rules of the Tribunal states: Environmental Review Tribunal – *Rules of Practice and Practice Directions*:

"8. The Tribunal may exercise any of its powers under these Rules or applicable laws on its own initiative or at the request of any person."

With this Rule in mind and remembering that in Canada, women are “persons”, I have ten questions for this Tribunal pertaining to the issues of severe harm to human health, being:

1. Under the appeal process, section 29 (c), and (d) of the Environmental Review Tribunal – *Rules of Practice and Practice Directions*, it is a requirement that some specific section or sections of the Director's approval is appealed and a description of how engaging in the renewable energy project in accordance with the renewable energy approval will cause (a) serious harm to human health; or (b) serious and irreversible harm to plant life, animal life or the natural environment. If there is no section of the approval which presents a topic which can be appealed, how does one appeal and how can one implement section 142.1 (3)? Can the ERT revoke the approval if no specific section or sections of the approval is appealed? Does this mean that no new information can be brought forward involving (a) serious harm to human health; or (b) serious and irreversible harm to plant life, animal life or the natural environment, if it is not specifically mentioned in the Director's approval?

2. Based on section 47.2 (2) removing the application of section 3. (1) "The purpose of this Act is to provide for the protection and conservation of the natural environment," can the Tribunal include the "natural environment" in the process under section 142.1 - Hearing re renewable energy approval, subsection (3) Grounds for

[2] http://www.ontariocourts.ca/ocj/ojc/principles-of-judicial-office/

hearing, where a person may require a hearing under subsection (2) only on the ground that engaging in the renewable energy project in accordance with the renewable energy approval will cause, (a) serious harm to human health; or (b) serious and irreversible harm to plant life, animal life or the natural environment, particularly, when under Part V.0.1. the definition of environment does not include "natural environment" and the purpose of the Act has been removed by section 47.2 (2)?

3. Under section 47.5 the Director can issue an approval if he or she is of the opinion that it is in the public interest to do so. Under section 142.1 (3) the grounds for an appeal must be based on (a) serious harm to human health; or (b) serious and irreversible harm to plant life, animal life or the natural environment. The term serious harm is subjective and arbitrary, so how does the Tribunal determine what is serious harm to human health, and does the criteria laid down by the Tribunal revoke the Directors approval, or will it always be in the public interest that the Directors approval shall stand against serious harm to human health, as that should be part of the Directors consideration when granting an approval by means of the public interest?

4. Is ice considered a contaminant under the Section 1Interpretation of the EPA? The definition of contaminant is:

> "contaminant" means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect;

5. If so, is ice shedding, flinging or throwing considered as coming from a "source of contaminant" discharged into the natural environment? The definition of "source of contaminant" and "discharge" under Section 1 of the EPA is:

> "source of contaminant" means anything that discharges into the natural environment any contaminant;
>
> "discharge", when used as a verb, includes add, deposit, leak or emit and, when used as a noun, includes addition, deposit, emission or leak;

6. With the expressed requirements under section 47.3 (1) and then the exemptions under section 47.3 (2) as well as O. Reg. 359/09 sections 9 and 10, being section 9, paragraph 7 ii. a renewable energy project which has a name plate capacity of greater than 500 kW and on an annual basis, less than 95 per cent of the electricity generated at the facility is generated from a renewable energy source, considering that 50 per cent is considered the new normal, [1] removes the application of section 47.3 in regards to

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[1] **Wind Turbine Net Capacity Factor — 50% the New Normal?**
July 27th, 2012 by **Zachary Shahan**
Anyone who hangs around in the comments section of sites covering wind energy knows one thing — clean energy haters love to talk about wind turbine capacity factor. In particular, they love to chant the now quite untrue claim that wind turbines have a capacity factor of 20-30%.
If you're not familiar with **capacity factor**, it is how much electricity a power plant actually produces compared to how much it would produce if it operated at full **nameplate capacity** 100% of the time.
No power plant operates at 100% capacity factor. NREL's new **Transparent Cost Database** shows the following capacity factors:

- natural gas combustion turbines — Minimum: 10%; Median: 80%; Maximum: 93%
- natural gas combined cycle — Minimum: 40%; Median: 84.6%; Maximum: 93%

this project, and as section 10 (O. Reg. 359/09) is subject to section 9 exemptions, therefore all Classes of Wind are exempted from section 47.3 (1) paragraph 7, ("Any other activity prescribed by the regulations,"). That being said are any regulations applicable to the Classes of Wind, under the Director's approval involved with or in this project, and are these Classes of the project exempt from section 47.3 and O. Reg. 359/09? And are the applications by the proponents, which must be prepared in accordance with the regulations, to be submitted to the Director for approvals exempt, or are the proponents exempt from those regulations as well, under section 47.3 (1) paragraph 7 based on the aforementioned exemptions?

7. Environmental Review Tribunal – *Rules of Practice and Practice Directions,* it states: "8. The Tribunal may exercise any of its powers under these Rules or applicable laws on its own initiative or at the request of any person." Applicable law includes the Criminal Code of Canada, section 180 is Common Nuisance, which includes:

180 (1) Every one who commits a common nuisance and thereby

(a) endangers the lives, safety or health of the public, or

(b) causes physical injury to any person,

- coal, pulverized & scrubbed — Minimum: 80%; Median: 84.6%; Maximum: 93%
- nuclear — Minimum: 85%; Median: 90%; Maximum: 90.24%
- biopower — Minimum: 75%; Median: 84%; Maximum: 85%
- hydropower — Minimum: 35%; Median: 50%; Maximum: 93.2%
- enhanced geothermal — Minimum: 80%; Median: 90%; Maximum: 95%
- solar PV — Minimum: 16%; Median: 21%; Maximum: 28%
- offshore wind — Minimum: 27%; Median: 43%; Maximum: 54%
- onshore wind — Minimum: 24%; Median: 40.35%; Maximum: 50.6%

Where Does Capacity Factor Fit Into Things?

Now, before moving on to the focus of this article, here's one more thing to note:

Clean energy haters love to talk about capacity factor because it's clearly a metric wind, solar, and hydro don't win at (though, geothermal and biopower actually do very well). However, capacity factor by itself is really not that important. What's important is the total cost of producing electricity. In the energy field, levelized cost of energy (LCOE) is one of the most important metrics. This is "an estimate of total electricity cost including payback of initial investment and operating costs," as NREL writes.

Capacity factor plays a role in LCOE, of course, but so does free fuel (i.e. wind and sunshine). (In a perfect market, LCOE should also include the cost of pollution, which is not the case *at all* in the US today.)

Even without the cost of pollution figured in, if you look at NREL's LCOE tab, onshore wind energy has a median of $0.05/kWh. The *only* energy source that beats that is hydropower ($0.03).

So, the point is, onshore wind energy is already essentially the cheapest option for new electricity (new hydro is not so cheap — that low figure is based on very old dams), even with NREL's median capacity factor of 40.35%.

But…**Technology Changes**

Wind power is still a relatively new electricity option. The technology is still improving, becoming more and more efficient. And, as a part of that, there has been what is essentially a breakthrough in net capacity factor of various turbines in just the last 2 years.

Chris Varrone of **Riverview Consulting**, a friend of ours and true expert in this arena, recently noted in an email to me that this is due to a "proliferation of 'stretch rotor' machines like the GE 100-1.6MW and the V100-1.8MW and V112-3.0MW…. such machines can often hit 50% capacity factor onshore."

In other words, new wind turbines are **regularly hitting 50% capacity factor**, much better than that antiquated 20-30% clean energy haters love to throw around!

More from Chris: "this contrasts with low 30s for the last generation of rotors (e.g., V80-2.0MW) — it is changing the game." NREL's minimum of 24% is old news, old technology. Even turbines in the 30s are old technology now. And the median is being brought down by these older turbines.

New wind turbines are more efficient. And, thus, new wind power is even cheaper. It is now **at an all-time low**, in fact.

One more note from Chris: "LCOE has declined by 33-45% in the past 3 years in the US!"

http://cleantechnica.com/2012/07/27/wind-turbine-net-capacity-factor-50-the-new-normal/

Definition

(2) For the purposes of this section, every one commits a common nuisance who does an unlawful act or fails to discharge a legal duty and thereby

(a) endangers the lives, safety, health, property or comfort of the public; or

(b) obstructs the public in the exercise or enjoyment of any right that is common to all the subjects of Her Majesty in Canada.

The Tribunal is not exempt from the Criminal Code of Canada. With the Director admitting to allowance of Noise in this area he or she may be violating the Criminal Code of Canada, is it not the responsibility of the Municipalities which are to determine noise nuisance and to create noise by-laws? Under section 129 of the Municipal Act, it states:

Noise, odour, dust, etc.

129. Without limiting sections 9, 10 and 11, a local municipality may,

(a) prohibit and regulate with respect to noise, vibration, odour, dust and outdoor illumination, including indoor lighting that can be seen outdoors; and

(b) prohibit the matters described in clause (a) unless a permit is obtained from the municipality for those matters and may impose conditions for obtaining, continuing to hold and renewing the permit, including requiring the submission of plans. 2006, c. 32, Sched. A, s 69.

It is noted that there must be a "permit" issued by the Municipality if there is going to be unusual noise emitted from the Turbines or the Director is violating the Municipal Act and the Legislator's Intent that it be the Municipalities' which is to have this authority. With the aforementioned information, is the Tribunal allowed to revoke the Director's approval based on the violation of the Criminal Code of Canada and the authority granted to the Municipalities?

8. It states in O. Reg. 359/09, section 1 (4), that a "noise receptor" is:

(4) Subject to subsection (6), for the purposes of the definition of “noise receptor” in subsection (1), the following locations are noise receptors:

1. The centre of a building or structure that contains one or more dwellings.

2. The centre of a building used for an institutional purpose, including an educational facility, a day nursery, a health care facility, a community centre or a place of worship.

3. If the construction of a building or structure mentioned in paragraph 1 or 2 has not commenced but an approval under section 41 of the *Planning Act* or a building permit under section 8 of the *Building Code Act, 1992* has been issued in respect of a building or structure mentioned in paragraph 1 or 2, the centre of the proposed building.

4. A location on a vacant lot, other than an inaccessible vacant lot, that has been zoned to permit a building mentioned in paragraph 1 or 2 and in respect of which no approval or building permit mentioned in paragraph 3 has been issued and at which a building would reasonably be expected to be located, having regard to the existing zoning by-law and the typical building pattern in the area.

5. A portion of property that is used as a campsite or campground at which overnight accommodation is provided by or on behalf of a public agency or as part of a commercial operation. O. Reg. 521/10, s. 1 (3).

According to National Academy of Sciences' report [2] a "noise receptor" is "a sophisticated mechanism" in the inner ear and not the center of a building, therefore noise, which crosses a property line, is mischief under the Criminal Code of Canada, as

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[2] Receptor in the inner ear hearing threshold fits our around volume to

A sophisticated protection mechanism ensures that short-term noise not immediately leaves lasting damage to the sensitive sensory cells. A receptor acts as a sort of circuit breakers, has as an international research team found. It automatically adjusts the hearing threshold high, thus preventing overloading of the auditory system. If we are temporarily deaf after a loud rock concert, which is therefore not a sign of a lasting noise damage. It shows rather that the protection mechanism engages, as the researchers in the journal "Proceedings of the National Academy of Sciences' report.

"Our sense of hearing is remarkable especially for its enormous dynamic breadth: It includes differences in volume of more than 120 decibels, equivalent to about one trillion intensity levels", explained Gary Housley from the University of New South Wales in Sydney and colleagues. Whether the proverbial falling of a needle or a launching jet fighter: A built-in amplifier in our ear ensures that we hear very quiet sounds, but also sound survive - at least if the noise does not last forever. Critical to this adaptation effect is the adaptation of hearing threshold by the so-called hair cells in our cochlea. They amplify very faint sounds up to 40 decibels, with loud they react less and convert the sound less effective in electrical nerve signals.

Our ear can temporarily adapt to noise - but in the long run it hurts © SXC

Laboratory mice in traffic noise

What this adaptation effect triggers, especially in loud noise, was previously only partially known, as Housley and his colleagues report. But an earlier study has already produced an important clue: Was disturbed in mice a specific docking site for the signaling molecule ATP in the inner ear, constant noise factor was with them from particularly damaging. They developed as a result relatively quickly a hearing for high frequencies. In their current study, the researchers went a step further: They studied in these mice, whether their hearing still can adapt to loud noises and whether their hearing threshold will be raised in spite of the defective receptor P2X2.

For the experiments, healthy wild-type mice and the mice were exposed to the turned-off by genetic manipulation receptor each 30 minutes a noise of around 85 decibels - equivalent to about the noise of a main road in ten meters. Before and after the researchers measured how sensitively responded hearing the animals at different loud beeps of different pitches. About different measurement methods they also determined how much the hair cells in the inner ear and responded with what intensity they sent out nerve signals, respectively.

Increased hearing threshold prevents clipping

The result: As expected, jumped in the wild-type mice of the protective mechanism on: your hearing threshold dropped by the noise decreases rapidly and remained low for even up to twelve hours, as the researchers report. Played a decisive role for the binding of the signaling molecule ATP to the receptor. "That explains why we hear worse several hours after a loud rock concert: The protection mechanism has started," said Housley. Further analysis showed that this effect is completely reversible and does not result from mechanical damage to the hair cells. Our temporary deafness after the concert is therefore rather a good sign that functioning of protection, according to the researchers.

How advantageous is, was compared with the mice whose P2X2 receptor was genetically deactivated: In them the hearing threshold increased even after half an hour of noise hardly how the measurements showed. This especially the hair cells in certain areas of the cochlea can be overridden, as the researchers explain. Mice with this defect would characterized developed an increasing hearing loss at higher frequencies over time.

But adaptation does not work permanently

"We have found the first molecular pathway previously and the first gene, specifically affect the hearing threshold and therefore protecting the" be stated Housley and his colleagues. Individual variants of this receptor gene could potentially explain why some are more sensitive to noise than others and more likely to develop noise-induced hearing loss in old age.

"Because adjusts the sensitivity of our hearing, we can cope with loud noises - but that is not a complete protection", the researchers warn. Because if the hearing for a long time repeatedly had to endure too much noise, then do it anyway to increasing damage. "It's like the sun and skin cancer: Chronic exposure leads to problems years later," said Housley. (Proceedings of the National Academy of Sciences (PNAS), 2013; doi: 10.1073 / pnas.1222295110)

(Proceedings of the National Academy of Sciences, 16.04.2013 - NPO)

http://www.romtd.com/hearing-identifies-breaker-against-noise/

well as a nuisance. Under section 430 of the Criminal Code of Canada it states that mischief is:

430 (1) Every one commits mischief who wilfully

(a) destroys or damages property;

(b) renders property dangerous, useless, inoperative or ineffective;

(c) obstructs, interrupts or interferes with the lawful use, enjoyment or operation of property; or

(d) obstructs, interrupts or interferes with any person in the lawful use, enjoyment or operation of property.

O. Reg. 359/09 is affectively allowing for mischief to be implemented on people in the use, enjoyment and operation of their property and is a legislative expropriation of someone's use, enjoyment and operation of their property and is injurious. Under the provincial *Expropriations Act* it states:

"injurious affection" means,

(a) where a statutory authority acquires part of the land of an owner,

(i) the reduction in market value thereby caused to the remaining land of the owner by the acquisition or by the construction of the works thereon or by the use of the works thereon or any combination of them, and

(ii) such personal and business damages, resulting from the construction or use, or both, of the works as the statutory authority would be liable for if the construction or use were not under the authority of a statute,

(b) where the statutory authority does not acquire part of the land of an owner,

(i) such reduction in the market value of the land of the owner, and

(ii) such personal and business damages,

resulting from the construction and not the use of the works by the statutory authority, as the statutory authority would be liable for if the construction were not under the authority of a statute,

and for the purposes of this clause, part of the lands of an owner shall be deemed to have been acquired where the owner from whom lands are acquired retains lands contiguous to those acquired or retains lands of which the use is enhanced by unified ownership with those acquired;"

Application of Act

2. (1) Despite any general or special Act, where land is expropriated or injurious affection is caused by a statutory authority, this Act applies. R.S.O. 1990, c. E.26, s. 2 (1).

References in other Acts

(2) The provisions of any general or special Act providing procedures with respect to the expropriation of land or the compensation payable for land expropriated or for injurious affection that refer to another Act shall be deemed to refer to this Act and not to the other Act. 2002, c. 17, Sched. F, Table.

Application to drainage works

(3) This Act does not apply to the use of or injury to land authorized under the *Drainage Act* for the purposes of a drainage works constructed under that Act or to any proceedings in connection therewith. R.S.O. 1990, c. E.26, s. 2 (3).

Conflict

(4) Where there is conflict between a provision of this Act and a provision of any other general or special Act, the provision of this Act prevails. R.S.O. 1990, c. E.26, s. 2 (4).

Crown bound by Act

3. This Act binds the Crown. R.S.O. 1990, c. E.26, s. 3.

And in 2013 the Supreme Court of Canada stated:

> [30]…The words of McIntyre J.A. in *Royal Anne Hotel* are apposite: "There is no reason why a disproportionate share of the cost of such a beneficial service should be visited upon one member of the community by leaving him uncompensated for damage caused by the existence of that which benefits the community at large. [p. 761]"[3]

Based on a noise receptor being part of an inner ear mechanism and not a building, and as any breach of property which interferes with the use, enjoyment or operation of said property is a mischief, will the Tribunal revoke the Directors Approval based on a violation of the *Criminal Code of Canada* and the *Expropriations Act*?

9. Across Ontario there are installations of signage expressing that "ice shedding" is an issue and that one must use "caution" or stop using certain roadways because of "ice shedding." Ice shedding is also synonymous with ice throw and ice fling. Based on the information in question 8, ice shedding/throw/fling is also a nuisance and mischief under the Criminal Code of Canada and an expropriation of one's use, enjoyment and operation of their property. According to various studies, ice may travel up to, according to *Professor Terry Matilsky Department of Physics and Astronomy Rutgers University Piscataway, N. J.,*[4] 2855 feet at a speed of 200 miles per hour. Any person, vehicle, aircraft, etc., within this radios can be seriously harmed, including death if struck with ice. Is this not within the purview of the Tribunal to revoke the Directors approval based on the potential of serious harm to human health?

10. Environmental Review Tribunal – *Rules of Practice and Practice Directions,* it states: "8. The Tribunal may exercise any of its powers under these Rules or applicable laws on its own initiative or at the request of any person." Applicable law includes the

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[3] Antrim Truck Centre Ltd. *v.* Ontario (Transportation), 2013 SCC 13, DOCKET: 34413, March 7, 2013

[4] CALCULATION OF ICE THROW DISTANCES FOR THE WACHUSETT WIND POWER SITE
WHAT WE KNOW: blade radius is about 130' - hub height is about 230' rotational speed at rated capacity is 1 rev/ 3 seconds or 20 rev/min Results: 1) Rotor tip speed: ...about 190 mph! 2) Range: ...2450 feet. 3) Speed of the projectile at impact: ...OVER 200 MPH. 4) To account for the change in elevation at the proposed sites, ...the theoretical maximum ice throw, in the absence of air resistance, would be about 2855 feet. Note that the presence of air resistance, and wind, can modify these values somewhat...But it seems like it would be quite reasonable to take about ONE HALF MILE as the canonical number for the maximum range of a projectile launched with the above wind turbine parameters. Respectfully submitted, Professor Terry Matilsky Department of Physics and Astronomy Rutgers University Piscataway, N. J. 08854" BRIEF – On The Dangers of Ice & Structural Failure at the Proposed Wachusett Reservation Windfarm. WRITTEN & RESEARCHED by: John P. Mollica - Princeton, Massachusetts - john@mollica.com PRESENTED to: The Joint Committee on Bonding, Capital Expenditures and State Assets at a public hearing on Bill S.40: "An Act authorizing the division of capital asset management to grant certain easements to the town of Princeton over lands held for conservation/recreation purposes." Tuesday, July 5, 2005 at 1:00 p.m., Room 222, Massachusetts State House.

Criminal Code of Canada, sections 219, 220, 221 being Criminal negligence, Criminal negligence causing death and Criminal negligence causing bodily harm.

Criminal negligence

219 (1) Every one is criminally negligent who

(a) in doing anything, or

(b) in omitting to do anything that it is his duty to do, shows wanton or reckless disregard for the lives or safety of other persons.

Causing death by criminal negligence

220 Every person who by criminal negligence causes death to another person is guilty of an indictable offence and liable

(a) where a firearm is used in the commission of the offence, to imprisonment for life and to a minimum punishment of imprisonment for a term of four years; and

(b) in any other case, to imprisonment for life. R.S., 1985, c. C-46, s. 220; 1995, c. 39, s. 141.

Causing bodily harm by criminal negligence

221 Every one who by criminal negligence causes bodily harm to another person is guilty of an indictable offence and liable to imprisonment for a term not exceeding ten years. R.S., c. C-34, s. 204.[5]

Based on the information provided under questions 7, 8, and 9 will the Tribunal be implementing Criminal negligence if they continue to allow the Director's approval and this project to continue?

EXPLANATORY NOTES
GREEN ENERGY ACT, S.O. 2009
SCHEDULE G
ENVIRONMENTAL PROTECTION ACT

"The Environmental Protection Act is amended by adding Part V.0.1, which deals with renewable energy. Section 47.3 of the Act states that if a renewable energy project involves engaging in specified activities, a person shall not engage in the project except under the authority of and in accordance with a renewable energy approval issued by the Director.

A person who is engaging in a renewable energy project is exempt from specified approval and permit requirements. Part V.0.1 also deals with applications for renewable energy approvals and the Director's powers with respect to those approvals.

The Act is amended to extend existing appeal rights to persons with respect to renewable energy approvals. Persons who would not otherwise be entitled to a hearing may, on specified grounds, require a hearing by the Tribunal in respect of a decision of the Director in relation to a renewable energy approval.

Other amendments to the Act are consequential to the addition of Part V.0.1, including amendments related to inspections by provincial officers and regulation-making powers."[6]

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[5] Consolidated Criminal Code, R.S.C., 1985, c. C-46

[6] Green Energy and Green Economy Act, 2009 , S.O. 2009, c. 12 - Bill 150 assented to May 14, 2009 under Green Energy and Green Economy Act, 2009 , S.O. 2009, c. 12 - Bill 150