

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

Report of Foreign Private Issuer

Pursuant to Rule 13a-16 or 15d-16 of
the Securities Exchange Act of 1934

For the month of December 2015
Commission File No. 1-31690

TransCanada Corporation

(Translation of Registrant's Name into English)

450 – 1 Street S.W., Calgary, Alberta, T2P 5H1, Canada
(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F

Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Exhibit 99.1 to this report, furnished on Form 6-K, is furnished, not filed, and will not be incorporated by reference into any registration statement filed by the registrant under the Securities Act of 1933, as amended.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: December 3, 2015

TRANSCANADA CORPORATION

By: /s/ Christine R. Johnston
Christine R. Johnston
Vice-President, Law and Corporate Secretary

EXHIBIT INDEX

99.1 A copy of the registrant's News Release dated December 3, 2015.

NewsRelease

TransCanada Announces Bruce Power Life Extension Agreement

Company to Increase Ownership in Partnership to 48.5 per cent

TORONTO, Ontario – **December 3, 2015** – TransCanada Corporation (TSX, NYSE: TRP) (TransCanada) today announced that Bruce Power has entered into an agreement with the Ontario Independent Electricity System Operator (IESO) to extend the operating life of the Bruce Power facility to 2064. This new agreement represents an extension and material amendment to the earlier agreement that led to the refurbishment of Units 1 and 2 at the site. Consistent with Ontario's Long Term Energy Plan (LTEP), the multi-year agreement will provide the Province of Ontario with 6,300 megawatts (MW) of safe, reliable, competitively priced and emission-less energy for decades to come.

In connection with this opportunity, TransCanada has exercised its option to acquire an additional interest in Bruce Power for \$236 million from the Ontario Municipal Employees Retirement System (OMERS). TransCanada and OMERS will each hold a 48.5 per cent interest in Bruce Power, with the remainder held by the Power Workers' Union, the Society of Energy Professionals and a Bruce Power Employee Trust.

"Anchored by our investment in Bruce Power, TransCanada is the largest independent power producer in Ontario, and we will continue to be an important part of the energy sector there for decades to come. This agreement allows Bruce Power to significantly extend the remaining life of the facility and builds on its many successes in meeting Ontario's power needs," said Russ Girling, TransCanada's president and chief executive officer. "This transaction will provide billions of dollars of investment in Bruce Power over the next 40 years that is underpinned by a long-term contract and has strong community and policy support from the Province of Ontario.

"More than 30 per cent of our 11,000 MW power portfolio, which includes hydro, wind, solar and nuclear facilities, generates no direct greenhouse gas emissions. Our ongoing commitment to Bruce Power will allow us to strengthen this base of emission-less generation sources for Ontario," added Girling. "In fact, the additional energy generated from the Bruce Power site since 2001 accounted for 70 per cent of the replacement energy needed to phase out the use of coal-fired generation in the province."

The long-term investment in Bruce Power is consistent with TransCanada's objective of building a balanced portfolio of contracted and low-cost power generation assets and provides the company with another significant and attractive growth opportunity that is expected to be accretive to earnings and cash flow over the short and long term.

The amended agreement, which will take economic effect January 1, 2016, will allow Bruce Power to immediately invest in life extension activities for Units 3 through 8 to support the long-term refurbishment program. This early investment in the Asset Management (AM) program will result in near-term life extension, allowing later investment in the Major Component Replacement (MCR) work that will begin in 2020.

Highlights of this agreement with the IESO include:

- Bruce Power will begin receiving a uniform price for all units beginning in 2016 of \$65.73 per MWhr. Over time, the price will be subject to adjustments for the return of and on capital invested under the AM and MCR capital programs, along with various other pricing adjustments that allow for a better matching of revenues and costs over the long term.
- The above uniform price includes return of and on sustaining capital of approximately \$110 million (TransCanada share, 2014\$) per year, over the life of the facility.
- TransCanada's estimated share of investment related to the AM program to be completed over the life of the agreement is approximately \$2.5 billion (2014 dollars).
- TransCanada's estimated share of investment in the MCR work for Units 3 through 8 over the 2020 to 2033 timeframe is approximately a further \$4 billion (2014 dollars).
- With cost changes and incremental capital (and return) included in price adjustments over the term, the agreement provides a growing base of earnings as the long-term program of investment progresses.
- Under certain conditions, Bruce Power and the IESO can elect to not proceed with the remaining MCR investments should the cost exceed certain thresholds or prove to not provide sufficient economic benefits. The agreement has been structured to account for changing cost inputs over time, including ongoing O&M costs and larger capital investments, with the IESO having ongoing oversight of these cost inputs.

The amended agreement builds on the significant insights gained by the work undertaken at the site over the past decade. The scope of work, broken down between the ongoing AM program elements and the unit specific MCR programs, is well understood in light of the current operating status of all eight reactors at the site. This, combined with the significant time to plan and determine the final cost estimate for the first MCR in 2020, sets Bruce Power up to have success with the program to be undertaken under the amended agreement. TransCanada will continue to work closely with Bruce Power management to help support this important facility life extension and refurbishment program.

The Bruce Power facility will continue to be managed and operated by the management and staff of Bruce Power. Under the terms of the lease, spent fuel, waste and decommissioning liabilities remain the responsibility of Ontario Power Generation, but will continue to be funded by Bruce Power through this agreement. The ongoing operation of the Bruce Power site and related work continues to be subject to regulatory oversight of the Canadian Nuclear Safety Commission.

A copy of the agreement and other related information is expected to be available later today on the Bruce Power website.

TELECONFERENCE

TransCanada will hold a teleconference and webcast on Thursday, December 3, 2015 to discuss its investment in Bruce Power and decision to increase the company's ownership in the partnership. Russ Girling, TransCanada president and chief executive officer, Bill Taylor, executive vice-president and president, energy, and Don Marchand, executive vice-president, corporate development and chief financial officer will be available to take questions from the investment community and analysts at 12:30 p.m. (MDT) / 2:30 p.m. (EDT). Analysts, members of the investment community and other interested parties are invited to participate by calling 866.223.7781 or 416.340.2216 (Toronto area). Please dial in 10 minutes prior to the start of the call. No pass code is required. A live webcast of the teleconference will be available at www.transcanada.com. Please note, members of the media are welcome to listen in, however questions should be directed to TransCanada's Media Relations group by calling 800.608.7859.

For those unable to join the teleconference, an instant replay will be available until 12 a.m. (EDT) on December 10 by calling 800.408.3053 or 905.694.9451 and entering pass code 2209072.

With more than 65 years' experience, TransCanada is a leader in the responsible development and reliable operation of North American energy infrastructure including natural gas and liquids pipelines, power generation and gas storage facilities. TransCanada operates a network of natural gas pipelines that extends more than 68,000 kilometres (42,100 miles), tapping into virtually all major gas supply basins in North America. TransCanada is one of the continent's largest providers of gas storage and related services with 368 billion cubic feet of storage capacity. A growing independent power producer, TransCanada owns or has interests in over 10,900 megawatts of power generation in Canada and the United States. TransCanada is developing one of North America's largest liquids delivery systems. TransCanada's common shares trade on the Toronto and New York stock exchanges under the symbol TRP. Visit TransCanada.com and our blog to learn more, or connect with us on social media and 3BL Media.

FORWARD LOOKING INFORMATION

This publication contains certain information that is forward-looking and is subject to important risks and uncertainties (such statements are usually accompanied by words such as "anticipate", "expect", "believe", "may", "will", "should", "estimate", "intend" or other similar words). Forward-looking statements in this document are intended to provide TransCanada security holders and potential investors with information regarding TransCanada and its subsidiaries, including management's assessment of TransCanada's and its subsidiaries' future plans and financial outlook. All forward-looking statements reflect TransCanada's beliefs and assumptions based on information available at the time the statements were made and as such are not guarantees of future performance. Readers are cautioned not to place undue reliance on this forward-looking information, which is given as of the date it is expressed in this news release, and not to use future-oriented information or financial outlooks for anything other than their intended purpose. TransCanada undertakes no obligation to update or revise any forward-looking information except as required by law. For additional information on the assumptions made, and the risks and uncertainties which could cause actual results to differ from the anticipated results, refer to the Quarterly Report to Shareholders dated November 2, 2015 and 2014 Annual Report filed under TransCanada's profile on SEDAR at www.sedar.com and with the U.S. Securities and Exchange Commission at www.sec.gov.

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