

1 **SUMMARY OF ENGINEERING SERVICES MASTER SERVICES AGREEMENT**

2
3 **Contract Name:**

4 Extended Services Master Service Agreement

5
6 **Dates:**

7 Date of Summary: May 6, 2016

8 **E.S. Fox Limited**

9 Date of Agreement: February 12, 2012

10 Date of Amendment 1: June 28, 2013

11 Date of Amendment 2: July 1, 2015

12 **Black & MacDonald Limited**

13 Date of Agreement: February 12, 2012

14 Date of Amendment 1: June 28, 2013

15 Date of Amendment 2: December 16, 2015

16 **AECON Construction Group Inc. and SNC-Lavalin Nuclear Inc.**

17 Date of Agreement: December 19, 2014

18 Date of Amendment 1: July 7, 2015

19
20 **Summary of Key Terms:**

21 The following is a brief summary of the key terms and conditions of the Extended Services
22 Master Services Agreements that were entered into between: (1) Black & MacDonald Limited
23 and OPG as of February 12, 2012, as amended by Amendment 1 dated as of June 28, 2013
24 and Amendment 2 dated as of December 16, 2015; (2) E.S. Fox Limited and OPG as of
25 February 12, 2012, as amended by Amendment 1 dated as of June 28, 2013 and
26 Amendment 2 dated as of July 1, 2015; and (3) SNC-Lavalin Nuclear Inc. and AECON
27 Construction Group Inc. acting jointly and severally doing business as a contractual joint
28 venture (the "SNC/AECON JV"), and OPG as of December 19, 2014, as amended by
29 Amendment 1 dated as of July 7, 2015.

30

1 The form of agreement was developed as an engineering, procurement and construction
2 contract and was intended to serve as a general framework applying to work in support of
3 OPG's nuclear generating stations and related facilities. The agreements reflect extensive
4 feedback from the entire OPG project team, external legal counsel (Torys LLP (as to the
5 original agreements with E.S. Fox Limited and Black & MacDonald Limited) and Blake,
6 Cassels & Graydon LLP (as to the agreement with the SNC/AECON JV)), and the
7 contractors.

8

9 Contracting Strategy for Extended Services Master Services Agreement

10 In February of 2012, OPG entered into Extended Services Master Services Agreements
11 ("ESMSAs") with two contractors, Black & McDonald Limited and E.S. Fox Limited, as a
12 result of a competitive process. In order to increase competition between contractors and to
13 mitigate capacity risks, OPG entered into an ESMSA with the SNC/AECON JV, which had
14 also participated in the earlier RFP process for the ESMSAs. The current agreement with all
15 three contractors benefited from clarifications and adjustments based on OPG's experience
16 with the work conducted under the ESMSAs.

17

18 Performance of Work

19 The agreement is intended to apply to any work requested by OPG to be performed by the
20 contractor during the term, which extends to February 15, 2027 (with an option for OPG to
21 renew the agreement for up to five additional years), unless earlier terminated in accordance
22 with the agreement. The contractor is not guaranteed any specific amount of work under the
23 agreement. The implementation of the agreement and the execution and success of the work
24 performed thereunder will be overseen by a steering committee, which meets quarterly and
25 is comprised of the parties' representatives, and such other individuals as may be appointed
26 by the parties. It is expected (but not required) that senior officers of the parties also attend
27 steering committee meetings semi-annually.

28

29 In the performance of work the contractor is required to, at a minimum, exercise the standard
30 of care normally exercised by professional contractors having specialized knowledge and

1 expertise in performing work of a similar nature, scope and complexity and to implement all
2 prudent practices applicable to such work.

3
4 When OPG requires work to be performed in relation to its nuclear generating stations and
5 other related facilities, it may issue a work request under the agreement. The work request
6 will include a worksheet listing any relevant OPG specifications, the pricing model applicable
7 to the work, an indication of which of the interface requirements contained in a schedule to
8 the agreement may apply to the work, and any other relevant information. OPG has the
9 option, in its sole discretion, of issuing the work request to the contractor alone, or to any
10 other contractors. The contractor must then respond to the work request with the information
11 requested by OPG, including an estimated schedule and cost for performing the work. If
12 OPG accepts the contractor's response, OPG will issue a purchase order for the work and
13 the contractor will be required to perform all of the work so awarded. Relief from the schedule
14 and cost set forth in the contractor's work request response is strictly controlled under the
15 agreement, as the contractor is expected to have taken into account the relevant aspects of
16 OPG's ongoing nuclear operations in its preparation of the response.

17
18 Depending on the type of work requested in the purchase order, specific terms and
19 conditions set out in the appendices to the agreement will apply. The work performed by the
20 contractor under the agreement could consist of (1) engineering, procurement and
21 construction work where OPG is both the owner and the constructor, (2) engineering,
22 procurement and construction work where OPG is the owner and the contractor is the
23 constructor, (3) any combination of engineering, procurement, and construction work or (4)
24 any of these types of work individually. OPG also reserves the right to impose additional
25 terms and conditions as may be set out in a work request, and to request that any work be
26 performed on a phased basis.

27
28 In the event OPG determines certain work to be an emergency, the contractor may be
29 authorized by OPG to proceed with the work without a purchase order, pursuant to the
30 protocols set out in the agreement for "rapid response work". The contractor is responsible

1 for keeping a list of emergency contacts up to date for the purpose of responding to rapid
2 response work requests as soon as practicable.

3
4 Contractor Core Team and Personnel

5 The agreement requires that the contractor establish and maintain a “core team” (whose
6 names are set out in a schedule to the agreement) capable of managing, controlling and
7 administering the provision of all work awarded to the contractor under the agreement. The
8 core team members must have successfully passed OPG’s oral review board, and had their
9 compensation approved by OPG’s representative. The core team members (or their
10 replacements, as reflected in an amended schedule) must remain available to perform their
11 functions and to perform the work awarded to the contractor so that no additional contractor
12 personnel are required, and the intent is for these core team members to be engaged on a
13 full-time basis. The composition of the core team will be reviewed on an annual basis, or
14 more frequently if so determined by the steering committee.

15
16 OPG may also request “augmented staff” (temporary workers with various technical skill sets
17 requested by OPG and supplied by the contractor), to perform work under a purchase order.
18 The agreement requires that the contractor use its personnel in the most cost-effective and
19 efficient manner to perform the work, taking into account the appropriate experience and
20 qualifications required for each task.

21
22 Master Status Report and Schedules

23 The contractor is required to develop and maintain a master status report for all work
24 performed under the agreement in a form approved by OPG, and to update the report at
25 least once a month for the purposes of providing OPG with the information it requires.
26 Among other things, the master status report should provide an integrated schedule for all
27 purchase orders, show the workloading of all of the contractor’s personnel, and track the
28 level of effort of the core team.

29
30 Additionally, the contractor is required to complete and submit a draft project schedule in
31 respect of the work under each purchase order, which must incorporate and be consistent

1 with the milestones set out in the purchase order, if any. OPG will have the opportunity to
2 review and provide comments on any proposed project schedule, and once approved, the
3 schedule will be final. The contractor will be entitled to schedule relief only in the event of a
4 project change authorization (or in the event of an “excusable delay”).

5
6 Evaluation - Performance Indicators

7 The agreement provides for the calculation of a continuous performance score obtained by
8 aggregating a series of category scores based on four performance indicators: cost,
9 schedule, safety, and human performance. The cost performance indicator measures the
10 actual contract price for the work against the contractor’s estimated contract price at the date
11 on which the application for final payment of work is accepted by OPG. The schedule
12 performance indicator measures the contractor’s ability to complete the work on or before the
13 completion date and to adhere to the project schedule in respect of the work. The safety
14 performance and the human performance indicators measure, respectively, the contractor’s
15 overall safety performance and the contractor’s overall record for responding to and
16 correcting human performance related issues in respect of the work as measured by the
17 metrics for each category set out in a schedule to the agreement.

18
19 The overall performance score based on the above category performance indicators is used
20 by OPG to determine whether to award future work under the agreement, and to calculate
21 the performance fee to be paid to the contractor under the agreement.

22
23 Incentives - Performance Fees

24 In respect of any application for payment (other than in respect of fixed price work or the core
25 team services fee, as described below), OPG will withhold a fixed percentage of [REDACTED]
26 the total amount payable to the contractor under such application for payment, which will be
27 added to the performance fee pool. The performance fee pool is re-set to zero on December
28 31 of each calendar year.

29
30 The steering committee will, following its quarterly meeting, determine a performance fee
31 release date. The amount of the performance fee payable to the contractor on the first

1 performance fee release date in any calendar year is determined by multiplying the
2 applicable performance score by the amount comprising the performance fee pool. The
3 amount payable on each subsequent release date in the same calendar year is determined
4 by multiplying the applicable performance score for the calendar year by the amount added
5 to the fee pool in such calendar year, and then deducting the amount of the performance fee
6 previously paid in that calendar year.

7
8 In the event the performance fee calculations described above result in a negative number
9 on any performance fee release date, the contractor will pay to OPG the amount of the
10 performance fee that is negative.

11
12 If required, OPG may provide for a project-specific performance scorecard in a purchase
13 order.

14
15 Other Components of the Contract Price

16 The agreement provides for an annual core team services fee payable in 12 installments on
17 a monthly basis by OPG to the contractor for all work performed by the core team under the
18 agreement. This core team services fee includes all costs associated with the services
19 provided by the core team, including labour, profit, overhead, taxes, etc. OPG may review
20 and revise the core team services fee at any time in response to a change in the composition
21 of the core team flowing from a material and unexpected change in the projected value or
22 composition of the work.

23
24 The contract price for projects to be performed under this agreement will be set out in the
25 applicable purchase order, subject to amendments contained in any “project change
26 authorization” (as described below). The work may be provided on a fixed price basis, where
27 the total compensation payable to the contractor for the work under the applicable purchase
28 order is reflected in a fixed price, or on a reimbursable cost basis. Reimbursable costs
29 consist of both labour and non-labour costs incurred and actually paid by the contractor, and
30 which are calculated in accordance with the applicable reimbursable cost table set out in a
31 schedule to the agreement.

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For rapid response work and performance fee work, OPG will pay to the contractor its reimbursable costs (including both labour and non-labour costs) and overhead and profit amounts calculated by multiplying the estimated reimbursable labour costs by fixed percentages totaling [REDACTED]

Goods will be supplied at the contractor's actual cost plus an agreed administration fee set out in the worksheet to the purchase order, not to exceed [REDACTED]. Rented equipment with a book value of greater than \$2,000 will be treated as reimbursable non-labour costs at the contractor's cost plus an agreed administration fee of [REDACTED].

Subcontracts will be priced at the contractor's actual cost plus an agreed administration fee of [REDACTED]

The contractor is entitled to be reimbursed (without a mark-up) for business expenses in accordance with the business expense reimbursement schedule attached to the agreement.

"Open Book" Approach and Audit Rights

All contract pricing, whether in respect of rapid response work, performance fee work, fixed price work, or costs associated with "augmented staff", will be developed by the contractor on a fully open book and transparent basis, allowing OPG full review of quantities, unit prices, quotations, allowances and contingencies, as applicable.

The agreement requires the contractor to provide OPG with full and open access to all financial and other records relating to the work performed under the agreement. The agreement also provides OPG with extensive audit rights for all financial and other records that relate to work that is performed on a reimbursable costs basis, with few restrictions on the lookback periods for audits and readjustment of contractor cost claims. OPG is not entitled to dispute or audit any profit, overhead or contingency amounts forming part of the contract price payable in respect of fixed price work.

1 Performance Security, Insurance and Indemnities

2 The agreement obliges the contractor to post a letter of credit in the amount of \$2M. The
3 amount of this letter of credit is subject to quarterly adjustment based on the estimated
4 quarterly spend at the beginning of each calendar year, not to exceed 10 per cent of the
5 estimated quarterly spend. OPG may require that the amount of the letter of credit be
6 increased or decreased at any time in the event OPG reasonably determines there is a
7 material change in the current estimated quarterly spend. In addition, OPG may stipulate in a
8 purchase order that a project-specific letter of credit is required in an amount not to exceed
9 10 per cent of the total value of the purchase order. If a project-specific letter of credit is
10 required, the estimated quarterly spend under such purchase order will not be included for
11 the purposes of calculating the amount of the general letter of credit. The contractor must
12 maintain the letter of credit in force until 60 days after all of its obligations under the
13 agreement and any outstanding purchase orders have been satisfied in full, including all
14 warranty obligations.

15

16 In the case of the SNC/AECON JV, the contractor provided guarantees from the ultimate
17 parent companies of the contractor in support of all of the contractor's obligations under the
18 agreement. These guarantees contain ratings-based and/or covenant based tests of the
19 ongoing creditworthiness of the parent guarantors.

20

21 The agreement contains insurance requirements set out in a schedule to the agreement. The
22 agreement also contains contractor indemnity provisions and limits of liability consistent with
23 general industry standards.

24

25 Project Change Authorizations and Excusable Delays

26 The agreement tightly restricts the ability of the contractor to initiate a "project change
27 authorization", and it may only do so if there is (1) a change in applicable laws (not related to
28 taxes) or (2) if there are new Canadian federal or provincial sales, use or excise taxes, duties
29 or any changes in the rates or applicability of such taxes and duties. In each case, such
30 changes must materially affect the work under the applicable purchase order and must not
31 have been reasonably foreseeable at the time of the purchase order. In the event of a project

1 change authorization, the parties will agree to an equitable change to the project schedule
2 and/or contract price as necessary. The rationale for this restrictive approach is that the
3 contractor is assumed to have taken into account all relevant information in the preparation
4 of the work request response on which the purchase order is based.

5
6 The contractor will not be held responsible for any “excusable delay” in fulfilling its obligations
7 under any purchase order. An “excusable delay” is a delay that is caused by an OPG breach
8 or a stop work order, emergency or hazardous condition for which OPG is responsible, fire,
9 flood, tidal wave, lightning, earthquake, cyclone, strike or lockout by persons working at the
10 applicable site, war, riot or act of public enemies including terrorists, or severe and unusual
11 weather conditions at the applicable site which could not have been anticipated by an
12 experienced contractor and which exceed the 50 year severity for that weather condition in
13 the applicable area of Ontario, and in each case affects the critical path of the relevant
14 project schedule set out in the purchase order.

15
16 Subcontractors

17 The agreement permits the use of subcontractors, provided OPG does not object to any such
18 subcontractor. Certain “first tier subcontractors” are identified on a schedule to the
19 agreement, and OPG must be notified immediately if there are any changes to the identity of
20 the first tier subcontractors, or to the work to be performed by them. Any such changes to the
21 first tier subcontractors must be approved by OPG.

22
23 Intellectual Property

24 The agreement requires the contractor to transfer to OPG, or to license to OPG, all
25 intellectual property required for the performance of the work.

26
27 Warranty

28 The warranties in respect of the work are determined on a project by project basis, and are
29 set out in the terms and conditions applicable to the type of work set out in the relevant
30 purchase order.

1 Scientific Research and Experimental Development (“SRED”) Tax Credit

2 The agreement provides that OPG is entitled to claim all SRED tax credits generated by the
3 work under the agreement.

4
5 Termination for Default

6 The agreement includes standard events of default. If the contractor defaults, OPG will be
7 entitled to terminate the agreement and to exercise a number of self-help remedies.

8
9 If an event of default occurs under a specific purchase order that does not permit OPG to
10 terminate the entire agreement for cause, OPG has several self-help remedies available to it
11 in respect of the remaining work under the relevant purchase order.

12
13 Termination for default would permit OPG to make a claim against the contractor for full
14 contractual damages (subject to a percentage cap formula that is linked to the total contract
15 price and certain other amounts).

16
17 Termination for Convenience

18 The agreement permits OPG to terminate the agreement or any purchase order (including a
19 purchase order for augmented staff) for convenience at any time. Certain types of direct
20 damages (but not full contractual damages) will be payable by OPG to the contractor in such
21 circumstances.

22
23 Suspension of Work

24 The agreement permits OPG to suspend the work under any purchase order, in whole or in
25 part, at any time. Reasonable incremental direct costs (but not full contractual damages) will
26 be payable by OPG to the contractor in such circumstances, provided that the contractor
27 takes all commercially reasonable steps to mitigate such costs, including redeploying its
28 personnel.

29
30 OPG may also order the contractor to suspend the work as a result of a situation that puts
31 such work, any part of the work site or any people at risk (a “stand down order”), for example

1 in the case of a human performance error, or a procedural or environmental issue. If the
2 stand down order is not caused by the contractor, its subcontractors or its personnel, OPG
3 will compensate the contractor for the direct costs and expenses resulting from the stand
4 down order, unless the stand down order results from an “excusable delay”.

5

6 Dispute Resolution

7 The agreement provides for both informal and formal resolution of disputes. The informal
8 procedure contemplates a staged escalation of disputes within OPG’s and the contractor’s
9 management structure with a view to achieving a consensual resolution of the dispute. The
10 formal mechanism is binding arbitration under commercial arbitration rules. The agreement
11 limits the recourse of the contractor and OPG to the ordinary courts.