



## NexGen Announces Positive Results from Arrow Project Studies

Vancouver, BC, June 13, 2018 – NexGen Energy Ltd. (“NexGen” or the “Company”) (TSX:NXE, NYSE MKT:NXE) is pleased to report the positive results from Pre-Feasibility-stage technical studies including metallurgical, geotechnical, and hydrogeological assessments. These studies were conducted on the basement-hosted Arrow Deposit, located on the Company’s 100% owned Rook I project in Saskatchewan’s Athabasca Basin.

### Highlights:

#### Metallurgical Study

The Bench-Scale Metallurgical Study has demonstrated high purity yellowcake product can be produced by using peroxide and MgO. The final product, produced yellowcake, meeting or surpassing industry standards.

- **High recovery rates confirmed.**
  - **Leaching test samples** representing anticipated typical mill feed resulted in **97.6% of uranium was recovered.**
  - **Optimized solvent extraction (“SX”)** resulted in **99.6% of uranium extracted.**
  
- **Strength tests meet or exceed all requirements** set forth in the original design for a potential Paste-Backfill to be used **for underground stope stability.**
  - **Paste-Backfill samples** composed of **representative uranium tailings** mixed with binder, underwent an initial 28-day Unconfined Compressive Strength (“UCS”) test **with results surpassing the targeted high-strength Backfill of 1.5 MPa outlined in the initial mine design in the Preliminary Economic Assessment.**

#### Geotechnical Study

- **Conventional long-hole stoping mining method confirmed.**
  - The geotechnical assessment supports the **conventional long-hole stoping mining method** including the use of longitudinal and transverse stopes, 30 m level spacing, and the nominal stope strike length of 15 m to 30 m. This represents an excellent stope stability range for underground mining in competent conditions.

## Hydrogeological Study

- **Hydraulic conductivity consistent with that predicted in basement rocks.**
  - The hydrogeological study measured hydraulic conductivity. Results were as predicted given mineralization is completely hosted in the crystalline basement rocks. Conductivity which measures the presence of water, decreases with depth and is expected to be lowest at depths associated with mine workings.

Underground Tailings Management Facility is displayed in Figure 1 below.

## Development, Activities & Financial

- Pre-feasibility staged technical studies including geotechnical work, hydrogeological work, and metallurgy continue in advance of the **updated Mineral Resource Estimate and maiden Pre-Feasibility Study scheduled for the end of Q3 / early Q4 2018.**
- A **summer drilling program** is in the final stages of preparation and **will begin imminently.**
- The Company has cash on hand of approximately **~\$145 million.**

Troy Boisjoli, Vice-President, Operations and Project Development, commented: “Results from the metallurgical study demonstrate high recovery of uranium during the leaching and optimized solvent extraction process. Furthermore, positive results from Paste-Backfill test work has confirmed proof of concept for potential application of an underground tailings management facility. In addition to responsible tailings management, mixing tailings with cement and depositing it back underground will facilitate ongoing and continued reclamation while in operation. Geotechnical results have confirmed the nature of the basement-hosted Arrow Deposit can support conventional long-hole stoping mining methods. The hydrogeological study demonstrates hydraulic conductivity is entirely consistent with that of basement-hosted deposits and is favourable for mine development. With every stage of development NexGen continues to confirm the robustness of the Arrow Project.”

Leigh Curyer, Chief Executive Officer, commented: “Development studies continue to emphasize the unique technical characteristics of the Arrow Project. These results quantify high recovery rates, non-detect deleterious metals and competency of the basement rocks. The maiden Pre-Feasibility Study which will incorporate an updated Mineral Resource Estimate is on schedule for release at end of Q3 or early Q4. In the interim, the summer 2018 drilling program will commence imminently which will continue to focus on determining the overall scale of Arrow and near-Arrow mineralization as well as further define site characterization for development.”

## **Study Details:**

### **Bench-Scale Metallurgical Study:**

Wood PLC (formerly AMEC Foster Wheeler) approved selected drill core samples and interpreted the results. The bench-scale metallurgical samples were analyzed by the Saskatchewan Research Council Laboratories ("SRC"), pilot-scale metallurgical testing is ongoing.

Thirteen composite samples were prepared from the crushed core assay rejects and used for leaching/QEMSCAN/acid generation (PAG)/tailings preparation for paste backfill tests. The samples were blended and homogenized in a mixer to prepare the composite sample.

#### Paste-Backfill Testing:

- Testing six varying compositions of representative uranium tailings combined with binder underwent an initial 28-day UCS testing. The most successful of the mixtures came from sample M6, this mixture combined 61.01% uranium tailings with a resulting 2.15 MPa from UCS testing, surpassing the targeted high-strength Backfill of 1.5 MPa.

#### Modal mineralogy analysis:

- QEMSCAN analyses on the Medium Grade ("MG") composite and A1 to A5 individual shear zone samples indicate that uraninite was present as fresh and altered uraninite. No primary Mo-bearing minerals were identified in any samples, and all samples were dominated by clay minerals with uraninite most commonly associated with the clay minerals

#### Mill work index measurements:

- Five composite samples were prepared from full diameter NQ core for comminution testing, including SAG mill work index and Bond Ball mill work index "SAGDesin™ tests". The results categorized the samples as medium hardness materials which indicates standard grinding conditions.

#### Leaching analysis:

- Batch leaching on the Medium Grade ("MG") composite sample (50kg) was performed at baseline conditions to generate adequate quantity of baseline residue and pregnant leach solution (PLS) for the downstream tests. The MG composite sample uranium leaching recovery was 97.6%.

#### Solvent extraction testing and filtration test:

- Optimized solvent extraction ("SX") resulted in 99.6% of U extracted with a phase separation time of 3.1 minutes. The SX testing results on the settling filtrates, which were produced from the settling tests of the leaching slurry at the seven leaching conditions, support optimized leaching conditions for Low Grade, Medium Grade and High Grade samples. Both the U extraction rate (from 98.7% to 99.7%) and the phase separation time (3.7 to 5.9 minutes) were in the expected range.

The Bench-Scale Metallurgical Study has demonstrated high purity yellowcake product can be produced by using peroxide and MgO. The final product produced yellowcake, meeting or surpassing industry standards.

### **Geotechnical Study:**

BGC Engineering Inc. (“BGC”) interpreted results from available geotechnical data, including geo-mechanical property testing completed by SNC Lavalin (Saskatoon, SK) and Golder Associates Ltd. (Burnaby, BC).

Six geotechnical diamond drill holes were completed in the summer of 2017. The holes were designed to characterize the geotechnical and hydrogeological conditions in support of the envisioned Pre-feasibility study (PFS) mine design, targeting:

- Life-of-mine infrastructure
- The A2 and A3 shears
- The crown pillar

The core was logged using the industry standard RMR<sup>76</sup> system and Q rating system, and regular point load tests were performed to aid in the determination of intact rock strength. Representative core samples were selected from five of the drill holes and sent to SNC Lavalin (Saskatoon, SK) and Golder Associates Ltd. (Burnaby, BC) for geo-mechanical properties testing. The testing program included unconfined compressive strength, triaxial strength, and tensile strength tests on rock core samples, direct shear tests on discontinuities, index tests on discontinuity infills and X-ray diffraction (XRD) tests on rock specimens. On four of the geotechnical holes, 39 downhole packer tests were completed to measure the hydraulic conductivity in various rock units and along structures and an acoustic televiewer survey was performed to collect in-situ structural measurements. Vibrating wire piezometers were installed in four of the holes to allow for long-term monitoring of water pressures in specific intervals.

In addition to the 2017 data, NexGen provided BGC with a geotechnical data set that was collected using the RMR<sup>89</sup> system (termed RMR’) and consists of 178 drill holes within or proximal to the Arrow Deposit. BGC interpreted the available data and proposed eight geotechnical domains:

1. Overburden (sand, cobbles, boulders)
2. Cretaceous (siltstone/mudstone/sandstone/coal seams)
3. Devonian (sandstone)
4. Athabasca (sandstone)
5. Paleoweathered basement (gneiss)
6. Faults and shear zones (gneiss, altered gneiss, +/- mineralization)
7. Unaltered basement (gneiss)
8. Altered basement (altered gneiss, +/- mineralization)

Using a 30 m level height, BGC recommends that transverse stopes have a span of 10 m to 15 m, at a stope strike length of (15 to 30 m) (check this is consistent with the bullet point in highlights, respectively). For longitudinal stopes, stope length is limited by the unsupported walls (minimal level of ground support) ranging from 20 m to 30 m, dependant on location. Stope lengths greater than 20 m to 30 m would utilize cable bolt support in the walls.

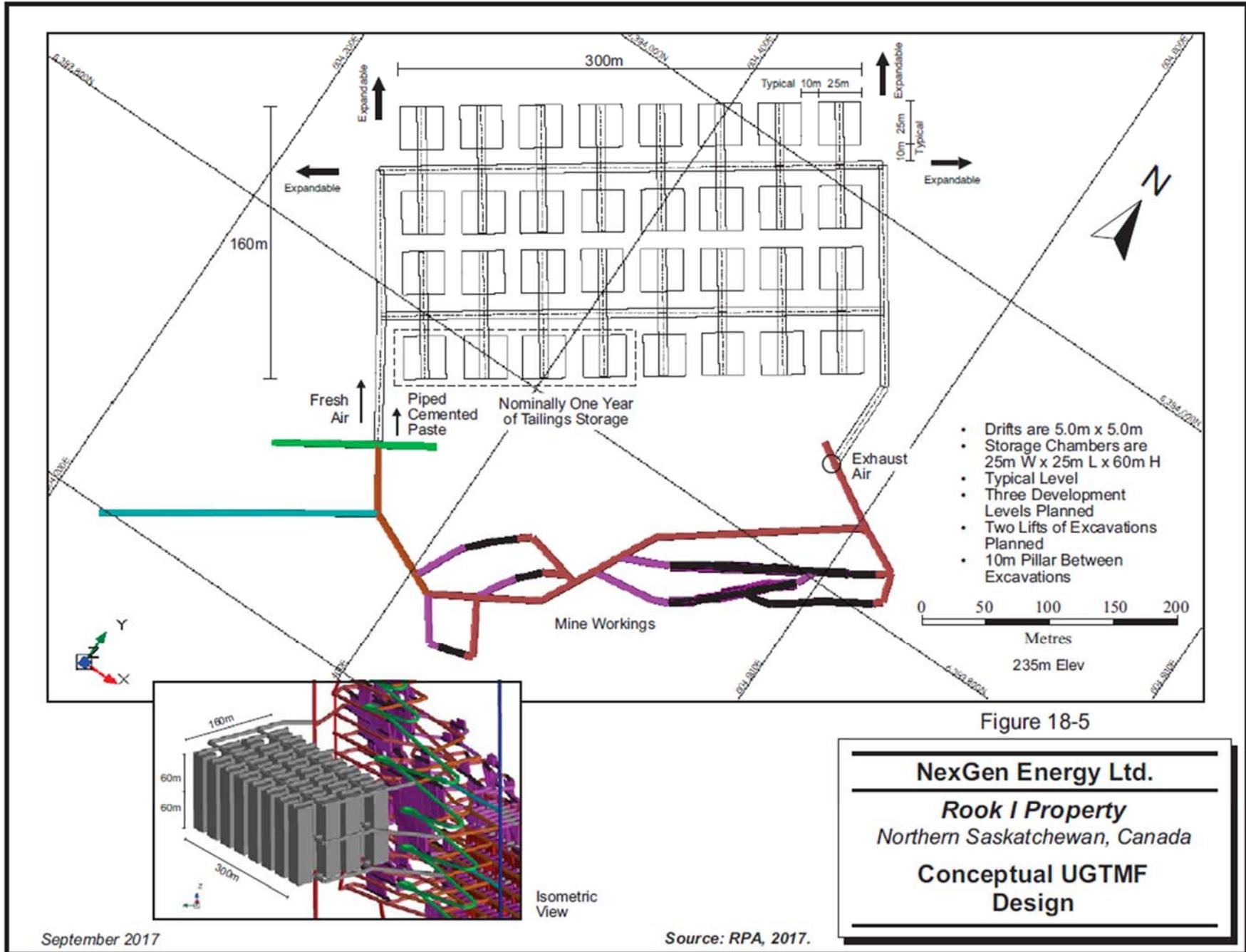
**Hydrogeological Study:**

BGC Engineering Inc. ("BGC") interpreted results from data collected on site by NexGen Energy personnel.

BGC estimated the hydraulic conductivity of the crystalline basement rock from data obtained from the 31 packer tests performed on the geotechnical diamond drill holes.

The hydrogeological investigation indicates the Arrow Deposit has basement hydraulic conductivity values ranging from  $5.2 \times 10^{-10}$  to  $1.7 \times 10^{-6}$  m/s. These values are typical of metaphoric, crystalline basement rock.

Figure 1: Underground Tailings Management Facility (RPA 2017)



## **About NexGen**

NexGen is a British Columbia corporation with a focus on the acquisition, exploration and development of Canadian uranium projects. NexGen has a highly experienced team of uranium industry professionals with a successful track record in the discovery of uranium deposits and in developing projects through discovery to production.

NexGen owns a portfolio of prospective uranium exploration assets in the Athabasca Basin, Saskatchewan, Canada, including a 100% interest in Rook I, location of the Arrow Deposit in February 2014, the Bow discovery in March 2015, the Harpoon discovery in August 2016 and the Arrow South discovery in July 2017. The Arrow deposit's updated mineral resource estimate with an effective date of December 20, 2016 was released in March 2017, and comprised 179.5 M lbs U<sub>3</sub>O<sub>8</sub> contained in 1.18 M tonnes grading 6.88% U<sub>3</sub>O<sub>8</sub> in the Indicated Mineral Resource category and an additional 122.1 M lbs U<sub>3</sub>O<sub>8</sub> contained in 4.25 M tonnes grading 1.30% U<sub>3</sub>O<sub>8</sub> in the Inferred Mineral Resource category.

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## **Technical Information**

Natural gamma radiation in drill core reported in this news release was measured in counts per second (cps) using a Radiation Solutions Inc. RS-120 gamma-ray scintillometer. The reader is cautioned that total count gamma readings may not be directly or uniformly related to uranium grades of the rock sample measured; they should be used only as a preliminary indication of the presence of radioactive minerals.

Split core samples will be taken systematically, and intervals will be submitted to SRC Geoanalytical Laboratories (an SCC ISO/IEC 17025: 2005 Accredited Facility) of Saskatoon for analysis. All samples sent to SRC will be analyzed using ICP-MS for trace elements on partial and total digestions, ICP-OES for major and minor elements on a total digestion, and fusion solution of boron by ICP-OES. Mineralized samples are analyzed for

U3O8 by ICP-OES and select samples for gold by fire assay. Assay results will be released when received and after stringent internal QA/QC protocols are passed.

All scientific and technical information in this news release has been prepared by or reviewed and approved by Mr. Troy Boisjoli, Geoscientist Licensee, Vice President – Operations & Project Development for NexGen. Mr. Boisjoli is a qualified person for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101"), and has verified the sampling, analytical, and test data underlying the information or opinions contained herein by reviewing original data certificates and monitoring all of the data collection protocols.

For details of the Rook I Project including the quality assurance program and quality control measures applied and key assumptions, parameters and methods used to estimate the mineral resource please refer to the technical report entitled "Technical Report on the Preliminary Economic Assessment of the Arrow Deposit, Rook 1 Property, Province of Saskatchewan, Canada" dated effective September 1, 2017 (the "Rook 1 Technical Report") prepared by Jason J. Cox, David M. Robson, Mark B. Mathisen, David A. Ross, Val Coetzee and Mark Wittrup, each of whom is a "qualified person" under NI 43-101. The Rook I Technical Report is available for review under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

U.S. investors are advised that while the terms "indicated resources" and "inferred resources" are recognized and required by Canadian regulations, the U.S. Securities and Exchange Commission does not recognize these terms. U.S. investors are cautioned not to assume that any part or all of the material in these categories will ever be converted into mineral reserves.

#### **Forward-Looking Information**

*The information contained herein contains "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian securities legislation. "Forward-looking information" includes, but is not limited to, statements with respect to the activities, events or developments that the Company expects or anticipates will or may occur in the future. Generally, but not always, forward-looking information and statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or the negative connotation thereof or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" or the negative connotation thereof.*

*Forward-looking information and statements are based on the then current expectations, beliefs, assumptions, estimates and forecasts about NexGen's business and the industry and markets in which it operates. Forward-looking information and statements are made based upon numerous assumptions, including among others, that the proposed transaction will be completed, the results of planned exploration activities are as anticipated, the price of uranium, the cost of planned exploration activities, that financing will be available if and when needed and on reasonable terms, that third party contractors, equipment, supplies and governmental and other approvals required to conduct NexGen's planned exploration activities will be available on reasonable terms and in a timely manner and that general business and economic conditions will not change in a material adverse manner. Although the assumptions made by the Company in providing forward looking information or making forward looking statements are considered reasonable by management at the time, there can be no assurance that such assumptions will prove to be accurate.*

*Forward-looking information and statements also involve known and unknown risks and uncertainties and other factors, which may cause actual results, performances and achievements of NexGen to differ materially*

*from any projections of results, performances and achievements of NexGen expressed or implied by such forward-looking information or statements, including, among others, negative operating cash flow and dependence on third party financing, uncertainty of the availability of additional financing, the risk that pending assay results will not confirm previously announced preliminary results, imprecision of mineral resource estimates, the appeal of alternate sources of energy and sustained low uranium prices, aboriginal title and consultation issues, exploration risks, reliance upon key management and other personnel, deficiencies in the Company's title to its properties, uninsurable risks, failure to manage conflicts of interest, failure to obtain or maintain required permits and licenses, changes in laws, regulations and policy, competition for resources and financing, and other factors discussed or referred to in the Company's Annual Information Form dated March 31, 2017 under "Risk Factors".*

*Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking information or implied by forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended.*

*There can be no assurance that forward-looking information and statements will prove to be accurate, as actual results and future events could differ materially from those anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking statements or information. The Company undertakes no obligation to update or reissue forward-looking information as a result of new information or events except as required by applicable securities laws.*

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