Emmerson Plc / Ticker: EML / Index: LSE / Sector: Mining

24 February 2020

Emmerson Plc ("Emmerson" or the "Company") Completion of Power and Gas Supply at Khemisset Potash Project

Emmerson Plc, the Moroccan focused potash development company, is pleased to announce that it has completed the full cost estimate for the capex required to ensure electricity and gas supply at its 100% owned Khemisset Potash Project located in northern Morocco ("Khemisset" or "the Project"). Khemisset is a potentially world class potash development, with industry leading, low, capital cost to production and, as a result of its location, among the highest margins in the potash industry.

This work has been completed by independent consultant Golder Associates ("Golder") with the assistance of key local partners, as part of the forthcoming Feasibility Study, which is ahead of schedule, with delivery now expected in the early part of Q2 2020 instead of previously planned end of H1 2020. These estimates have confirmed the potential for significant capital cost savings for the Project due to its proximity to excellent infrastructure.

Highlights

- Total budgeted cost for supply of electricity from the existing electrical infrastructure is approximately US\$10.6 million including a 10% contingency
 - Estimated capital cost saving, compared to average Canadian potash mine development¹, for a similar work package, of approximately US\$71 million, or 87%
 - Budget includes engineering design, construction, and land easements for both powerlines and the mine downgrade substation
 - Engineering firm, Clemessy, a leader in design and construction of high voltage powerlines and transformer stations, has supported Golder in the technical feasibility and cost estimates
 - Technical solution and cost ranges confirmed to be feasible by the Moroccan national grid operator ("ONEE")
- Proposed site location is approximately 15km from the planned connection point to two 225KV national grid electricity lines
- Continued discussions with Voltalia for the supply of green sourced electricity has confirmed potential for a large savings in energy tariffs relative to Scoping Study assumptions
- Continued discussions with in-country gas supplier confirmed onsite gas (LPG) storage facility can be constructed at supplier's expense, with zero capex required by Emmerson
- Design and estimate completed by Golder according to AusIMM guidelines for capital cost estimates

Hayden Locke, CEO of Emmerson, commented:

"We continue to be pleased with the forward momentum we have achieved in developing the potentially world class Khemisset Potash Project. The Project's location, geology and access to outstanding infrastructure provide significant capital cost savings relative to our peers and enhance management's strong belief in the potential for Khemisset to be a low capital cost potash mine development.

"Morocco has invested heavily in electrical generation and transmission capacity throughout the country and has developed an attractive renewable energy framework. As a result, the Project is within close proximity to several Very High Voltage power lines with confirmed capacity for a mine the scale of Khemisset. Morocco's forward-thinking legislation, to promote renewable energy development,

provides additional benefits to the Project including tariff reductions, while reducing the overall carbon footprint of the mine.

"Through continued discussions with our gas supply partner, it has reiterated its willingness to fund, design, build and maintain the gas storage infrastructure required for processing the potash ore, saving Khemisset considerable capital expenditure.

"The Feasibility Study continues to track well ahead of schedule, and we are confident that it will be delivered towards the front end of Q2 2020 rather than the end of 1H 2020 as previously advised."

Comparison to Peers

The electrical and gas supply capex estimates for the Khemisset Project, completed by independent engineers Golder, with support from local key partners, as a part of the Feasibility Study, has confirmed that the capital cost requirement to ensure electricity and gas availability will be far lower than the equivalent connections for the majority of potash development projects globally. A comparison to other development stage potash projects is shown in **Figure 1** below.



Figure 1: Capital costs to connect to electricity and gas for selected potash projects

Electrical Connection Overview

Golder, which was appointed by the Company to manage the delivery of its Feasibility Study, with support from Moroccan based electricity contractor Clemessy, and after consultation with Moroccan

national grid operator ONEE, has completed full design and cost estimates for the electrical connection at Khemisset. Designs and estimates have been prepared in line with Feasibility Study guidelines provided by the Australasian Institute of Mining and Metallurgy ("AusIMM"). An optioning approach was adopted to identify all the possible connections to the national grid and the go-forward option was selected after a thorough multidisciplinary scoring exercise.

The Company believes it will benefit strongly from the Moroccan Government renewable energy legislation, which is designed to promote renewable energy development across the country. The Company has signed a memorandum of understanding ("MOU") with global renewable energy developer Voltalia (**Refer RNS dated 7 October 2019**) and, based on early indications, expects to see tangible benefits in the form of significant reductions in tariffs compared to the assumptions used in the Scoping Study, as well as a significant reduction in the carbon footprint of the mine.

Electrical Grid Connection

In addition to the Middle Voltage and High Voltage powerlines that were identified in the Scoping Study assessments, there are two existing Very High Voltage powerlines (225KV) that are strategic to the national grid, connecting the Rabat and Meknes regions. ONEE has provided official approval on feasibility to connect to one of these powerlines, the nearest connection point to one of which is less than 15 kilometers from the preferred Project site. **Figure 2** below indicates the selected location for connecting site to the national grid.



Figure 2: Selected option for project connection to the national grid

The multiple possible supply options identified in the Scoping Study were assessed again as part of the Options Study (refer to **Figure 3** below). A set of selection criteria were used to analyse all possible options and each option was scored independently. Based on the detailed review of final scores, it was

decided that a single 225KV powerline with two overhead lines is the optimal solution for Khemisset Project and was selected as the "Go-Forward" case.



Figure 3: Available options for project connection

Site Electrical Infrastructure

The mine's 225/10 KV intake substation will be connected to the existing 225 KV line by double overhead 225 kV power line to form a closed circuit as a continuity of the existing line. Given the relatively large size of the mine infrastructure area, it is considered impractical to distribute to all infrastructure at 400V. It is therefore proposed that a single 10 kV ring will feed all surface and underground infrastructure, with 10 kV / 400 V step-down pole-mount transformers or compact substations throughout the mine infrastructure area. Compact substations with dry-type transformers are recommended for underground operations.

In most cases, 10 kV and 400 V underground cables are proposed for the mine infrastructure area. However, 10 kV overhead lines will be considered for longer runs to reduce costs and transmission losses.

Contingency Power

The 225 KV powerline from which electrical power will be sourced is considered to be strategic for the national grid. It is, therefore, built and maintained to very high standards. ONEE indicated that it expects only 8 hours per annum of planned outages for preventive maintenance, indicating the potential for over 99% powerline availability. Given that the connection will be completed via an approximately 15Km extension of the existing line to integrate the mine substation into the grid, the specifications of the extension will meet the same high standards of the Moroccan national grid. As a result of high and

stable levels of availability, Emmerson will not be required to heavily invest in a contingency powerline or full capacity onsite generation.

The Feasibility Study contemplates the installation of 1,000 kVA of onsite generation capacity as an emergency Uninterruptible Power Supply ("UPS"), which is required for health and safety reasons. The UPS will be used to provide back-up power for key underground utilities including lighting, fire rescue and proto rescue and ventilation. The cost of the UPS is estimated to be US\$150K.

Gas Supply Overview

Emmerson will require the supply of gas, as either Liquified Petroleum Gas ("LPG") or Liquified Natural Gas ("LNG"), for the Khemisset processing plant. In Morocco, the most common gas source is LPG, which can be either propane, butane, or a mixture of the two. The Company has continued its discussions with Morocco's leading LPG storage and distribution company with respect to a long term supply partnership.

The gas supply model provides that Emmerson's supply partner will design, supply, install, and maintain all onsite gas storage facilities at its cost, while Emmerson would provide civil works, electricity and other support services required for the facility's operation.

In this scenario, there would be no capex required from Emmerson with respect to ensuring supply of LPG. In operation, gas prices will be floating with reference to global market prices plus freight and taxes to deliver to site in Morocco. This will allow the Company to hedge its gas exposure, thus protecting it from short term volatility in prices.

Given the long-term project life and the relatively high and steady gas consumption rates, Emmerson believes that Khemisset will benefit from highly competitive gas prices in the Moroccan context.



Figure 4: Moroccan Gas Infrastructure Relative to the Khemisset Potash Project

The total budgeted capital cost required to connect the Khemisset site to the electrical grid and construct onsite substation and gas storage is approximatively US\$10.6 million including a 10% contingency.

A summary of the cost breakdown is presented in **Table 1** below:

Item	US\$ millions
Electrical Connection	\$9,675,300
225 KV double line over 15 Km	\$2,500,000
Cost of Land Easements	\$95,300
225/11 kV Onsite Downgrade Substation	\$6,930,000
1,000 KV Onsite Contingency UPS Generators	\$150,000
Gas Storage	\$0
Contingency (10%)	\$967,530
Total Direct Costs including Contingency	\$10,642,830

Table 1: Summary of Direct Costs for Electrical and Gas Supply Capex

END

For further information, please visit <u>www.emmersonplc.com</u>, follow us on Twitter (@emmerson_plc), or contact:

Hayden Locke	Emmerson Plc	Tel: +44 (0) 20 7236 1177
Edward McDermott		
Damon Heath	Shard Capital Partners	Tel: +44 (0) 20 7186 9950
Isabella Pierre		
Isabel de Salis	St Brides Partners Ltd	Tel: +44 (0) 20 7236 1177
Megan Dennison	Financial PR/IR	

Notes to Editors

Emmerson's primary focus is on developing the Khemisset Potash Project located in Northern Morocco. The project has a large JORC Resource Estimate (2012) of 311.4Mt @ 10.2% K₂O and significant exploration potential with an accelerated development pathway targeting a low capex, high margin mine. Khemisset is perfectly located to capitalise on the expected growth of African fertiliser consumption whilst also being located on the doorstep of European markets. This unique positioning means the project will receive a premium netback price compared to existing potash producers. The need to feed the world's rapidly increasing population is driving demand for potash and Emmerson is well placed to benefit from the opportunities this presents.

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014.