JACOBS

Memorandum

Environmental Social and Health Impact Assessment Non-Technical Summary

Proposed joint venture project near Orange, Texas

The project is a proposed joint venture being developed by Chevron Phillips Chemical (CPChem) as the operator and majority owner, and a subsidiary of QatarEnergy as minority owner. The project is currently being progressed but no final investment decision has been made. The project would construct a petrochemical facility to manufacture polyethylene for distribution worldwide using the latest technology. The need for the project is driven by the growing market demand globally for polyethylene products. The project would serve existing customers worldwide that are expected to continue to expand through 2040. The project would be located on an approximately 1,000-acre site that was previously undeveloped agricultural land.

The main features of the project would include the following:

- **Olefins Production Unit -** This unit would include seven cracking furnaces and associated processing equipment to produce ethylene and olefin products that will be consumed at onsite polyethylene production units or transferred offsite via pipeline.
- **Polyethylene Production Units-** Two new polyethylene units would be constructed to convert the ethylene produced from the olefins unit into polyethylene (one of the most widely used plastics in the world).
- **Utilities and Support Infrastructure -** Several facilities would be constructed to support the olefins and polyethylene units including boilers, vapor controls, cooling towers, storage tanks, emergency generators/firewater pump, tank truck/railcar loading, vehicle fueling equipment, and wastewater treatment facilities.

Project construction is anticipated to last three to four years. Construction is anticipated to include 4,000 to 5,000 workers, many of whom will be local to the area. The traveling workforce is anticipated to be housed in existing hotels, motels, apartments, and campgrounds in the vicinity. Start-up of the facilities is anticipated to take place in 2026.

Environmental Social and Health Impact Assessment

The U.S. environmental permitting process required for the project includes submission of separate permit applications for different environmental review topics in line with the National Environmental Policy Act. The project undertook an Environmental Social and Health Impact Assessment (ESHIA) to further understand the potential impacts associated with the project. The ESHIA also considered how the project meets international policies, guidelines, and standards including the Equator Principles 4 (EP4), the finance industry's set of guidelines for managing social and environmental risks in project financing. The following is a summary of key observations identified in the assessment:

- **Air Quality:** An air quality assessment was undertaken for the area where the project is proposed, using air quality monitoring data and comparing this to local and international guidelines. The assessment determined that the project meets the relevant state, federal, and World Health Organization air quality guidelines.
- **Greenhouse Gas (GHG) Emissions:** The project is designed using modern GHG emissions reduction technology. A GHG emissions Life Cycle Analysis specific to the project was completed in July 2022. The operational and constructional Scope 1 and 2 GHG emissions are estimated to be above 100,000 carbon dioxide equivalent (CO_2e) and the project would report operational Scope 1 and 2 GHG emissions in line with EP4. The project is targeting to have approximately 25 percent lower GHG emissions than similar facilities in the U.S. and Europe. The project will continue to assess options to help further reduce GHG emissions.

- **Climate Change:** Climate change has the potential to impact the site over the projected lifespan of the project. The potential impacts could include severe weather and hurricanes, site flooding and extreme high temperature events. The project has been designed to help address the potential impacts of extreme climate conditions on the facility. The project has also written health and safety protocols to help address worker safety in extreme conditions such as times of high temperatures.
- **Noise:** Noise effects during construction are expected to be minor at the project perimeter. Operational noise effects are predicted to be consistent with typical noise levels for industrial uses. However, without mitigation, the noise generated from flares during normal and emergency operations has the potential to affect adjacent residences. As a result, these flares would have noise reduction measures put in place to reduce noise to acceptable levels.
- **Ecology and Biodiversity; Geology and Soils:** The site was historically undeveloped agricultural land. Construction of the project would modify habitats with low biodiversity. Overall, ecological restoration measures are expected to result in sufficient protection of any important features on the site. No impacts to threatened or endangered species are anticipated.
- **Hazardous Materials and Waste Management:** Chemicals and other hazardous materials would be managed and stored according to state and federal guidelines for both construction and operation. A Waste Management Plan would be developed for the site to mitigate hazardous material and waste impacts.
- **Hydrology, Water Resources and Hydrogeology:** A portion of the site is within the 100-year floodplain. As a result, appropriate measures are planned to mitigate the risk of flooding. It is envisaged that the water supply for the project would be taken from the existing Sabine River Authority Canal, which will be sufficient to meet operational needs. Storm and wastewater outfalls would comply with federal, state, and local guidelines.
- **Socioeconomics; Community Health and Safety:** The project is expected to create a number of economic benefits for the community including the creation of 4,000-5,500 or more direct jobs and up to 16,000 to 17,500 indirect jobs during construction. The in-migration of workers will potentially contribute to the betterment of the community through increased economic activity while at the same time potentially increasing the risk of community health and safety impacts arising from the construction and operations of the project. Community Health and Safety Plans would be developed to manage these potential risks. The project is not expected to result in negative health impacts or impacts to vulnerable groups.
- **Human Rights:** The project would comply with international, federal, and state laws and regulations related to employment, workers' rights, and human rights, including protection of migrant workers, women, and subcontractors and as a result no negative human rights impacts are anticipated.
- **Cultural Resources:** Although unlikely, an "Unanticipated Discoveries Plan" was developed in the event that any cultural heritage artifacts or human remains are found during construction.
- **Traffic and Transportation:** A Traffic Management Plan would be developed for project construction and operations, which would include road grading and some improvements to local access roadways. With use of these measures, impacts would be mitigated.

Jacobs conducted the ESHIA study in a manner consistent with national and international best practices, including the Equator Principals, and believes the information contained in this report is true and correct. All findings, opinions, and conclusions stated in this report are based on current regulations, guidelines, and facts; and the studies and analyses conducted in 2021-2022. As such, they are not necessarily indicative of precise future conditions and outcomes.