NON-CONFIDENTIAL VERSION
APPENDICES 12, 14, 15, 16, 18, 19, 20, 21, 22, 24, 25 ARE STRICTLY CONFIDENTIAL

1 THE APPLICANT/S

Please give details for each of the Philippine producer/s by or on whose behalf this application is made.

1.1 **Name:** JG Summit Petrochemical Corporation

1.2 **Address:**

Head Office: 10F-11F, Robinsons Cyberscape Gamma Bldg., Topaz and Ruby Roads, Ortigas Center, Brgy. San Antonio, Pasig City, Philippines 1605

Plant: Barangay Simlong, Batangas City, Philippines 4200

1.3 **Phone:** (632) 8 230-5000 / (632) 8 397-3200

1.4 **Fax:** (632) 8 395-2674

E-mail address: Rhoda.Balilla@jgspetrochem.com
Veron.Munar@jgspetrochem.com

1.5 **Names and titles of contact people for this case.**

Atty. Rhoda M. Balilla	Legal Counsel
Maria Veron M. Marasigan	Manager, Business Development, Research and Communications

1.6 **Ownership details. Submit articles of incorporation; SEC registration etc.**

See attached:

a. SEC Registration (Appendix 1)
b. Articles of Incorporation (Appendix 2)
c. General Information Sheet (Appendix 3)

Provide broad details of shareholding e.g. ____ privately owned, or _____ _____ Corp., _____ Corp.

JGSPC is 100% owned by JG Summit Holdings, Inc. (JGSHI), one of the country's largest and most diversified conglomerates, with investments in various sectors such as food and agribusiness, air transportation, property development, banking, telecommunications, power and petrochemicals. JGSHI has been publicly listed since 1993.

1.7 **Details of company accounting year.**

Please find attached audited financial statements (Appendix 4) for the ff. accounting periods:

Fiscal Year 2015	Oct 2014 – Sept 2015	(Appendix 4A)
Short Period 2015	Oct 2015 – Dec 2015	(Appendix 4B)
Calendar Year 2016	Jan – Dec 2016	(Appendix 4C)
Calendar Year 2017	Jan – Dec 2017	(Appendix 4D)
Calendar Year 2018	Jan – Dec 2018	(Appendix 4E)

For this safeguards application, information for Calendar Year 2019, covering the period January 2019 to December 2019, was also provided. The CY 2019 audited financial statement will be submitted as soon as available.

1.8 **Briefly list all products manufactured and/or sold. (Continue on separate sheet if needed.)**

JGSPC markets its resin products under the brand name EVALENE®.

- **EVALENE® High Density Polyethylene (HDPE)**
- EVALENE® Linear Low Density Polyethylene (LLDPE)
- EVALENE® Polypropylene (PP)

For a complete list of the existing Unipol™-based product grade slate, please refer to attached brochure (Appendix 5).

JGSPC seeks safeguards measures for competing imported PE products, regardless of source country.

This document is the application for HDPE.

1.9 **Describe your distribution channels**

For local and indirect export sales, JGSPC primarily sells its HDPE resins directly to over 200 local plastic products manufacturers, and secondarily through distributors.

For export sales, JGSPC mainly sells through accredited distributors and trading partners, but may also sell directly to plastics products manufacturers. Since 1998, JGSPC has sold its products to over 30 countries worldwide.

1.10 **Describe your production process. Provide flowchart of manufacturing operations.**

UNIPOL™ PE Production Process (existing 320 kTA plant)

UNIPOL™ PE gas phase technology is one of the world's most widely used PE technology, having more than 165 licensed reactor lines in 28 countries, with total capacity of more than 48 million MTA. Below is a brief description of the UNIPOL™ PE production process.

Purification:

- The Purification Area is designed to remove impurities in the raw materials, ethylene, butene, hexane, hexene, nitrogen, and hydrogen. These impurities include acetylenes, conjugated dienes, halogens, oxygenated and sulfur compounds. These impurities may cause the production of undesired by-products in the reaction or simply cause the reaction to stop.

Reaction:

- Resin is produced in a fluidized bed reactor by the polymerization of ethylene. Depending on the grade being produced, hexene or butene is added into the system to obtain desired polymer density. Catalyst is used to increase the reaction rate. An induced condensing agent, hexane, is added into the system to help cool the reactor. Nitrogen gas is used to pressure up the reactor and maintain gas compositions. Products are discharged into a Product Discharge System and are conveyed to the resin degassing section. The production rate for each of the two reactors is about 20 metric tons (MT) per hour or 160,000 MT per annum.

Resin Degassing:

- After the reaction, the resin is conveyed towards the product purge bin. In this vessel, resin is separated from dissolved hydrocarbons by a steady flow of nitrogen countercurrent to the product stream. Residence time, which indicates the amount of hydrocarbons purged from the resin, is controlled by the resin level inside the bin.

Vent Recovery:

- The vent recovery system is designed to recover gases purged from the resin degassing section. This improves the overall efficiency of the process and at the same time minimizes the amount of gas vented off to the atmosphere. The recovered gases are used to convey the products from the reaction section to the resin degassing.

Additive Addition and Extrusion:

- The resin from the product purge bin then goes to the extrusion area where additives that improve the physical property of the polymer are added. These mechanical properties include but are not limited to the tensile strength, elasticity and overall processability of the product. Moreover, additives to improve product handling are added such as anti-static and anti-block. Anti-oxidants, which help retard polymer degradation, are also added to extend the life of the polymer. The additives and resin are melted and mixed in the extruder. After which, they are pelletized for easy handling and storage. The pellets are then conveyed to the silos at an average production rate of 12.5 MT per hour.

Product Silos:

- Pelletized resin are then conveyed to the product silos in preparation to bagging. The silos serve as temporary storage for the pellets with a capacity of 200 tons per silo.

Please see attached process flow diagram of JGSPC for the UNIPOL™ PE Process (Appendix 6A).

Chevron Phillips MarTECH ADL™ PE Production Process (upcoming 250 kTA plant)

Chevron Phillips's loop slurry process technology was first introduced in 1961 and is today one of the world leaders in PE production and licensing, with more than 80 licensed plants in 20 countries. Below is a brief description of the Chevron Phillips MarTECH ADL™ PE production process.

Purification:

- The feedstocks ethylene, hexene, isobutane and hydrogen go through a purification process to remove reaction poisons such as water, oxygen, carbon monoxide, carbon dioxide and organic compounds containing sulfur, oxygen or halogens before they are charged into the reactor.

Reaction:

- Monomer ethylene, catalyst, co-monomer and co-catalyst are fed into the first slurry loop reactor where polymer particles grow while being suspended and circulated in a hydrocarbon diluent, isobutane. The temperature of the slurry in the loop is kept uniform by a circulating pump. The heat of reaction is removed by an external cooling water heat exchanger.
- In bimodal operation, the first reactor produces the high molecular weight polymer. The polymer is then transferred to the second reactor by a pipe transfer system. In the second reactor, the low molecular weight polymer is produced by introducing a high

concentration of hydrogen. The catalysts have their own dedicated feeding system into the reactor.

Vent Recovery:

- Polymer from the 2nd reactor is heated and the hydrocarbons are flashed in a flash chamber. The flashed gases are sent to the recovery system while resin is dropped down to a purge column. The purge column removes the remaining hydrocarbons in the polymer.
- The flashed gases are separated in a series of columns to recover isobutane, 1-hexene and nitrogen which are recycled back to the reactor and conveying system.

Extrusion and Additive Addition

- The powder from the polymerization section is fed into the additives and pelletizing unit where it is blended with additives and sent to the extruder feed screw for extrusion. The additives and resins are then mixed and melted by means of two counter-rotating non-intermeshing screws. For easy handling and storage, molten polymer is then made to pass through a die plate and then cut to produce pellets. The pellets are then extruded under water via the pelletizer. These are then sent to the pellet drier for drying and conveyed to the pellet blenders where the pellets are homogenized before being conveyed to the packaging section where the products are bagged and stored.

Please see attached process flow diagram of JGSPC for the Chevron Phillips MarTECH ADL™ PE Process (Appendix 6B).

2. OTHER PHILIPPINE PRODUCER/S

Please give details for any other Philippine producer/s.

NPC Alliance Corporation (NPCAC) is the only other PE producer in the Philippines. Details shown below are based on NPCAC's website - https://www.npcac.com.ph/.

2.1	**Name**	NPC Alliance Corporation
2.2	**Address**	
	Head Office:	19th Floor Antel 2000 Corporate Center, 121 Valero St., Salcedo Village Makati City, Philippines 1226
	Plant:	PAFC Industrial Park, Barangay Batangas II Mariveles, Bataan, Philippines 2105

2.3	Phone	+632 819 0883
2.4	Fax	+632 819 0884
	E-mail address	info@npcac.com.ph

2.5 Briefly, list all products manufactured and/or sold.

NPCAC's 250 kTA plant, which started operations in 2001, uses INEOS's Innovene™ Technology. While the technology is capable of producing both HDPE and LLDPE, NPCAC has mostly produced HDPE grades in the past. Exact product grades they produce however is no longer viewable in their website.

NPCAC reportedly has been shut down indefinitely and based on publicly available data from the Bureau of Import Statistics, their last recorded importation of ethylene, the primary raw material for HDPE, was in May 2015.

2a. SUMMARY OF PHILIPPINE PRODUCERS

Total Philippine Domestic Production of Like or Directly Competitive Products for the Past Five (5) Years

(During the period 2014/10/01 to 2019/12/31)

The period is the most recent representative period immediately preceding the date of herein protest.

Domestic production of like or directly competitive products by those Philippine producers who have, in writing, supported the Application

Figure 1. Production of Philippine Producers Supporting this Application

Producer	**Total A Quantity** (in MT)
JGSPC	[redacted]
Total HDPE	

**Combined FY 2015 (Oct 2014 – Sept 2015) and SP 2015 (Oct 2015 – Dec 2015) volumes*

Domestic production of like or directly competitive products by other Philippine producers

Figure 2. Production of Other Philippine Producers

Producer	**Total B Quantity** (in MT)
NPCAC	
Total HDPE	

Total domestic production of like or directly competitive products by Philippine producers

Figure 3. Total Domestic Production of Philippine Producers

Total Domestic Production (i.e. Total A + Total B)	**Total C Quantity** (in MT)
Total A as % of Total C = **97%**	
Total HDPE	

Total domestic production (i.e. Total A + Total B) Total C

Only JGSPC is filing for a safeguards case and only JGSPC production volumes are known with certainty. We have provided herein an estimation of NPCAC's production volumes using the typical approximate 1:1 ratio of PE production output versus ethylene raw material input. Their last recorded raw material ethylene importation, as per published imports reports from BIS, was in May 2015.

Please see attached source information on NPCAC's ethylene imports (Appendix 7).

3 THE PRODUCT

3.1 Please describe the imported product.
(Submit samples (if possible), brochures, catalogues and specifications.)

High Density Polyethylene (HDPE) is a type of polyethylene resin with densities from 941 kg/cubic meter or greater, and primarily sold as translucent white pellets or in granular form. HDPE is made by polymerizing ethylene monomer using organometallic catalysts. It is also called a polyolefin since its

main monomer ethylene is an olefin, and it also may be copolymerized with other linear alpha olefin copolymers such as 1-butene or 1-hexene.

HDPE is used for a broad range of applications such as extrusion for blown film, sheets, straps, pipe and filament, as well as injection and blow molding applications for packaging of consumer, household and industrial products. HDPE manufacturers typically produce several grades of varying comonomer content, specifications such as melt index and density, additive packages, to suit the abovementioned applications.

HDPE is imported into the local market under the HS and AHTN tariff heading 3901.20.00, as "Polyethylene having a specific gravity of 0.94 or more".

Please find attached data sheets of some of the top HDPE resins being imported into the Philippines, that are used for applications currently also being served by existing local products (Appendix 8).

3.4 **Please provide the tariff classification, statistical code and tariff duty for the imported product. If included in a preferential agreement, state the nature if the requirement and margin(s) of preference granted. The Tariff Commission, Bureau of Customs, customs brokers or consultants can provide the correct tariff classifications.**

Within the ASEAN region, trade of all resins including HDPE is at 0% tariff duty. For resins imported from Most Favored Nation (MFN) sources (e.g. non-ASEAN), tariff duty for HDPE, which is categorized under ASEAN Harmonized Tariff Nomenclature (AHTN) Code 3901.20.00, is at 10%. In addition, various trade agreements enacted between ASEAN or the Philippines and other free trade partner countries also have corresponding tariff schedules for HDPE.

Please see attached excerpt from the latest AHTN 2017 version of corresponding tariff lines and current tariff duties of HDPE under Chapter 39 (Appendix 9).

Please also see tabulation of applicable tariff schedules for polymers of ethylene, including HDPE, entering into the Philippines (Appendix 10).

3.4 **Please describe the like and/or directly competitive products produced by Philippine industry**
(Submit samples (if possible), brochures, specifications and catalogues.)

All grades produced by JGSPC are marketed locally and worldwide under the brand name EVALENE®. JGSPC currently produces 13 HDPE grades for the ff. applications:

- Films (2 commercial grades)
- Injection Molding (5 commercial grades)
- Blow Molding (3 commercial grades)
- Pipe (2 commercial grades)
- Monofilament (1 commercial grade)

Please see attached Appendix 5 on brochure of JGSPC's current grades, with corresponding specifications and applications identified.

3.4 **Explain how the products produced by the Philippine industry are like or are directly competitive with the imported products, including physical characteristics, tariff heading, tariff duty, end use, methods of manufacture and marketing system.**

If the products you manufacture are not identical to the imported products, please give details and explain how you consider that they closely resemble or are substitutable with the imported products. Describe any differences in nature or end-use between the imported products and your product.

JGSPC's current and upcoming HDPE resin products are produced using two of the world's most widely-used PE process technologies, and as such are similar and substitutable with other imported HDPE resin products, especially those used for the same end-use applications.

Please see attached Appendix 11 for a description of the HDPE products JGSPC currently produces.

By 4Q 2020, JGSPC will start to operate its third PE line using US- based Chevron Phillips MarTECH ADL™ PE production technology. The line, which has a rated production capacity of 250 kTA, will be able to produce bimodal, metallocene, and bimodal metallocene HDPE resins, for which currently there is no local production. The new PE line will have an initial planned gradeslate of 8 new grades for HDPE, thereby bringing the total number of HDPE grades to 21 by end-2020.

Please see attached Appendix 12 for a description of the HDPE products JGSPC will be producing by end-2020 onwards.

4 SOURCE/S OF THE IMPORTED PRODUCT

For this section, all analysis of HDPE importations have been referenced against raw data sourced from the Bureau of Import Services (BIS). Please see attached Appendix 13 for the raw imports data from BIS.

4.1 **Name the countries of export of the imported product.**

Please see attached listing of countries that have exported HDPE into the Philippines from 2015 to 2019 (Appendix 14).

4.2 **Provide the names and addresses of the overseas producers and/or exporters supplying the imported products.**

Please see attached listing of suppliers that have exported HDPE into the Philippines from 2015 to 2019 (Appendix 15).

4.3 **Give the names and addresses of any known importers of the imported products and describe the nature of their business, e.g. wholesaler, retailer.**

Please see attached listing of importers that have imported HDPE into the Philippines from 2015 to 2019 (Appendix 16).

4.4 **Indicate when the imported products began causing injury.**

As a result of the increasing import volume of lower priced competitor products, the local company's financial performance started to struggle from 2017 onwards.

INJURY

In order to investigate claims of serious injury or threat thereof, the Bureau of Import Services must have evidence showing:
* The increased volume of imports of the product under consideration
* The impact of the increased imports on the Philippine market
* The economic impact of the increased imports of the product under consideration on the Philippine producers.

All information provided to support claims of injury unless specifically requested must cover the last five (5) years immediately preceding the date of the protest. If the application was submitted on the second semester of the current year, the information shall cover the previous

five (5) years and the period of the current year for which statistics are available.

It is important for applications to show a causal link between the increased imports of the product under consideration and the alleged injury. For example, a decrease in local production and sales may be causally linked to an increase in imports of the imported product. You may believe that although your industry is not currently suffering injury, there will be injury if the importation of the product under consideration is not stopped. Your application will then be based on threat of injury.

When the Bureau of Import Services makes a determination of threat of injury it does so on the basis of guidelines set down in Section 12 of RA 8800 and its implementing rules and regulations.

A determination must be based on facts, not merely on allegation, conjecture or remote possibility. The change in circumstances which will create a situation in which the increased imports of the product under consideration will cause injury must be clearly foreseen and imminent.
In considering the injury factors set out in RA 8800, the Bureau will take account of the following key factors among others, in determining that a threat of injury exists:
* The likelihood of substantially increased imports evidenced inter alia by existence of letters of credit, supply contract, award of a tender or irrevocable offer
* The exporters' capacity to increase exports in the Philippine market
* Inventories of the products being investigated
* Economic impact on Philippine producers.

None of these factors alone will necessarily give decisive guidance to the determination, but taken together, must lead to the conclusion that further increased exports are imminent and that, unless protective action is taken, serious injury could occur.

Your application should have enough information to permit the Bureau to assess the claims in terms of these guidelines.

In critical circumstances where a delay would cause damage which would be difficult to repair, and after a preliminary determination that increased imports are a substantial cause of, or threatens to substantially cause serious injury to the domestic industry, provisional safeguard measures may be imposed. If you think this situation applies to your industry, then you should request that provisional safeguard measures be imposed. You must also state the degree or extent to which the application of such provisional measures will help improve your present situation. Please provide also a

statement on the impact to your industry if imports continue within the next sixty (60) days of the filing of the petition.

The Philippine industry through this safeguards application respectfully request for immediate imposition of provisional safeguard measures for HDPE. From 2017 onwards, the industry has struggled against the increasing volumes of low-cost imports, owing to increasing overcapacity of certain low cost producers worldwide. The local producer is currently expanding capacity further in response to increasing local market volume demand, but has been finding it difficult to compete for the past three years as the import volumes have surged and may continue to surge without the imposition of appropriate safeguards. This imperils not just the existing investments of the local industry but also its ongoing capacity expansion.

5 INCREASED IMPORT VOLUME

Please see attached tabulation of HDPE importations by volume and value from 2015 to 2019 (Appendix 17).

5.1 State quantities of imports of the imported product.

Figure 4. Import Volume per Year

YEAR	HDPE (MT)	REMARKS
YTD 11M 2019	105,151	Volumes sorted from available BIS data
2018	86,997	
2017	82,796	
2016	98,255	
2015	78,829	

5.2 State dollar value of imports of the imported product.

Figure 5. Import Value per Year (USD)

YEAR	HDPE (USD)	REMARKS
YTD 11M 2019	116,845,677.59	Volumes sorted from available BIS data; Imports Value using declared Customs Value
2018	90,259,664.11	
2017	99,236,923.58	
2016	116,955,983.30	
2015	103,374,781.00	

Figure 6. Import Value per Year (PhP)

YEAR	HDPE (PHP)	BSP EXCHANGE RATE (PHP/USD)	REMARKS
YTD 11M 2019	6,052,113,319.97	51.80	Converted using average BSP Exchange Rate for given period
2018	4,753,202,979.20	52.66	
2017	5,001,910,089.32	50.40	
2016	5,554,527,809.91	47.49	
2015	4,703,846,113.90	45.50	

Figure 7. Import Value per Unit per Year

YEAR	HDPE (USD/MT)	HDPE (PHP/MT)	REMARKS
YTD 11M 2019	1,111.22	57,556.54	Volumes sorted from available BIS data; Imports Value using Declared Customs Value
2018	1,037.50	54,636.45	
2017	1,198.57	60,412.31	
2016	1,190.33	56,531.50	
2015	1,311.38	59,671.72	

For both items on this page, please provide these details for the most recent five (5) years available, if possible by month or by quarter and for each country from which imports are being sourced. This information may be available from the National Statistics Office or the Bureau of Customs.

6 ECONOMIC IMPACT

Complete the following injury summary for domestic sales of the like or directly competitive product for the most recent five (5) years available, if possible by month or by quarter.

Table should show the consolidated figures of all the producers by or for whom this application is made. Please state if the table covers different accounting years, and if so, identify the different accounting years for each producer.

Injury Summary
Accounting Period
Sales Volume
Revenue
Cost of Production
Gross Profit
Selling and Admin.
Earnings Before Interest and Tax (EBIT)

Per Unit:
Revenue
Cost of Production
Gross Profit
Selling and Administration
EBIT

Please see attached financials for JGSPC's HDPE from 2015 to 2019 (Appendix 18).

Figure 8. Domestic HDPE - Sales Volume and Value – 2015 - 2019

YEAR	SALES VOLUME (MT)	SALES REVENUE (PHP)	AVERAGE SELLING PRICE PER UNIT (PHP/MT)
CY 2019		Confidential	
CY 2018			
CY 2017			
CY 2016			
SP 2015			
FY 2015			

Figure 9. Domestic HDPE – Cost to Produce – 2015 - 2019

YEAR	PRODUCTION VOLUME (MT)	PRODUCTION COST (PHP)	PRODUCTION COST PER UNIT (PHP/MT)
CY 2019		Confidential	
CY 2018			
CY 2017			
CY 2016			
SP 2015			
FY 2015			

Figure 10. Domestic HDPE – Selling and Administration Cost – 2015 - 2019

YEAR	SELLING AND ADMINISTRATION COST (PHP)	SELLING AND ADMINISTRATION COST PER UNIT (PHP/MT)
CY 2019	Confidential	
CY 2018		
CY 2017		
CY 2016		

SP 2015	
FY 2015	

Figure 11. Domestic HDPE – Cost of Goods Sold – 2015 - 2019

YEAR	COST OF GOODS SOLD (PHP)	COST OF GOODS SOLD PER UNIT (PHP/MT)
CY 2019	Confidential	
CY 2018		
CY 2017		
CY 2016		
SP 2015		
FY 2015		

Figure 12. Domestic HDPE – Gross Profit – 2015 - 2019

YEAR	GROSS PROFIT (PHP)	GROSS PROFIT PER UNIT (PHP/MT)
CY 2019	Confidential	
CY 2018		
CY 2017		
CY 2016		
SP 2015		
FY 2015		

Figure 13. Domestic HDPE – EBITDA – 2015 - 2019

YEAR	EBITDA (PHP)	EBITDA PER UNIT (PHP/MT)
CY 2019	Confidential	
CY 2018		
CY 2017		
CY 2016		
SP 2015		
FY 2015		

Figure 14. Domestic HDPE – EBIT – 2015 - 2019

YEAR	EBIT (PHP)	EBIT PER UNIT (PHP/MT)
CY 2019	Confidential	
CY 2018		
CY 2017		

CY 2016	
SP 2015	
FY 2015	

Complete the following cost of production of the like or directly competitive product under protest for the most recent five (5) years available.

Raw Materials
Conversion Cost

Specify
Direct Labor
Factory Overhead
Variable Expense
Fixed Expense

Figure 15. HDPE Production Cost per MT – 2015 - 2019

COST COMPONENTS *Unit: PhP/MT*	FY 2015	SP 2015	CY 2016	CY 2017	CY 2018	CY 2019
Confidential						

Please see attached breakdown of production cost per unit for JGSPC's HDPE from 2015 to 2019 (Appendix 19).

6.1 OUTPUT

6.1.1 Provide details of any decline in the industry's output of the like or directly competitive product for the Philippine market for the last five (5) years.

While in 2018, JGSPC tried to maintain its production volumes to to help maintain its market share, by 2019 production volumes had to be reduced to to mitigate any further losses.

Please refer to JGSPC HDPE production volume from 2015 to 2019 in Figure 9.

6.2 RAW MATERIALS USAGE

6.2.1 Indicate the utilization for each major raw material used for production of the like or directly competitive product.

The primary raw material component for HDPE are the olefin ethylene and comonomers butene and hexene. On a per product basis, the raw materials usage will depend on the specific grade of HDPE product. JGSPC secures a Formula of Conversion from the Department of Science and Technology (DOST) for its various HDPE products, which specifically shows the breakdown of raw material usage and wastage per product grade.

Please see attached Formula of Conversion showing the raw material utilization of JGSPC for its various HDPE grades (Appendix 20).

6.2.2 **State whether the specific raw material is imported or locally produced.**

The primary raw material ethylene is mainly sourced from the upstream naphtha cracker operated by JG Summit Olefins Corporation (JGSOC), JGSPC's affiliate company, which started commercial operations in November 2014. The secondary raw materials, the comonomers hexene-1 and butene-1, are 100% imported, as well as the other raw materials such as additives and catalysts.

6.3 SALES

Please see accompanying summary of information regarding JGSPC sales and financials, as well as market and imports information for HDPE, from 2015 to 2019 (Appendix 21).

6.3.1 **Provide details of any decline in the industry's sales of the like or directly competitive product for the last five (5) years.**

Please refer to Figure 8 for the table showing JGSPC domestic sales for HDPE, by volume and value, from 2015 to 2019, and as also indicated in Appendix 21.

6.3.2 **Explain any lost sales due to direct competition from the imported product.**

Since 2017, JGSPC has been steadily losing substantial sales volumes from its existing customers, due to increase in volume of importations of competing products that are being sold at much lower prices, even lower than JGSPC's own cost to produce and sell.

6.3.3 Give copies of any correspondence or cancelled orders from the industry's customers showing they are buying the goods from other sources.

Please see attached HDPE imports of JGSPC customers from 2015 to 2019, and their corresponding HDPE purchases from JGSPC for the same period (Appendix 22).

6.3.4 Provide a schedule of volume and value of export sales over the most recent five (5) years available, if possible by month or by quarter.

Figure 16. HDPE Exports - Sales Volume and Value – 2015 - 2019

YEAR	SALES VOLUME (MT)	SALES REVENUE (PHP)
CY 2019		Confidential
CY 2018		
CY 2017		
CY 2016		
SP 2015		
FY 2015		

Please see attached performance of JGSPC sales for HDPE, from 2015 to 2019 (Appendix 18).

6.4 MARKET SHARE

6.4.1 Provide evidence of the size of the Philippine market, preferably by volume, but otherwise by value, for the last five (5) years.

Figure 17. HDPE Market Size - 2015 - 2019

YEAR	IMPORTS VOLUME (MT)	JGSPC DOMESTIC SALES (MT)	TOTAL VOLUME (MT)	JGSPC SHARE (%)
CY 2019	105,151			
CY 2018	86,997			
CY 2017	82,796			
CY 2016	98,255			
CY 2015	78,829			

Please see attached estimation of HDPE market size from 2015 to 2019 (Appendix 23).

6.4.2 Compare the market share of domestic industry with the share held by imports over the most recent five (5) years where data is available.

Please refer to estimation of HDPE market share of JGSPC from 2015 to 2019 in Figure 17.

6.5 PRICES

6.5.1 Outline the extent to which the increased imports have affected domestic prices for the most recent five (5) years, where data is available. Provide supporting documents e.g. price lists, invoices, decline in average unit ex factory prices, increases in costs and any information on your pricing policy and history.

To help protect its market share, JGSPC as much as possible tries to adopt import parity. However by doing so JGSPC is heavily disadvantaged as import prices have been consistently lower than the cost to produce and sell.

Please see attached comparison of JGSPC costs versus import prices (Appendix 24).

6.6 PROFITS

6.6.1 Explain how the gross and net profit on the domestic sales of like or directly competitive product have been affected. This explanation should be consistent with changes in gross and net profit shown on page 13 above.

The low prices of imported HDPE have affected the gross profit on the domestic sales of locally-produced HDPE. In order to compete and defend its market share, the Philippine producer is forced to adopt a policy of import parity pricing, and as such is forced to sell its products at a price below its cost to produce and sell plus a reasonable margin to recover investment.

Please refer to JGSPC gross profit on HDPE products from 2015 to 2019 in Figure 12.

6.7 PRODUCTIVITY

6.7.1 Show how productivity has been affected in the most recent five (5) years, monthly or quarterly if possible. Remember to state the basis used for measuring productivity (e.g. Production per worker, or per period etc.)

With reduced production volumes in the past two years, now half of 2017 produced volume, the productivity per person is shown to be reducing. However, the local petrochemical industry continues to hire skilled workers, such as engineering or science or technical-vocational graduates, thus contributing to reducing the need for these skilled workers to find overseas employment. Despite weakening production, continuous hiring is important to ensure that there is sufficient buffer for the current operational requirements, plus some pre-hiring of those to be trained for the upcoming new builds, which will start to be operational in 2020.

Figure 18. Production Efficiency Per Employee - 2015 - 2019

YEAR	DIRECT LABOR	PRODUCTION (MT)	EFFICIENCY/ UNIT/ EMPLOYEE
CY 2019			
CY 2018			
CY 2017			
CY 2016			
CY 2015			

Please see attached Appendix 20 on labor and productivity for HDPE products from 2015 to 2019.

6.8 RETURN ON INVESTMENTS

6.8.1 Show return on shareholders' funds or return on assets, or a similar appropriate measure of return on investment, in terms of net profit for the most recent five (5) years available.

Due to negative earnings for the past three years specifically for HDPE products, the local producer is currently struggling to provide positive returns to shareholders coming from HDPE sales.

Moreover, JGSPC already has under construction an additional 250 kTA PE plant, whose financial viability is currently imperiled if the low-priced imports of LLDPE were to continue.

6.8.2 Provide details of how any allocation of shareholder's funds or assets has been made to like or directly competitive product.

In 2017, JGSPC decided to proceed with the construction of a new PE plant, which uses a different technology that is also capable of producing bimodal, metallocene and bimodal

metallocene HDPE, which currently are not part of the existing JGSPC gradeslate.

This was decided in part to capture markets currently not served by JGSPC and the other local producer, but also to help improve costs of production by using a new and more efficient production technology.

6.9 USE OF PRODUCTION CAPACITY

6.9.1 **State the industry's production capacity for the most recent five (5) years available, if possible on a monthly or quarterly basis, for the like or directly competitive product.**
Explain the basis for this assessment, e.g. machine capacity, number of shifts, and state the units of measurement, for example, tons, meters, liters.

JGSPC's combined production capacity for PE is 320 kilotons per annum (kTA). This is the combined capacity for HDPE and LLDPE, as the two 160 kTA PE units are swing reactors that can produce both types of resins.

By 4Q 2020, JGSPC is expanding its production capacity to 570 kTA with the addition of the new 250 kTA PE Plant, also capable of producing both HDPE and LLDPE.

6.9.2 **What has been the industry's capacity utilization rate for the periods specified above?**

Figure 19. HDPE Capacity Utilization - 2015 - 2019

YEAR	INSTALLED CAPACITY (MTA)	DOMESTIC PRODUCTION (MT)	TOTAL UTILIZATION (%)
CY 2019			
CY 2018			
CY 2017			
CY 2016			
CY 2015			

Note: JGSPC operates 2 x 160 kTA PE plants, both of which can produce HDPE and LLDPE. NPCAC's 250 kTA plant likewise is also a swing facility that can produce both HDPE and LLDPE.

In trying to maintain market share, JGSPC has tried to maintain production volumes to greater than per annum, despite the poor financial returns that have started to be experienced from 2017 onwards.

Please see attached capacity utilization for HDPE from 2015 to 2019 (Appendix 20).

6.10 INVENTORIES

6.10.1 Provide details on the effect of increased imports of the product under consideration on the volume and value of inventories of the like or directly competitive products in absolute terms and relative to sales and domestic production for the most recent five (5) years.

Figure 20. JGSPC HDPE Finished Goods Inventory - 2015 - 2019

YEAR	INVENTORY VOLUME (MT)	INVENTORY VALUE (PHP)
CY 2019		Confidential
CY 2018		
CY 2017		
CY 2016		
SP 2015		
FY 2015		

Since 2017, remaining inventory year on year has been increasing, which reflects the increasing difficulty to reduce inventory by year-end due to increase in volume of lower-priced imports in the market.

Please see attached JGSPC end-year inventory for HDPE from 2015 to 2019 (Appendix 20).

6.11 OTHER ADVERSE EFFECTS

6.11.1 Please give evidence to support claims of injurious effects (actual or potential) in any of the following areas for the most recent five (5) years:

* Cash flow - specify cash inflows and cash outflows
* Employment
* Wages
* Growth
* Ability to raise capital
* Investments

The negative financial status of Philippine industry has made it increasingly difficult to get financing for its modernization, expansion and operational requirements. Cash flow has been affected because of the lower returns on sales. Philippine industry has been unable to increase the wages up to

global standards because of the negative financial situation. The inability to increase wages makes it more difficult for Philippine industry to hold on and retain its more important technical personnel.

6.12 OTHER CAUSES OF INJURY

Please comment on factors other than the imported product that have injured, or are injuring the industry. These factors could include:

*** Reduction in demand or changes in the pattern of consumption**

*** Restrictive trade practices of, and competition between, overseas and the Philippine producers**

*** Developments in technology**

*** The export performance of the Philippine producers.**

1. US and Middle East petrochemical plants are heavily cost-advantaged versus Asian petrochemical plants

   - The main raw material for all PE, including HDPE, is ethylene, which is primarily derived from either naphtha cracking or ethane cracking. US and Middle East crackers typically use ethane, a plentiful resource in both regions, as the feedstock for their ethylene and PE, while Asian and European crackers on the other hand typically use either domestic or imported naphtha. In the case of the upstream cracker operated by JG Summit Olefins Corp., from which our ethylene is sourced from, the feedstock is mostly imported naphtha, as local refinery production is insufficient in supply and quality for the cracker's needs.

   - However, naphtha crackers are very much cost-disadvantaged on ethylene costs compared to ethane crackers. Thus, exporters of HDPE, especially those coming from ethane-producing countries, are able to drop their prices much lower than domestic pricing, and still with ample margin space to absorb the duties and be sold lower than or at parity with local pricing.

2. The US shale gas boom has led to an oversupply of PE, which is primarily intended for export and is expected to flood Asian markets.

   - Major petrochemicals players such as Dow and ExxonMobil are at the forefront of US expansions. Almost all new ethane crackers are integrated with downstream PE, some of which target HDPE as the main PE product. The integration towards PE resins is in response to ensuring that the end-products are those that can be more easily sold into the world market, rather than ethane and ethylene which are gases that require specialized vessels to be traded. As such, US PE exports have been rapidly ramping up since 2017.

3. The current US-China trade war has caused displacement of usual trade flows, giving rise to increased exports into the Philippines.

   - Due to the current US-China trade war ongoing since 2018, the massive volumes of US PE originally intended to supply China is now forced to enter other markets, and thus the normal trade patterns are disrupted. Along with the increasing presence of US and Middle East sourced imports, Asian producers have also started to heavily trade into the Philippines, at prices competing also against low-priced US and Middle East imports, all of which have been taking away from the local producer's market share.

6.13 IMPORTS BY THE INDUSTRY

If the industry has imported the subject product in the past five (5) years please provide:

*** Full description of the product**
*** Details of each shipment (including dates of importation, supplier, country of origin, volume and value (FOB and CIF).**
*** An explanation why the industry has imported the subject product.**

In 2015, JGSPC imported a competitor HDPE resin for trial purposes in relation to packaging material development.

Please see attached listing of JGSPC purchases of imported HDPE resins by volume and value from 2015 to 2019 (Appendix 25).

Please see attached product data sheet for the HDPE product imported by JGSPC (Appendix 26).

7 SAFEGUARD MEASURES SOUGHT

7.1 **Provide a statement on the form and duration of the safeguard measures you would like to be implemented by the government to assist your industry.**

The local industry seeks a safeguard of **PhP 15,000/MT or USD 300/MT** to be applied immediately and for a period of **10 years**, to all **imported HDPE resins** being brought in from all sources, using tariff code **3901.20.00**.

8 ADJUSTMENT PLAN

8.1 **Provide a statement on the adjustment plan or set of actions that the domestic producers will undertake for the purpose of improving their competitiveness and adopting to the new market conditions.**

Short to Medium Term (Present up to 10 years)

JG Summit Petrochemical Corporation (JGSPC) is currently undertaking or plans to undertake the following projects and initiatives to help optimize existing assets, ensure the viability of upcoming investments and improve competitiveness versus products for which safeguards are being sought.

A. Improve Economies of Scale and Competitive Advantage

1. New 250,000 MTA PE Plant
   - Currently ongoing construction is an additional 250 kTA PE plant that will be able to produce both HDPE and LLDPE, using US-based Chevron Phillips MarTECH ADL™ PE production technology. This capacity, in addition to currently existing 320 kTA, will bring JGSPC's combined PE production capacity to 570 kTA, in an effort to match projected local market demand in the short to medium term. As the petrochemical complex itself already exists and has many of its utilities outside battery limits available or requiring minimal modification to accommodate increase in capacity, the production economies of scale are improved as well as overall costs to produce and sell.
   - In addition, use of the MarTech ADL™ PE production technology will allow JGSPC to produce higher value PE products, such as bimodals and metallocenes, currently not produced in its existing PE plants, enabling JGSPC to cover a wider range of HDPE applications currently served by imported products, and increase its domestic market share.
   - Status: Construction Ongoing
   - Date Available: 4Q 2020

B. Improve on Costs

2. Power – 100 MW Coal-Fired Power Plant
   - The petrochemical complex where the HDPE polymer manufacturing plants are located currently source its power requirements primarily from its own diesel generators and secondarily from the grid. With power costs making up most of the variable cost, it is imperative to find ways to improve on both reducing the power costs and reducing power consumption. To this end, JGSPC plans to put up a 100 MW coal-fired power plant to

provide for its own power requirements, using latest Circulating Fluidized Bed technology for cost efficiency and even reduced emissions as opposed to current diesel or bunker-fired generation.
- Status: Under evaluation
- Date Available: 2023

3. Raw Material Cost – Expansion of Cracker (source of ethylene)
   - JGSOC's cracking facility is currently also undergoing expansion, again in an effort to improve economies of scale and to help build up capacity to match projected local market demand in the short to medium term. With the 50% increase in cracking capacity, larger bulk shipments of the feedstock naphtha and LPG are made possible, which in turn will translate into lower feedstock costs per MT for the production of ethylene, which is the primary raw material for HDPE.
   - Status: Ongoing commissioning
   - Date Available: 1Q 2020

4. Raw Material Costs – Additives and Catalysts Savings
   - With the new PE project, JGSPC invested in a catalyst activator which will allow JGSPC to activate its catalysts onsite rather than offsite (abroad), including those catalysts used for its existing plants, thereby helping to reduce on catalyst activation costs.
   - Status: Construction Ongoing
   - Date Available: 4Q 2020
   - JGSPC also continuously reviews its catalysts and additives portfolio in an effort to find suitable alternative additives at lower cost, as well as higher productivity/efficiency alternatives for its catalysts.
   - Status: Ongoing

C. Improve Plant Reliability

5. Benchmarking Study on Reliability and Maintenance Performance
   - JGSPC is undertaking a maintenance benchmarking study to analyze the primary factors impacting plant reliability and maintenance effectiveness, thereby helping identify key inefficiencies, to enable the maintenance team to focus efforts on specific and measurable improvements and leverage resources to where most needed.
   - Status: Ongoing
   - Date Available: 2Q 2020

D. Improve Production Efficiency and Output

6. Purchase of Operator Training Simulator (OTS)
   - For the new PE plant, JGSPC has procured an Operator Training Simulator which is a system of networked computers programmed to mimic the actual plant processes and associated control systems. The plant model running in the OTS server is built using the same engineering data that is used in the actual plant, using graphics that are identical to those used in actual control systems. With simulated training, trainees can get operational experience in an environment that closely resembles the actual plant without posing any risk to the actual plant, thereby helping minimize incidence of plant upsets caused by human-related errors.
   - Status: Ongoing purchase of software
   - Date Available: 2H 2020

7. Advanced Process Control (APC) System
   - Advanced Process Control (APC) is a technology that uses computers to predict the behavior of the plant and manage the changes that continuously happen in the plant. It attempts to mimic the actions of the most efficient and knowledgeable human control operator, except it works untiringly 24/7, 365 days in a year. JGSPC uses APC modules to help improve plant control stability, feed and production maximization, reduce energy consumption, and reduce variability in product quality,
     - Upgrade for Existing PE Plants:
       - Status: Completed
       - Date Available: 2020
     - New APC for New PE Plant:
       - Status: Data gathering to be initiated once new PE plant is operational
       - Date Available: Targeting 2024

RA 8800 - SAFEGUARD MEASURES ACT

Application to Initiate a Safeguard Measures Investigation

I hereby apply to initiate a safeguard measures investigation

on HIGH DENSITY POLYETHYLENE (HDPE)
from ALL EXPORTING COUNTRIES

In support of this application I attach evidence of:
(i) Volume of Increased Imports
(ii) Injury to the industry; and
(iii) A causal link between the increased imports and alleged injury.

and such information as is reasonably available to me in relation to the matters referred to in RA 8800, the Philippine Safeguard Measures Act.

This application is made by JG SUMMIT PETROCHEMICAL CORPORATION in behalf of the Philippine Industry producing like or directly competitive product to those subject to the application comprising a major proportion of the total Philippine production of those products.

Furthermore, I certify that the information contained in this application are accurate and complete to the best of my knowledge.

Signature: _____
Name: Patrick Henry C. Go
Position: President & CEO
Date: February 7, 2020