



The Honorable Wilbur L. Ross
Secretary of Commerce
United States Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230
WLRoss@doc.gov

Dear Secretary Ross:

National Oilwell Varco (NOV) respectfully submits the attached Request for Exclusion from Remedies from the Section 232 National Security Investigation of Steel Imports. NOV is a leading provider of technology, equipment, and services to the global oil and gas industry that supports customers' full-field drilling, completion, and production needs. Since 1862, NOV has pioneered innovations that improve the cost-effectiveness, efficiency, safety, and environmental impact of oil and gas operations.

As one of the country's largest oil and gas equipment manufacturers, NOV plays a vital role in the U.S. energy market. We build drilling rigs and other oilfield equipment such as top drives, coiled tubing, iron roughnecks, drill pipe, hydraulic fracturing stimulation spreads, conductor casing, and blowout preventers. Our equipment makes it easier for companies to both drill for oil and gas reserves and to effectively extract and produce hydrocarbons once a well has been drilled. NOV sells and exports equipment and technology from the U.S. to customers around the world, reinforcing the role we play as a proud contributor to the growth of the U.S. economy.

The NOV family of companies import, export, manufacture, and distribute products made with steel purchased from steel mills around the world. Our 14,480 U.S.-based employees, working in 22 States, depend upon the continued operation of our major manufacturing locations in Arkansas, California, Kansas, Louisiana, Ohio, Oklahoma, Texas, and Utah. Last year, we exported almost \$1 billion in oil and gas drilling and production equipment from the United States. NOV is also a joint venture partner with voestalpine Tubulars GMBH, an Austria-based steel manufacturer that has approximately 2,200 U.S.-based employees. These employees operate numerous facilities around the country, including a specialty steel mill in Corpus Christi, Texas.

NOV does purchase domestic-origin steel when it meets ours and our customers' requirements for quality, quantity, and availability. However, many of the specialty steel products we purchase from abroad do not have domestic equivalents. The imposition of a 25% tariff on the steel for which we are submitting this exclusion request will have a significant negative impact on NOV's domestic manufacturing operations. If we do not obtain our requested exemptions, we will be forced to consider reducing our U.S. manufacturing presence. NOV needs access to these steel products to maintain its position as a preeminent producer and exporter of U.S. origin oil and gas equipment. We are a key component in the effort to ensure US energy security, and expand U.S high value exports. NOV respectfully requests that you grant this exemption to support the continued manufacture, sale, and export from the U.S. of NOV's technology, equipment, and services to the global oil and gas industry.

Best Regards,

A handwritten signature in black ink that reads "Kartapurkh S. Khalsa".

Kartapurkh S. Khalsa
Senior Counsel & Director of Customs Compliance
National Oilwell Varco

Memo

May 18, 2018

The Honorable Wilbur L. Ross
Secretary of Commerce
United States Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230
WLRoss@doc.gov

RE: Request for Exclusion from Remedies from the Section 232 National Security Investigation of Steel Imports for Coiled Tubing

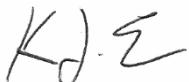
Dear Secretary Ross,

Quality Tubing, a National Oilwell Varco Company, would like to thank you for the opportunity to submit the following Request(s) for Exclusion from Remedies from the Section 232 National Security Investigation of Steel Imports.

As a bit of background, Quality Tubing is a United States company that was founded over 40 years ago in Houston, Texas, where our sole manufacturing facility is located. We are one of the largest manufacturers of coiled tubing for the oil and gas industry. Coiled tubing, is used all over the world for oil and gas well interventions (to restore older wells) and oil and gas well completions (to bring newly drilled wells online). Approximately 54% of our product was exported outside of the United States last year (2017).

Quality Tubing's coiled tubing product is made from imported hot rolled coils of high strength low alloy steel. A disruption to the supply of this steel could endanger the 300+ staff employed by Quality Tubing in Houston, Texas as well as the countless jobs in the domestic oil and gas industry. We view our business, the oil and gas industry, as vital to United States national security, including maintenance of our Strategic Reserves. We need exclusion(s) to do our part to keep this critical domestic industry operating in a safe and efficient manner.

Respectfully yours,



Kevin J. Elliott
Product Engineering Manager
Quality Tubing, a National Oilwell Varco Company

June 1, 2018

The Honorable Wilbur L. Ross
Secretary of Commerce
United States Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230
WLRoss@doc.gov

RE: Steel for Higher Strength Coiled Tubing Grades

Background

For the purposes of this memo, higher strength coiled tubing can be considered the proprietary grades of QT-800, QT-900, QT-1000, QT-1100, QT-1300, and QT-1400 across all wall thickness ranges.

Coiled Tubing Manufacturing Process

Coiled tubing is made from hot rolled high strength low alloy steel coils in the pickled and oiled condition. The coils are processed (slit) to the appropriate width to make coiled tubing of an outside diameter between 0.75" (~19 mm) and 3.50" (~89 mm). The slit steel strips are then joined together to make an assembly that becomes the coiled tubing prior to tube forming and high frequency induction welding (HFIW) the seam.

Coiled Tubing Manufacturing Challenges

While HFIW tubing is extremely common, coiled tubing is a pressure vessel which will be plastically deformed in operations. No defects in the continuous manufacturing are permitted, and typical string lengths are in excess of 20,000 feet (~6,096 m). As a reference, traditional tubing products are typically not more than 40 feet (~12 m).

Manufacturing higher strength coiled tubing as an assembled product of hot rolled coiled steel requires three key attributes that are not necessarily available by all potential steel suppliers (and are not otherwise noted on the exclusion request forms).

1. Low defect rate
2. Fine grain size & Surface Quality
3. Hot Rolled Coils of Tapered Wall

Low Defect Rate

A minor defect in the hot rolled coils resulting either from a slab casting defect or a hot rolling defect can result in scrapping an assembly in excess of 50,000 lbs. (~23 metric tons). The defect rate from the current suppliers of these grades are approximately 0.1% (1 defect noted in approximately every 1,000 hot rolled coils). A trial earlier this decade with a domestic supplier for the proprietary grades QT-1000 and QT-1100 had a defect rate of approximately 1% (1 defect noted in approximately every 100 hot rolled coils). Defects are typically noted after forming the steel into tubing either by visual observation or by eddy current inspection per ASTM E709.

Fine Grain Size & Surface Quality

Coiled tubing is a consumable product meant to repeatedly plastically cycled while under pressure. As a result, coiled tubing is typically retired prior to low cycle fatigue failure or in cases where it operates until failure, there will be some component of low cycle fatigue. In order to provide a predictable low cycle fatigue life, the following attributes have been identified: fine grain size and excellent surface quality.

The grain size of the hot rolled coils used in coiled tubing manufacturing are finer than ASTM No. 14, although it becomes difficult to quantify grain sizes this small as they are outside the range of the typical ASTM E112 comparison wall charts and the microstructure is not entirely ferrite—it contains some carbides/pearlite and/or tempered martensite. The surface quality of the hot rolled coils is additionally difficult to quantify; however, a poor surface quality will result in premature low cycle failures.

The development process to qualify a new steel supplier involves a tube low cycle fatigue test. The testing method and apparatus are unique to the coiled tubing industry, but information regarding the low cycle fatigue test method is published in SPE-26539-MS. Due to copyright concerns regarding a published paper, SPE-26539-MS cannot be attached to this memo, but it can be downloaded from websites such as www.onepetro.org for a nominal fee.

Hot Rolled Coils of Tapered Wall

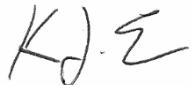
Coiled Tubing is a continuously milled assembly of strips from hot rolled coils. Higher strength coiled tubing products always maintain a consistent nominal outer diameter, but the majority (in excess of 90%) of coiled tubing strings (assemblies of strips from hot rolled coils) contain hot rolled coils with an intentional wall thickness taper that allows for gauge-to-gauge strip joining welds. The manufacture of hot rolled coils with tapered wall thickness requires precise programmable logic controls (PLCs), which are not necessarily available in every hot rolling facility.

The exclusion requests for higher strength coiled tubing must include tapered wall thickness hot rolled coils. The majority of production includes tapered wall thickness coils; it is our expectation that an exclusion denial of the non-tapered coils combined with an exclusion acceptance of tapered coils would effectively remove over 90% of NOV Quality Tubing's market. Simply put, one product without (straight wall coils) the other (tapered wall coils) would not allow creation of the assembly (the coiled tubing string).

Summary

NOV Quality Tubing requests exclusion for all hot rolled coil types used to make QT-800, QT-900, QT-1000, QT-1100, QT-1300, and QT-1400. The qualification process for a new supplier takes over one year and involves quantification of hot rolled coil mechanical properties, low cycle fatigue life, and the supply of tapered wall thickness coils. If the exclusion is not granted for these products, approximately 300 Houston, TX-based manufacturing jobs could become imperiled as no active domestic supplier for these grades exists.

Respectfully yours,



Kevin J. Elliott
Product Engineering Manager