# Certain Ammonium Nitrate from Ukraine

Investigation No. 731-TA-894 (Second Review)

**Publication 4396** **May 2013**

## U.S. International Trade Commission

**Washington, DC 20436**

# U.S. International Trade Commission

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Note.–Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
Investigation No. 731-TA-894 (Review)

**CERTAIN AMMONIUM NITRATE FROM UKRAINE**

## DETERMINATION

On the basis of the record[1] developed in the subject five-year review, the United States International Trade Commission (Commission) determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)), that revocation of the antidumping duty order on certain ammonium nitrate from Ukraine would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

## BACKGROUND

The Commission instituted this review on June 1, 2012 (77 F.R. 32669) and determined on October 17, 2012 that it would conduct a full review (77 F.R. 65015, October 24, 2012). Notice of the scheduling of the Commission's review and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on October 24, 2012 (77 F.R. 65015)[2]. The hearing was held in Washington, DC, on April 4, 2013, and all persons who requested the opportunity were permitted to appear in person or by counsel.

[1] The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

[2] The Commission published a revised schedule on December 11, 2012 (77 F.R. 73674).

# VIEWS OF THE COMMISSION

Based on the record in this five-year review, we determine under section 751(c) of the Tariff Act of 1930, as amended ("the Act"), that revocation of the antidumping duty order on certain ammonium nitrate from Ukraine would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

## I. BACKGROUND

On August 23, 2001, the Commission completed its original investigation and determined that an industry in the United States was materially injured by reason of less than fair value imports of certain ammonium nitrate from Ukraine.[1] The U.S. Department of Commerce ("Commerce") issued an antidumping duty order on the subject merchandise on September 12, 2001.[2]

On June 27, 2007, the Commission completed its first full five-year review of the antidumping duty order on certain ammonium nitrate (high-density ammonium nitrate, or "HDAN") from Ukraine and determined that revocation of the order would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time.[3] Commerce issued a continuation of the order on July 9, 2007.[4]

The Commission instituted this review on June 1, 2012.[5] Two domestic producers of certain ammonium nitrate, CF Industries Inc. and El Dorado Chemical Company (jointly, the "Domestic Industry"), filed a joint response to the notice of institution, and four foreign producers of the subject merchandise and one foreign trading company that exported subject merchandise (collectively, the "Respondents" or "Ostchem") also submitted a collective response.[6] The Commission found both the domestic interested party and respondent interested party group responses to the notice of institution to be adequate and accordingly determined to conduct a full review.[7]

The Commission received prehearing and posthearing submissions from the Domestic Industry and the Respondents. In addition, the Commission received a posthearing brief from the Government of

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[1]Certain Ammonium Nitrate from Ukraine, Inv. No. 731-TA-894 (Final), USITC Pub. 3448 (August 2001) ("Original Investigation").

[2]Antidumping Duty Order: Solid Agricultural Grade Ammonium Nitrate from Ukraine, 66 Fed. Reg. 47451 (September 12, 2001) ("AD Order").

[3]Certain Ammonium Nitrate from Ukraine, Inv. No. 731-TA-894 (Review), USITC Pub. 3924 (June 2007) ("First Five-Year Review") at 3.

[4]Solid Agricultural Grade Ammonium Nitrate from Ukraine; Continuation of Antidumping Duty Order, 72 Fed. Reg. 37195 (July 9, 2007).

[5]Ammonium Nitrate from Ukraine Institution of a Five-Year Review, 77 Fed. Reg. 32699 (June 1, 2012).

[6]Explanation of Commission Determination on Adequacy, EDIS Doc. 503734 (September 4, 2012). The Ukrainian producers of ammonium nitrate are OJSC Rivneazot, CJSC Severodonetsk Azot Association, OJSC Concern Stirol, and OJSC Azot Cherkassy. These four responding Ukrainian producers were acquired by the Ostchem Group ("Ostchem") in 2010 and 2011. Staff Report ("CR/PR") at I-12 n.19, PR at I-11 n.19; and Ostchem Foreign Producer Questionnaire Response, Section II-13. The Ukrainian trading company, NF Trading AG ("NF Trading"), is a subsidiary of Ostchem. Ostchem Prehearing Brief at 22. It currently exports HDAN to markets other than the United States. EDIS Doc. 503734.

[7]Id.

Ukraine. Representatives from the Domestic Industry, the Respondents, and the Government of Ukraine appeared at the Commission's hearing.

The Commission sent questionnaires to two U.S. producers of certain ammonium nitrate, both of which provided the Commission with information on their certain ammonium nitrate operations. These producers are believed to have accounted for virtually all domestic production in 2012.[8] Although there were no imports of HDAN from Ukraine during the period of review, the Commission also sent importers' questionnaires to 12 firms believed to be importers of ammonium nitrate and received usable questionnaire responses from five companies representing *** percent of ammonium nitrate imports from all sources in 2012.[9] The Commission sent foreign producer questionnaires to four Ukrainian producers of certain ammonium nitrate, and all responded with usable data. These producers are believed to have accounted for *** percent of total production of certain ammonium nitrate in Ukraine in 2012.[10]

## II. DOMESTIC LIKE PRODUCT AND INDUSTRY

### A. Domestic Like Product

In making its determination under section 751(c) of the Act, the Commission first defines the "domestic like product" and the "industry."[11] The Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle."[12] The Commission's practice in five-year reviews is to examine the domestic like product definition from the original investigation and any completed reviews and consider whether the record indicates any reason to revisit the prior findings.[13]

In its expedited sunset determination, Commerce defined the subject merchandise as follows:

> [S]olid, fertilizer grade ammonium nitrate products, whether prilled, granular or in other solid form, with or without additives or coating, and

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[8]CR at I-21, PR at I-17.

[9]CR/PR at IV-1 and n.1; and calculated from proprietary data from U.S. Customs & Border Protection ("Customs"). In making our determinations in this five-year review, we have relied upon import data and apparent U.S. consumption data drawn from responses to the Commission's questionnaires. We note that the record contains, in Appendix E to the Staff Report, consumption and import data compiled from proprietary Customs data, including data on nonsubject imports, for companies that imported HDAN during the period of review but did not respond to the Commission's questionnaires. Domestic Industry Prehearing Brief at Exhibit 3. Although these data may be more comprehensive with respect to total HDAN imports during the period of review, they may also contain data for imports of non-HDAN nitrate-based fertilizers. Use of the data contained in Appendix E would not have changed our analysis of the issues presented or the conclusions reached in this review.

[10]CR at IV-5, PR at IV-2.

[11]19 U.S.C. § 1677(4)(A).

[12]19 U.S.C. § 1677(10); see, e.g., Cleo Inc. v. United States, 501 F.3d 1291, 1299 (Fed. Cir. 2007); NEC Corp. v. Department of Commerce, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996); Torrington Co. v. United States, 747 F. Supp. 744, 748-49 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991); see also S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

[13]See, e.g., Internal Combustion Industrial Forklift Trucks From Japan, Inv. No. 731-TA-377 (Second Review), USITC Pub. 3831 at 8-9 (Dec. 2005); Crawfish Tail Meat From China, Inv. No. 731-TA-752 (Review), USITC Pub. 3614 at 4 (Jul. 2003); Steel Concrete Reinforcing Bar From Turkey, Inv. No. 731-TA-745 (Review), USITC Pub. 3577 at 4 (Feb. 2003).

> with a bulk density equal to or greater than 53 pounds per cubic foot. Specifically excluded from this scope is solid ammonium nitrate with a bulk density less than 53 pounds per cubic foot (commonly referred to as industrial or explosive grade ammonium nitrate).[14]

The scope definition set out above is unchanged from Commerce's scope determinations in the original investigation and first five-year review,[15] in which the Commission defined a single domestic like product consisting of certain ammonium nitrate, which was coextensive with the scope.[16]

In its purest form, ammonium nitrate is a white crystalline solid inorganic compound containing 35 percent nitrogen by weight and is highly soluble in water. Commercial grade ammonium nitrate is produced in three major forms: (1) HDAN; (2) nonsubject low-density industrial explosives grade ammonium nitrate ("LDAN"); and (3) nonsubject molten ammonium nitrate synthesis solution.[17]

HDAN is a nitrogen fertilizer that may be used by itself for crop fertilization or bulk blended with phosphorus and potassium. This fast-acting product is favored for direct application to the soil surface on pasture grass in the Southeastern and Southwestern regions and in the Midwest, where HDAN performs well in the warm, humid climate. HDAN is also popular for direct soil surface application to vegetables and citrus crops where multiple crops are produced and where rapid growth is important, as well as to traditional row crops such as corn, wheat, cotton, milo, and other grains. HDAN is typically a higher-cost nitrogen fertilizer on a per unit basis than solid urea and UAN solutions.[18]

HDAN is produced in the United States predominantly as spherical fertilizer prills, but may also be produced in granular form. The prills may be lightly coated with an external conditioning agent which prevents atmospheric moisture absorption and provides for free-flowing, anti-caking characteristics. Uncoated HDAN product is also used to a limited extent in cased or packaged explosives and emulsions, as well as in selected specialty industrial markets. HDAN by itself is a relatively benign compound, but it is a strong oxidizer which contains its own oxygen for burning and will support the combustion of given materials under the proper conditions. Therefore, contamination of the product with oxidizable organic materials, such as fuel oil and other hydrocarbons, could cause HDAN to decompose and detonate.[19] HDAN is subject to a wide variety of federal regulations because of its explosive nature and potential for use as a source of terrorism.[20]

The record in this second five-year review contains no information suggesting that the characteristics and uses of domestically produced certain ammonium nitrate have changed since the prior proceedings or that the like product definition should be revisited.[21] All responding parties agreed with or

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[14]Solid Agricultural Grade Ammonium Nitrate from Ukraine; Final Results of Expedited Second Sunset Review of the Antidumping Duty Order, 77 Fed. Reg. 59377 (September 27, 2012).

[15]See AD Order, 66 Fed. Reg. at 47451, and Solid Agricultural Grade Ammonium Nitrate; Final Results of Expedited Sunset Review of Antidumping Duty Order, 71 Fed. Reg. 70508, 70509 (December 5, 2006).

[16]Original Investigation, USITC Pub. 3448, at 4-5; First Five-Year Review, USITC Pub. 3924, at 5.

[17]CR at I-14, PR at I-12. Synthesis solution is sold commercially for use in emulsion explosives and for other industrial applications. In more diluted form, it is also used in the production of urea ammonium nitrate ("UAN") fertilizer solutions. CR at I-14, PR at I-12 to I-13.

[18]CR at I-16, PR at I-13-14.

[19]CR at I-15 to I-16, PR at I-13.

[20]CR at I-16 to I-17, PR at I-14.

[21]See generally CR at I-19 to I-21, PR at I-16.

did not object to the Commission's prior definition of the domestic like product.[22] We therefore find a single domestic like product that is coextensive with the scope, consisting of certain ammonium nitrate.

### B. Domestic Industry

Section 771(4)(A) of the Act defines the relevant industry as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[23] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

The record in this review indicates that CF Industries and El Dorado are the only current domestic producers of the domestic like product.[24] Given our definition of the domestic like product, we define the domestic industry, as we did in the original investigation and first five-year review, to include all domestic producers of HDAN.

## III. LIKELIHOOD OF CONTINUATION OR RECURRENCE OF MATERIAL INJURY IF THE ANTIDUMPING DUTY ORDER IS REVOKED

### A. Legal Standards

In a five-year review conducted under section 751(c) of the Act, Commerce will revoke an antidumping duty order unless (1) it makes a determination that dumping is likely to continue or recur and (2) the Commission makes a determination that revocation of the antidumping duty order "would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time."[25] The Uruguay Round Agreements Act ("URAA") Statement of Administrative Action ("SAA") states that "under the likelihood standard, the Commission will engage in a counterfactual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports."[26] Thus, the likelihood standard is prospective in nature.[27] The U.S. Court of

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[22]Domestic Industry Substantive Response to the Commission's Notice of Institution at 38; Domestic Industry Prehearing Brief at 6-7. Neither the Respondents nor the Government of Ukraine commented on the appropriate domestic like product in their submissions.

[23]19 U.S.C. § 1677(4)(A). The definitions in 19 U.S.C. § 1677 apply to the entire subtitle containing the antidumping and countervailing duty laws, including 19 U.S.C. §§ 1675 and 1675a. See 19 U.S.C. § 1677.

[24]CR at I-21, PR at I-17. There are no related parties issues in this review.

[25]19 U.S.C. § 1675a(a).

[26]SAA, H.R. Rep. 103-316, vol. I, at 883-84. The SAA states that "{t}he likelihood of injury standard applies regardless of the nature of the Commission's original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed." Id. at 883.

[27]While the SAA states that "a separate determination regarding current material injury is not necessary," it indicates that "the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued {sic} prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of

(continued...)

International Trade has found that "likely," as used in the five-year review provisions of the Act, means "probable," and the Commission applies that standard in five-year reviews.[28]

The statute states that "the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time."[29] According to the SAA, a "'reasonably foreseeable time' will vary from case-to-case, but normally will exceed the 'imminent' timeframe applicable in a threat of injury analysis in original investigations."[30]

Although the standard in a five-year review is not the same as the standard applied in an original antidumping duty investigation, it contains some of the same fundamental elements. The statute provides that the Commission is to "consider the likely volume, price effects, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated."[31] It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order under review, whether the industry is vulnerable to material injury if the order were revoked, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).[32] The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission's determination.[33]

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[27](...continued)
material injury if the order is revoked." SAA at 884.

[28]See NMB Singapore Ltd. v. United States, 288 F. Supp. 2d 1306, 1352 (Ct. Int'l Trade 2003) ("'likely' means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)"), aff'd mem., 140 Fed. Appx. 268 (Fed. Cir. 2005); Nippon Steel Corp. v. United States, 26 CIT 1416, 1419 (2002) (same); Usinor Industeel, S.A. v. United States, 26 CIT 1402, 1404 nn.3, 6 (2002) ("more likely than not" standard is "consistent with the court's opinion"; "the court has not interpreted 'likely' to imply any particular degree of 'certainty'"); Indorama Chemicals (Thailand) Ltd. v. United States, Slip Op. 02-105 at 20 (Ct. Int'l Trade Sept. 4, 2002) ("standard is based on a likelihood of continuation or recurrence of injury, not a certainty"); Usinor v. United States, 26 CIT 767, 794 (2002) ("'likely' is tantamount to 'probable,' not merely 'possible'").

[29]19 U.S.C. § 1675a(a)(5).

[30]SAA at 887. Among the factors that the Commission should consider in this regard are "the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities." Id.

[31]19 U.S.C. § 1675a(a)(1).

[32]19 U.S.C. § 1675a(a)(1). Commerce has not conducted an administrative review of the antidumping duty order on HDAN from Ukraine and, therefore, it has made no findings whether a foreign producer or importer of subject merchandise has absorbed antidumping duties. CR at I-12, PR at I-11; and CR/PR Table I-1.

[33]19 U.S.C. § 1675a(a)(5). Although the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

### B. Conditions of Competition

In evaluating the likely impact of the subject imports on the domestic industry, the statute directs the Commission to consider all relevant economic factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[34]

#### 1. The Original Investigation

In the original investigation, the Commission found several conditions of competition to be relevant to its analysis. The Commission found that HDAN was a commodity product, without readily identifiable variations or grades. The Commission also noted that, although HDAN can be used on multiple crops, it was the preferred nutrient for "no-till" planting such as citrus crops and pastures.[35] The Commission found that HDAN was one of several single-nutrient, nitrogen-based fertilizers, noting that others include anhydrous ammonia, urea, UAN, ammonium sulfate, calcium ammonium nitrate, and sodium nitrate. The Commission found that HDAN is distinguished from the other nitrogen-based fertilizers by its fast action, good solubility, and low volatility at ambient temperatures.[36]

The Commission found that demand for HDAN was seasonal, peaking in the spring planting season, usually between February and June. Given the capital intensive nature of the industry, producers operated production facilities throughout the year in order to maximize production efficiencies. During the off season, they built up inventories equivalent to one or two months of production and possibly stored an additional month's worth of production on barges.[37] The Commission found that demand for fertilizers was generally considered mature. Most U.S. suppliers considered demand to be steady during the period of investigation. Apparent U.S. consumption of HDAN was 2.38 million short tons in 1998 and 2.31 million short tons in 2000.[38]

The Commission found a moderately high degree of substitutability among HDAN from Ukraine, the domestic like product, and nonsubject imports, which all supplied the U.S. market during the period of investigation. It also found price to be an important factor in purchasing decisions for HDAN.[39] The Commission noted that imports of HDAN from Russia accounted for the largest share of total imports of HDAN into the United States in 1998 and 1999 and were the subject of an antidumping duty petition filed by the same petitioners on July 23, 1999.[40] As a result of that petition and subsequent relief, HDAN imports from Russia fell from the high levels of 1998 and 1999 to virtually zero in 2000.[41] While the total volume of nonsubject imports was much lower in 2000 than in previous years, the volume started to increase in 2001 as nonsubject countries that previously had no presence in the U.S. market, such as

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[34]19 U.S.C. § 1675a(a)(4).

[35]Original Investigation, USITC Pub. 3448, at 6-7.

[36]Original Investigation, USITC Pub. 3448, at 7.

[37]Original Investigation, USITC Pub. 3448, at 7.

[38]Original Investigation, USITC Pub. 3448, at 7-8. Apparent U.S. consumption by volume was lower in interim 2001 than in interim 2000.

[39]Original Investigation, USITC Pub. 3448, at 11.

[40]Original Investigation, USITC Pub. 3448, at 9.

[41]Commerce published its preliminary affirmative determination on January 7, 2000 and suspended liquidation on imports of HDAN from Russia. On May 19, 2000, Commerce entered into a suspension agreement with the Government of Russia that included quantity and price restrictions. The Commission made an affirmative determination in the same investigation on August 2, 2000. Original Investigation, USITC Pub. 3448, at 9.

Bulgaria, Romania, Spain, and Turkey, began selling HDAN in the U.S. market.[42] The Commission found, however, that the average unit values of nonsubject imports were much higher than those of subject imports of HDAN from Ukraine.[43]

The Commission noted that ammonia is the primary raw material in the manufacture of HDAN and that the basic feedstock for producing ammonia is natural gas. The cost of natural gas represented approximately 70 to 80 percent of the cost of producing ammonia and about 30 to 50 percent of the cost of producing HDAN. During the period of investigation, the largest domestic producers were vertically integrated (they purchased natural gas and produced their own ammonia); other producers purchased ammonia. The Commission found that natural gas prices (and ammonia costs) fell early in the period of investigation and rose sharply in 2000.[44] HDAN prices rose more slowly and to a lesser degree than prices of other nitrogen-based fertilizers in response to unprecedented increases in natural gas costs during the period of investigation.[45]

### 2. The First Five-Year Review

The Commission found that HDAN demand in the U.S. market had decreased since 2003 and would likely experience further decreases in the reasonably foreseeable future. It found that security measures recently imposed or proposed by Federal and State governments on HDAN and its transport and storage reportedly had contributed importantly to the decrease in demand for HDAN between 2001 and 2006. The Commission found that other single-nutrient nitrogen fertilizers could be used instead of HDAN for many uses, including urea for forage; anhydrous ammonia, UAN, and urea for corn; and UAN and urea for cotton, wheat, and citrus/vegetables. The Commission found that HDAN was the only one of the four major single-nutrient nitrogenous fertilizers that decreased in consumption from crop year 2001 to crop year 2006, a period when total U.S. nitrogen fertilizer consumption increased.[46]

The Commission found that the domestic industry was the largest supplier of HDAN to the U.S. market over the period of review, but that its share of the quantity of apparent U.S. consumption had decreased. The Commission found that the domestic industry had consolidated from ten to two HDAN producers since the original investigation.[47]

The Commission found that subject imports from Ukraine peaked in volume in 2000. There were no subject imports during the period of review due to the restraining effects of the antidumping duty order. The Commission found that nonsubject imports had increased in volume and market share, despite a decrease in apparent U.S. consumption over the period of review. The major sources of nonsubject imports during the period of review were, in descending order, Romania, the Netherlands, Bulgaria, Russia, Spain and, in 2006, new entrant Georgia.[48]

Exports of HDAN to the United States were predominantly arranged for and transported by global trading companies. Among the companies listed in the review by Ukrainian producers as their largest export purchasers were companies that were trading HDAN in the United States during the period

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[42]Original Investigation, USITC Pub. 3448, at 9.

[43]Original Investigation, USITC Pub. 3448, at 9-10. The Commission attributed the higher volume of non-subject imports in interim 2001 to a response to the high natural gas costs in the U.S. market and the subsequent increase in prices for HDAN in the market. Id.

[44]Original Investigation, USITC Pub. 3448, at 10.

[45]Original Investigation, USITC Pub. 3448, at 8-9 and n.27.

[46]First Five-Year Review, USITC Pub. 3924, at 9.

[47]First Five-Year Review, USITC Pub. 3924, at 10.

[48]First Five-Year Review, USITC Pub. 3924, at 10.

of review. The Commission previously found that, "[f]or the global trading companies that drive the flow of imports, profit is a function of total margin and total volume, so they have a strong incentive to move as much volume as feasible so long as their margins that cover their purchase price and transportation costs are maintained."[49] The Commission concluded that the global trading companies' economic interests had not changed and they had the incentive to ship volumes of HDAN that were as large as possible and at any price that would cover their margins.[50]

The Commission found that domestically produced HDAN, HDAN from Ukraine, and HDAN from other import sources were generally substitutable. In addition, the Commission found that price remained an important factor in purchasing decisions for this commodity product; indeed, purchasers most frequently identified price as the primary consideration in making purchasing decisions.[51]

With respect to other conditions of competition, the Commission found that raw material costs were a significant factor in industry profitability and that natural gas was the principal raw material used to produce HDAN. The Commission determined that the cost of natural gas was volatile and generally high in the United States during the period of review and was forecast to remain so in the foreseeable future. The Commission found that Ukrainian producers of HDAN had access to natural gas at lower and less volatile prices than U.S. producers throughout the period of review.[52]

### 3. The Current Review

Many of the conditions of competition relied upon by the Commission in making its determination in the first five-year review have continued in the current period.

*Demand.* The principal uses for HDAN fertilizer are with respect to pasture and hay, cotton, corn, wheat, citrus, vegetables, and tobacco. HDAN consumption peaks during the spring planting season, although the domestic industry continues to operate in the off-season to build inventories for the distribution system in time for the peak season. Overall U.S. demand for HDAN depends on a number of factors, primarily planted acreage and application rates, weather conditions, actual and potential security rules and regulations, the substitution of other nitrogen fertilizers, and the cost share of HDAN used for pasture and crops.[53]

Apparent U.S. consumption decreased from *** short tons in 2007 to *** short tons in 2012.[54] This decrease reportedly was largely due to increasing security regulations and some distributors' unwillingness to continue to handle HDAN.[55] The vast majority of questionnaire respondents agreed that demand for HDAN decreased over the period of review.[56] In addition, the majority of questionnaire respondents agreed that demand would continue to decrease in the future.[57]

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[49]First Five-Year Review, USITC Pub. 3924, at 11.

[50]First Five-Year Review, USITC Pub. 3924, at 11.

[51]First Five-Year Review, USITC Pub. 3924, at 12.

[52]First Five-Year Review, USITC Pub. 3924, at 11-12.

[53]CR at II-9, PR at II-5.

[54]CR/PR at Table I-5.

[55]CR at II-15 to II-16, PR at II-9 to II-10.

[56]CR/PR at Table II-5. Both U.S. producers, the Ukrainian producers, six of seven responding purchasers, and four of five responding importers reported that demand for HDAN in the U.S. market had decreased since 2007. Id.

[57]CR/PR at Table II-5. Both U.S. producers, the Ukrainian producers, five of seven responding purchasers, and three of six responding importers anticipated that demand would decrease. Id.

There is some uncertainty regarding how proposed security regulations from the U.S. Department of Homeland Security ("DHS") regarding the sale, transportation, and storage of ammonium nitrate will affect future demand for HDAN. Market participants report that existing DHS regulations concerning HDAN have decreased overall demand and that additional anticipated DHS rules and regulations will further decrease the number of distributors and dealers that can or will handle HDAN due to the cost of compliance.[58] In light of the decline in apparent U.S. consumption of HDAN since the original investigation and the perceptions of market participants, we find that U.S. demand for HDAN is likely to remain stagnant or decrease in the reasonably foreseeable future.

Both U.S. producers, Ukrainian producer Ostchem, all five importers, and seven of eight purchasers identified potential substitutes for HDAN. The principal substitutes for HDAN are other nitrogen fertilizers, such as urea, anhydrous ammonia, and UAN.[59] Total U.S. nitrogen fertilizer consumption increased slightly from 10.7 million tons nitrogen in 2007 to 10.8 million tons nitrogen in 2011.[60] Current high agricultural commodity prices stimulate nitrogen fertilizer demand in general. Farmers have experienced sharp increases in crop prices in recent years. For example, corn prices are up 96.8 percent, hay prices 50.8 percent, and wheat prices 31.9 percent.[61] High crop prices, in turn, encourage farmers to apply fertilizers at a higher rate because greater yields bring about higher additional revenue at higher crop prices.[62] These higher crop prices extend to crops for which HDAN is used – its principal uses include pasture and hay (forage), cotton, corn, grains, and wheat. However, HDAN represents only a small part of the nitrogen fertilizer market. HDAN's share of single-nutrient nitrogen fertilizer consumption was 2.4 percent in 2010 and 2011 (down from a period high of 3.3 percent in 2007).[63] The relative shares of different nitrogen fertilizers have remained stable in the last two years for which data are available (2010 and 2011).[64] HDAN's price trends from 2003-2012 have closely tracked those of other nitrogen fertilizers such as anhydrous ammonia, urea, and UAN.[65]

*Supply*. There are currently two U.S. producers, CF Industries and El Dorado, which is a decrease from ten producers in the original investigation.[66] This reflects the industry's restructuring during the period covered by the first five-year review.[67] The domestic industry's capacity remained

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[58]CR at II-15 to II-16, PR at II-9 to II-10. See Ammonium Nitrate Security Program: Proposed Rule; request for comments, National Protection and Programs Directorate, DHS, 76 Fed. Reg. 46908 (August 3, 2011); and Introduction to the Unified Agenda of Federal Regulatory and Deregulatory Actions, Regulatory Information Service Center: Ammonium Nitrate Security Program, developing a Final Rule, DHS, 78 Fed. Reg. 1388 (January 8, 2013). The proposed rules will affect the sale, transportation, and storage of ammonium nitrate. The formulation of final rules is expected by December 2013. CR at I-17 n.30, PR at I-14, n.30.

[59]CR at II-12, PR at II-7.

[60]CR at II-11, PR at II-6.

[61]CR at II-10, PR at II-6.

[62]CR at II-10, PR at II-6.

[63]CR/PR at Table II-4.

[64]CR/PR at Table II-4.

[65]CR/PR at Figure II-4.

[66]CR at I-21, PR at I-17.

[67]CF Industries accounted for *** percent and El Dorado for *** percent of U.S. HDAN production in 2012. CR/PR at Table I-3.

unchanged over the current period of review.[68] U.S. producers are the largest suppliers to the U.S. market, accounting for *** percent of apparent U.S. consumption in 2012.[69] U.S. producers' market share has fluctuated over the period of review, but was higher in 2012 than in 2007.[70]

The United States was the second largest importer of HDAN in the world in 2012.[71] There have been no subject imports since the imposition of the order in 2001.[72] Nonsubject imports' market share fluctuated over the period of review and ended lower in 2012 than 2007.[73] The principal sources of nonsubject HDAN during the period were the Netherlands and Georgia.[74] The majority of shipments of imported HDAN from all sources are imported and transported by global trading companies.[75]

*Substitutability*. As the Commission found in the original investigation and the first five-year review, HDAN is a commodity product lacking readily identifiable variations or grades, and price is a major factor in sales.[76] Producers, importers, and purchasers identified a high frequency of interchangeability in most comparisons of HDAN from different sources.[77] Market participants also reported that price is an important purchasing factor.[78] All eight purchasers listed price as a "very important" factor in their purchasing decisions.[79] Therefore, we find, as did the Commission in the original investigation and the first five-year review, that there is a moderately high degree of substitutability among domestically produced HDAN, the subject merchandise, and nonsubject imports.[80]

*Other Conditions.* With respect to raw material costs, the two principal raw material inputs in the production of HDAN are natural gas and its derivative, ammonia. The price for natural gas has been volatile, but decreased over the period of review, showing particularly significant declines since 2008.[81]

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[68]*** reported that ***. CR/PR at Table III-2 n2. Moreover, *** reported that ***. CR/PR at Table III-2 n.2; Domestic Industry Posthearing Brief at Exhibit 19. Therefore, we have used the domestic industry's reported effective production capacity of *** short tons for each year of the period of review in our analysis. CR/PR at Table III-2 n.2. The domestic industry also reported *** as constraints on its production capacity. CR at III-2, PR at III-1.

[69]CR/PR at Table C-1.

[70]The U.S. industry's market share was *** percent in 2007, *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, and *** percent in 2012. CR/PR at Table C-1.

[71]CR/PR at Table IV-9.

[72]We note that the Ukrainian industry has consolidated under Ostchem's common ownership subsequent to the imposition of the order. CR at I-12 n.19, PR at I-11 n.19; and Ostchem Prehearing Brief at 22 and Foreign Producer Questionnaire Response, Section II-13.

[73]Nonsubject import market share was *** percent in 2007, *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, and *** percent in 2012. CR/PR at Table C-1.

[74]CR at II-7, PR at II-4.

[75]CR at II-2 n.4, PR at II-1 n.4. *** accounted for *** percent of reported U.S. shipments of imported HDAN from all sources in 2012. Id.

[76]CR at II-18 to II-19, PR at II-11 to II-12.

[77]CR/PR at Table II-11.

[78]Seven of eight U.S. purchasers listed price as the first or second most important factor in making purchasing decisions. CR/PR at Table II-7.

[79]CR/PR at Table II-8.

[80]CR at II-17, PR at II-10.

[81]The weighted-average annual net purchase price of natural gas was $*** per MMBtu in 2007 (continued...)

The price of ammonia has increased substantially.[82] [83] Prices for the raw material inputs trended together between the first quarter of 2007 and the first quarter of 2010. During the latter half of 2010, however, the price of ammonia increased steeply, while the price of natural gas fell.[84] The divergence appears to be driven by two main factors. Natural gas supplies from shale deposits increased, which placed downward pressure on natural gas prices; at the same time, ammonia supplies tightened as captive producers focused on strong nitrogen fertilizer demand, making less ammonia available for open market sales. This tightening of supply has driven ammonia prices upward.[85] As a ratio of the total cost of raw materials during the period of review, the cost of natural gas decreased from *** percent in 2007 to *** percent in 2012, and the cost of ammonia increased from *** percent in 2007 to *** percent in 2012.[86]

Because HDAN must be moved to locations close to farmers in advance of the spring planting season, both domestically produced product and imports depend on storage facilities in the U.S. distribution system.[87] The amount of storage for HDAN is limited and, with increased security

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[81](...continued)
and $*** per MMBtu in 2012. Calculated from CR/PR at V-1.

[82]The weighted-average annual net price of ammonia was $*** per short ton in 2007 and $*** per short ton in 2012. Calculated from CR/PR at V-1.

[83]Commissioners Pearson and Broadbent note that while ammonia is the primary raw material input for HDAN production, it is also a primary raw material input for other single-nutrient nitrogen fertilizers. HDAN has accounted for less than three percent of U.S. nitrogen fertilizer consumption since 2008, as consumption has been dominated by anhydrous ammonia, nitrogen solutions, and urea. CR/PR at Table II-4. The record suggests that the market for ammonia, unlike the market for natural gas, has been marked by relatively high prices in recent years. CR at III-16, PR at III-6. These high ammonia prices, prompted both by occasional supply difficulties and by rising demand for other nitrogen-based fertilizers, suggest that rational producers would realign their production accordingly and devote limited ammonia supplies to products with greater demand and potentially greater returns. CR/PR at Table II-4 and Figure III-4 (higher demand and higher prices for other nitrogen fertilizers); CR at II-4, III-2, PR at II-2, III-1 (domestic producers' ability to produce other nitrogen fertilizers); CF Industries Holdings, Inc., 2012 10K at 58-59 (profitability of other nitrogen fertilizers). This realignment may help explain ***. ***. CR/PR at Table III-9. The record suggests that significant additional ammonia production capacity is likely to be added to the market in coming years, and that the relationship between ammonia supply and ammonium nitrate production will likely require fresh scrutiny in any subsequent review. CR at I-17 to I-18, PR at I-14 to I-15.

[84]CR/PR at Figure V-2.

[85]CR at V-4, PR at V-2.

[86]CR at V-2, PR at V-1 to V-2. During the period of review, CF Industries purchased natural gas, which it then used to manufacture the ammonia input for its HDAN production; El Dorado purchased the ammonia input for its HDAN production. CR/PR at V-2 n.2. Raw material costs therefore were dramatically different for each firm. As a ratio to net sales, CF Industries' raw material costs *** from *** percent in 2007 to *** percent in 2012; El Dorado's *** from *** percent in 2007 to *** percent in 2012. Total cost of goods sold as a ratio to net sales *** from *** percent in 2007 to *** percent for CF Industries in 2012, but *** from *** percent in 2007 to *** percent for El Dorado in 2012. CR/PR at Table III-9.

[87]Commissioners Pearson and Broadbent note that respondent Ostchem produced a report that attempted to show *** tendencies in the U.S. market for HDAN. Ostchem Posthearing Brief at Exhibit 4. They do not find this report persuasive. Nonetheless, the record suggests that the U.S. market for HDAN
(continued...)

regulations, some distributors have ceased handling HDAN, further reducing available storage capacity. Accordingly, as available distribution capacity fills, domestic producers are constrained with respect to the amount of HDAN they can continue to produce in the off-season. Given that HDAN from all sources is stored in the same facilities, the presence of large additional volumes of HDAN in the marketplace would inevitably displace existing supply.[88]

### C. Likely Volume of Subject Imports

In evaluating the likely volume of imports of subject merchandise if the antidumping duty order is revoked, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.[89] In doing so, the Commission must consider "all relevant economic factors," including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) the potential for product shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.[90]

#### 1. The Original Investigation

In the original investigation, the Commission found that the volume of subject imports increased significantly from 1998 to 2000, increasing more than *** in absolute terms and by *** percentage points in terms of market penetration. Subject imports from Ukraine ceased in December 2000, which the Commission attributed to the pendency of the investigation. The Commission also found that the increase in subject imports between 1999 and 2000 prevented the domestic industry from capturing any additional market share notwithstanding the virtual disappearance of Russian-origin HDAN imports from the U.S. market in 2000 after a suspension agreement became effective. The Commission thus determined that subject import volume and the increase in that volume in absolute terms and relative to consumption in the United States were significant.[91]

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[87](...continued)
suffers from some limitations on the free movement of the product, probably related to the security regulations and the infrastructure needed to comply. Such limitations, combined with possible variations in transportation costs from two geographically distinct producers to users spread across the southern states, likely would explain the persistent and otherwise puzzling *** that persist in a market of a good otherwise described as undifferentiated. Given the likelihood of further security restrictions, the issue of market structure and the relative mobility of the product would likely benefit from fresh scrutiny in any subsequent review.

[88]See Hearing Transcript at 34-35 (Gough) and Domestic Industry Posthearing Brief, Exhibit 4 at ¶¶ 6-7.

[89]19 U.S.C. § 1675a(a)(2).

[90]19 U.S.C. § 1675a(a)(2)(A-D).

[91]Original Investigation, USITC Pub. 3448, at 13-16.

### 2. The First Five-Year Review

There were no imports of HDAN from Ukraine during the period of the first five-year review as a result of the discipline of the antidumping duty order. The Commission found, however, that the Ukrainian industry had the ability and incentive to export large and significant volumes of HDAN to the United States and would likely do so if the antidumping duty order were revoked. It found that the Ukrainian industry was the second largest producer and exporter of HDAN in the world during the period of review, trailing only the Russian HDAN industry. The Commission determined that the Ukrainian industry had significant excess capacity and a substantial export orientation, demonstrated by the industry's consistent reliance on export markets for a substantial portion of its commercial shipments.[92]

In addition, the Commission found that the Ukrainian industry was facing significantly increased competition from Russian imports of HDAN in its domestic market during the period of review. The Commission determined that the substantial increase in competition from Russian imports in the Ukrainian home market and the limited improvement expected in Ukraine's demand indicated that export markets would remain an important part of the Ukrainian industry's commercial future and that competition from Russian imports would likely displace a growing share of Ukrainian producers' home market sales and intensify those producers' search for export markets.[93]

The Commission also found that the Ukrainian industry's competition from Russian HDAN extended beyond the Ukrainian home market. The Commission noted that the top export markets for Ukrainian HDAN during the period were also major export markets for Russian HDAN and that the Ukrainian imports were all but eliminated from the Brazilian market, while Russian product had increased its presence there. The industries in Russia and Ukraine were the top foreign HDAN suppliers to Turkey, Morocco, and Argentina and competed aggressively in those markets on the basis of price. The Commission found that the competitive pressures the Ukrainian industry was facing from Russian HDAN in its home and export markets, as well as the fact that Russian imports were then subject to a suspension agreement in the U.S. market, increased the likelihood that subject HDAN producers would target the U.S. market.[94]

In addition, the Commission found that the United States was an attractive market for foreign producers and exporters, including those in Ukraine, because of its size and prices. Even with U.S. consumption projected to decrease, the Commission found that the U.S. market was the second largest HDAN import market in the world in 2006 and would continue to be one of the largest markets in the world in the foreseeable future.[95] Reported price comparisons consistently showed HDAN commanding a higher price in the United States than in other markets. Average unit values ("AUVs") for U.S. shipments of imported HDAN were consistent with the reported price premiums in the U.S. market and showed that AUVs in the United States were much higher than AUVs of the subject merchandise in its then-current export markets.[96] Finally, the Commission found that HDAN exports from Ukraine were subject to a ban in China and antidumping duty measures in Brazil and the European Union ("EU"), which further increased the attractiveness of the U.S. market for HDAN exports from Ukraine.[97]

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[92] First Five-Year Review, USITC Pub. 3924, at 13-15.

[93] First Five-Year Review, USITC Pub. 3924, at 14.

[94] First Five-Year Review, USITC Pub. 3924, at 14.

[95] First Five-Year Review, USITC Pub. 3924, at 14-15.

[96] First Five-Year Review, USITC Pub. 3924, at 15.

[97] First Five-Year Review, USITC Pub. 3924, at 15.

In light of these considerations, the Commission found that the likely volume of subject imports, both in absolute terms and relative to production and consumption in the United States, would be significant if the order were revoked.[98]

### 3. The Current Review

Under the discipline of the antidumping duty order, there were no subject imports during the period of review. Nevertheless, we find that the Ukrainian industry has the ability and incentive to export significant volumes of HDAN to the United States and would likely do so if the antidumping duty order were revoked.

The Ukrainian industry is the second largest producer and exporter of ammonium nitrate in the world, trailing only the industry in Russia.[99] The record indicates that the capacity of the subject producers in Ukraine is likely to increase. Ostchem projected no change in capacity in 2013 and 2014 in its questionnaire response, but record information shows that Group DF, Ostchem's parent company, plans construction of a new HDAN plant in Ukraine that would provide 900,000 metric tons (equivalent to 992,000 short tons) of new capacity by mid-2014.[100] Ostchem claims that this new plant is not intended to create new capacity, but rather will replace an existing 650,000 metric ton (716,000 short tons) plant with a more efficient facility, thereby adding only 250,000 metric tons (275,000 short tons) of additional capacity to service expanding domestic demand.[101] Regardless of the amount of new capacity to be added, however, the increase would be substantial. Even accepting Ostchem's assertion, the additional capacity generated by this new plant would be the equivalent of *** percent of apparent U.S. consumption in 2012.

We find that this capacity increase is likely to provide the industry in Ukraine with the capability to increase exports of HDAN. The record does not indicate that there will be a sufficient increase in home market shipments by the Ukrainian industry to absorb this new capacity in the reasonably foreseeable future. Ostchem projected that its commercial shipments to the home market in 2013 and 2014 would be unchanged from 2012 levels.[102] Indeed, although Ostchem reports ***,[103] its domestic shipments as a share of total commercial shipments increased only slightly since 2007, and have decreased in each year since peaking in 2009.[104]

Even without any additional capacity, Ukrainian producers have the ability to significantly increase exports to the United States. The Ukrainian industry currently is significantly export oriented. It ranks second in the world in HDAN exports after the Russian industry and exported almost twice as much in 2012 as the Chinese industry, the next largest exporter.[105] In 2012, exports constituted *** percent of the Ukrainian industry's total commercial shipments.[106] Moreover, the Ukrainian industry's exports as a

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[98]First Five-Year Review, USITC Pub. 3924, at 15.

[99]CR/PR at IV-10, PR at IV-4 to IV-5; and CR/PR at Table IV-8. In 2012, the Ukrainian industry's capacity was *** short tons, with production of *** short tons. CR/PR at Table IV-4.

[100]CR at IV-5 n.2, PR at IV-2 n.2; Domestic Industry Prehearing Brief at Exhibit 17.

[101]CR at IV-5 n.2, PR at IV-2 n.2; Ostchem Posthearing Brief, Responses to Commissioner's Questions at 6.

[102]CR/PR at Table IV-4.

[103]Ostchem Prehearing Brief at 22-24 and Posthearing Brief at 4-5.

[104]CR/PR at Table IV-4.

[105]CR/PR at Table IV-8.

[106]CR/PR at Table IV-4.

percentage of commercial shipments increased each year from 2009 to 2012.[107] Ukrainian producers export HDAN not just to nearby markets but to markets worldwide, with its largest markets being Turkey, India, and Malaysia, as well as major markets in the Western hemisphere, such as Brazil and Argentina.[108]

Ukrainian exports to Brazil increased significantly after that country revoked an antidumping duty measure on imports of HDAN from Ukraine in 2008.[109] Ukrainian exports to the EU also increased significantly after the termination of an EU antidumping duty measure on HDAN from Ukraine in 2012 and are projected to remain significant in 2013 and 2014.[110] In addition to these large increases in exports to Brazil beginning in 2010 and to the EU in 2012, exports to Asia increased by a factor of *** from 2010 to 2011 and showed another *** increase from 2011 to 2012.[111] Therefore, because the subject producers have demonstrated both the ability and tendency to increase exports substantially to particular markets, we find that they have the ability to rapidly shift a significant volume of exports from other export markets to the United States if the order were revoked.

We further find that, should the antidumping duty order be revoked, subject producers have the incentive to increase exports to the United States to a significant level within the reasonably foreseeable future. The U.S. market is attractive for subject imports because of its size and prices. The United States was the second largest importer of HDAN in the world in 2012.[112] Ostchem concedes that there is currently a price premium for HDAN in the U.S. market.[113] Subject producers sell nonsubject nitrogen fertilizer products in the U.S. market through global trading companies and thereby have access to the necessary infrastructure and distribution channels to compete in the U.S. HDAN market absent the antidumping duty order.[114] Moreover, the Ukrainian producers would face no price competition in the U.S. market from imports of HDAN from Russia, a major competitor of the Ukrainian industry in both its home market and in other export markets, because of the antidumping duty order on HDAN from Russia that was issued in 2011.[115] In addition, the United States allows HDAN to enter duty free, making the

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[107]CR/PR at Table IV-4.

[108]CR/PR at Table IV-5; Domestic Industry Posthearing Brief, Exhibit 1 at 83-84.

[109]CR/PR at Table IV-5. Ukrainian HDAN exports to Brazil were *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** short tons in 2012. Id.

[110]CR/PR at Table IV-4. Ukrainian HDAN exports to the EU were *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** short tons in 2012. They are projected to be *** short tons in 2013 and 2014. Id.

[111]CR/PR at Table IV-4.

[112]CR at IV-11, PR at IV-6.

[113]Hearing Transcript at 182 (Lewin); see also Domestic Industry Prehearing Brief at Exhibit 30 and Hearing Transcript at 59-60 (Klett).

[114]Domestic Industry Prehearing Brief at 28-29 and Exhibit 14. These global trading companies imported or sold nonsubject HDAN in the United States during the period of review. For example, *** imported HDAN from ***, while *** imported or sold HDAN from ***. Domestic Industry Prehearing Brief at 28-30 and Exhibits 3 and 14; see also CR at I-22, PR at I-18; and CR/PR at Table I-4.

[115]See Termination of the Suspension Agreement on Solid Fertilizer Grade Ammonium Nitrate From the Russian Federation and Notice of Antidumping Duty Order, 76 Fed. Reg. 23569 (April 27, 2011) and Continuation of Antidumping Duty Order on Solid Fertilizer Grade Ammonium Nitrate from the Russian Federation, 76 Fed. Reg. 49449 (August 10, 2011).

U.S. market less restrictive than many other Ukrainian export markets.[116] Finally, exports from Ukraine remain subject to a ban in China, further increasing the relative attractiveness of the U.S. market.[117]

The Respondents argue that the existing and proposed U.S. security regulations governing the handling, sale, and transportation of HDAN would prohibit Ukrainian producers and exporters from participating in the U.S. market if the antidumping duty order were revoked.[118] These same regulations, however, govern the handling, sale, and transportation of nonsubject HDAN in the United States as well, and they have not prevented nonsubject producers and exporters from participating in the U.S. market. Accordingly, we do not find that the existing and proposed security regulations would serve as a significant barrier to the reentry of Ukrainian imports in the U.S. market.

The Respondents also argue that they prefer to export HDAN directly to end users and distributors through their affiliate NF Trading, rather than through other global trading companies that deal in HDAN and nitrogen fertilizers, and that NF Trading does not have the necessary transportation and storage infrastructure in the United States to support the shipment of large volumes of subject imports to the United States if the order were revoked.[119] The record shows, however, that global trading companies are the largest purchasers of Ukrainian HDAN for export.[120] Some of these same global trading companies have sold and distributed nonsubject HDAN in the United States, and the Ukrainian producers have been using these global trading companies to sell other nitrogen fertilizers within the United States during the period of review.[121] Additionally, NF Trading reports that a significant portion of Ukraine's nitrogen fertilizer exports are sold through global trading companies around the world.[122] Accordingly, we are unpersuaded by Respondents' argument that NF Trading's lack of infrastructure in the United States and preference for handling sales of Ukrainian nitrogen fertilizer products would serve to deter imports of Ukrainian HDAN in the U.S. market were the order to be revoked.

In sum, the subject producers have significant production capacity and some excess capacity, with reported plans to expand that capacity further; the incentive to produce and export additional product; and the incentive to export additional product to the attractive U.S. market through global trading companies. We consequently find that the volume of subject imports, both in absolute terms and relative to production and consumption in the United States, would likely be significant in the reasonably foreseeable future absent the restraining effect of the order.[123]

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[116]CR at I-14, PR at I-12.

[117]CR/PR at Table IV-7. Brazil revoked an antidumping duty measure on HDAN from Ukraine in 2008, and the European Union revoked an antidumping duty measure on HDAN from Ukraine in 2012. Id.

[118]Hearing Transcript at 233 (Lewin).

[119]Ostchem Prehearing Brief at 22, Posthearing Brief at 6, and Responses to Commissioner's Questions at 9.

[120]CR at II-6 n.7, PR at II-3 n.7; Domestic Industry Final Comments, at 5.

[121]Domestic Industry Prehearing Brief at 28-30 and Exhibits 3 and 14, and Posthearing Brief at 4-6 and Exhibits 1 and 4; Ostchem Foreign Producer Questionnaire Response at I-3; and CR at I-22, PR at I-18; and CR/PR at Table I-4.

[122]Ostchem Posthearing Brief at Exhibit 4; see Domestic Industry Final Comments at 5.

[123]We have also considered the factors of inventories and product shifting in our analysis of likely subject import volume. Ostchem's end-of-period inventories of HDAN in Ukraine were *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** short tons in 2012. They are projected to be *** short tons in 2013 and *** short tons in 2014. CR/PR at Table IV-4. There were no inventories of subject merchandise in the United States during the (continued...)

### D. Likely Price Effects of Subject Imports

When examining the likely price effects of subject imports if the order under review were to be revoked, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to the domestic like product and whether the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of the domestic like product.[124]

#### 1. The Original Investigation

In the original investigation, the Commission found that subject imports undersold the domestic like product at large margins and in all but one quarter in which they were sold in the U.S. market. Given the relative substitutability of domestically produced HDAN and subject imports and the importance of price in purchasing decisions, the Commission concluded that the underselling by subject imports was significant. Numerous instances of confirmed lost sales and lost revenue allegations buttressed this conclusion.[125]

The Commission further found that U.S. HDAN prices declined continuously between 1997 and 1999, while there was little Ukrainian product in the U.S. market. In 2000, as injurious levels of Russian HDAN exited the U.S. market, a significant volume of subject imports from Ukraine surged into the U.S. market. Prices for HDAN in the U.S. market generally were higher in 2000 than in 1999. The Commission noted, however, that prices in the U.S. market did not recover to meet unprecedented production costs that were driven by natural gas price increases and that the industry experienced a cost-price squeeze. The Commission found that, even though rising prices after relief was granted with respect to imports from Russia allowed domestic producers to pass on at least some of their increasing costs, those price increases were not sufficient to return domestic prices to profitable levels. The Commission concluded that subject imports suppressed price increases that otherwise would have occurred to a significant degree.[126]

#### 2. The First Five-Year Review

In the first five-year review, the Commission found that price remained an important factor in purchasing decisions and that the domestic like product and subject imports remained substitutable products. Under the discipline of the antidumping duty order, there were no subject imports during the period of review.[127] The Commission determined that high prices in the United States made it an

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[123](...continued)
period of review. CR/PR at Table IV-30. With respect to product shifting, Ostchem reported *** on the same equipment and machinery used to produce HDAN. CR at II-7, PR at II-4.

[124]See 19 U.S.C. § 1675a(a)(3). The SAA states that "{c}onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and termination, the Commission may rely on circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices." SAA at 886.

[125]Original Investigation, USITC Pub. 3448, at 16 & n.66.

[126]Original Investigation, USITC Pub. 3448, at 16.

[127]First Five-Year Review, USITC Pub. 3924, at 16.

attractive market for global competition from HDAN imports. Moreover, the Commission noted that Ukrainian producers of HDAN had access to lower-priced natural gas throughout the period of review.[128]

The Commission found that the global trading companies that transport and sell subject imports in the U.S. market would have an incentive to undersell the domestic like product and that Ukrainian producers would likely sell at prices that would facilitate those sales. The Commission found there was no evidence to suggest that global trading companies would be likely to exercise self-discipline in response to revocation of the order. The Commission determined that the large volumes of HDAN available from Ukraine at attractive prices would likely lead global trading companies, as they did in 2000, to ship substantial quantities of subject product in the event of revocation.[129]

The Commission consequently concluded that, if the antidumping duty order were revoked, significant volumes of subject imports from Ukraine likely would significantly undersell the domestic like product. Because HDAN is a bulk commodity product, the Commission further found that those imports would likely have a depressing or suppressing effect on domestic prices.[130]

### 3. The Current Review

In this second five-year review, the record shows that price remains an important factor in purchasing decisions for this commodity product and that domestically produced HDAN and HDAN from Ukraine remain substitutable products.[131] The record also shows that under the discipline of the antidumping duty order, there were no imports of ammonium nitrate from Ukraine during the period of review, and thus no pricing data are available for subject imports.[132]

We find that the global trading companies that would transport and sell subject imports in the U.S. market would have the financial incentive and the means to ship significant quantities of HDAN to the U.S. market at prices that would likely undercut the prevailing U.S. price levels. Because HDAN is a commodity product for which price is an important purchasing factor, the global trading companies would likely attempt to increase sales of subject imports in the U.S. market by offering HDAN at relatively low prices. The Ukrainian producers, whose incentive and means to increase exports to the United States were discussed in section II.C.3 above, would likely offer their HDAN for export at prices that would enable the global trading companies to do so. When HDAN imports from Ukraine surged into the U.S. market in 2000 before imposition of the antidumping duty order, subject imports undersold the domestic like product in 29 of 30 comparisons at high margins.[133] As previously discussed, this resulted in a cost-price squeeze for the domestic industry.[134] We find that similar significant underselling would be likely if

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[128]First Five-Year Review, USITC Pub. 3924, at 17.

[129]First Five-Year Review, USITC Pub. 3924, at 17.

[130]First Five-Year Review, USITC Pub. 3924, at 17.

[131]CR/PR at Tables II-10 and II-11.

[132]CR/PR at IV-1. The Domestic Industry provided an estimate of what subject import prices in the U.S. market and the degree of underselling would have been during a portion of the period of review (2010-2012) if the antidumping duty order had not been in effect. Domestic Industry Prehearing Brief at 54-61. Given the speculative nature of these estimates, which do not reflect prices actually charged in the U.S. market, we have not relied upon them in making our determination regarding the likely price effects of subject imports in the event of revocation of the order.

[133]CR at V-11 n.7, PR at V-4 n.7. Margins of underselling exceeded *** percent in *** months. Confidential Staff Report, INV-Y-147 (August 9, 2001), EDIS Doc. 485775, at V-10 to V-11.

[134]Original Investigation, USITC Pub. 3448, at 16.

the antidumping duty order were revoked. If domestic producers match the low prices of subject imports, the result would likely be significant price depression and/or suppression.

The Ukrainian producers allege that they are unlikely to engage in price competition in the U.S. market because the U.S. producers enjoy a significant competitive advantage in acquiring natural gas at low prices. They argue that this competitive advantage makes it prohibitive for the Ukrainian producers to compete on a price basis with U.S. producers.[135] In addition, they allege that the U.S. market for HDAN has monopolistic characteristics, such that prices have increased even though consumption has decreased and price appears to have little effect on the quantity sold by a firm.[136] We are unpersuaded by these arguments. The Ukrainian producers participate and are competitive in HDAN export markets worldwide, notwithstanding the reported high prices for natural gas in Ukraine.[137] Moreover, the information on the record indicates that the purported barriers to competition in the U.S. market cited by Ostchem did not impede nonsubject imports from appreciable participation in the U.S. market during the period of review.[138] Finally, although the record does not fully demonstrate all factors that contribute to the U.S. industry's establishment of HDAN prices, there is no information on the record substantiating the Ukrainian producers' view that the U.S. HDAN market is monopolistic.[139] Therefore, the record does not establish that Ukrainian producers would be unable to compete in the U.S. market on the basis of price. Given the likely significant volume of subject imports from Ukraine, the importance of price in purchasing decisions, the substitutability of subject imports and the domestic like product, the underselling and price effects of subject imports in the original investigation, and the incentive that exists for subject imports to enter the U.S. market in significantly increased quantities, we find that significant price effects from the subject imports are likely upon revocation of the order.

### E. Likely Impact of Subject Imports[140]

In analyzing the likely impact of imports of subject merchandise if the order under review was to be revoked, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to the following: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of

[135]Respondent Prehearing Brief at 17-18; see also Government of Ukraine Posthearing Brief at 5.

[136]Respondent Posthearing Brief at 10.

[137]CR/PR at Table IV-5.

[138]CR/PR at Table I-6.

[139]Ostchem Posthearing Brief at 10 and Exhibit 2.

[140]Under the statute, "the Commission may consider the magnitude of the margin of dumping" in making its determination in a five-year review. 19 U.S.C. § 1675a(a)(6). The statute defines the "magnitude of the margin of dumping" to be used by the Commission in five-year reviews as "the dumping margin or margins determined by the administering authority under section 1675a(c)(3) of this title." 19 U.S.C. § 1677(35)(C)(iv); see also SAA at 887. Commerce expedited its sunset review of the antidumping duty order on HDAN from Ukraine and determined that revocation would likely lead to continuation or recurrence of dumping at likely margins of 156.29 percent for Concern Stirol and 156.29 percent for "all other" exporters. 77 Fed. Reg. at 59377.

the domestic like product.[141] All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry. As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the orders at issue and whether the industry is vulnerable to material injury if the orders were revoked.[142]

### 1. The Original Investigation

The Commission found that unfairly traded imports of HDAN from Ukraine prevented the domestic industry from recovering from its already injured condition at the end of 1999 and impeded the domestic industry's ability to respond to the rapid and unprecedented increases in natural gas costs that occurred in 2000 and early 2001. A number of domestic industry performance indicators declined throughout the period of investigation and, importantly, continued to decline in 2000. While capacity increased marginally during the period of investigation, production and capacity utilization decreased significantly. The record showed that, rather than accept lower prices to maintain market share and continue production at higher capacity utilization levels, several producers stopped producing HDAN for extended periods due to the presence of low-priced subject imports and increasing natural gas costs. One producer ceased production, another filed for bankruptcy, and two plants were acquired by another producer, but only one of those remained in operation at the end of the period of investigation.[143]

The decreases in domestic producers' shipments and net sales quantities during the POI were attributable to competition from lower-priced Ukrainian product not only during the regular planting season, but also during the domestic industry's off-season, fall-fill period. The domestic industry experienced operating losses in 1999 and 2000.[144] Employment, wages, and worker productivity all decreased during the period of investigation. Capital expenditures declined dramatically, and at least three producers reported that they were having, or anticipated having, difficulty raising capital to finance needed improvement projects.[145]

The Commission found that these performance declines were attributable to the significant volume increases of HDAN from Ukraine and their significant price effects, all of which affected a domestic industry that had not yet fully recovered from the injury previously inflicted by unfairly traded imports of HDAN from Russia. The Commission thus concluded that subject imports had a significant adverse impact on the domestic industry and reached an affirmative material injury determination.[146]

### 2. First Five-Year Review

In the first five-year review, the Commission found that, despite the fact that several domestic producers had ceased production during the period of review, the domestic industry had experienced a

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[141]19 U.S.C. § 1675a(a)(4).

[142]The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission "considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." SAA at 885.

[143]Original Investigation, USITC Pub. 3448, at 13-15.

[144]Original Investigation, USITC Pub. 3448, at 15.

[145]Original Investigation, USITC Pub. 3448, at 16.

[146]Original Investigation, USITC Pub. 3448, at 16-18.

steady improvement of its condition in several respects after issuance of the antidumping duty order.[147] The Commission found that the AUVs of domestic producers' shipments had reached a low in 1999, but exceeded that level beginning in 2000 and had consistently increased in every year of the period of review except 2002. Although the domestic industry's condition initially worsened after imposition of the order, the Commission found that this financial decline was attributable in large part to the lingering effects of unfairly traded Ukrainian imports that had entered the U.S. market in 2000 but had remained in the distribution system through the 2001 spring season. These lingering adverse effects were being experienced by the domestic industry at the same time that natural gas prices in the United States were spiking. The Commission found that, beginning in 2002, as a result of the antidumping duty orders on HDAN from Russia and Ukraine, the remaining U.S. producers experienced improved financial conditions despite the pressures of contracting demand and high natural gas prices.[148]

The Commission also found, however, that the two remaining members of the domestic industry remained vulnerable to material injury if the order were revoked. The Commission determined that the imposition of new security measures during the period of review resulted in structural changes that increased the costs to produce, store, and transport HDAN in the U.S. market and contributed to the domestic industry's vulnerability. In addition, the Commission observed that volatile and generally high natural gas costs during the period of review, which it expected to continue, contributed to the domestic industry's ongoing vulnerability. Finally, the Commission found that contracting U.S. demand for HDAN also left the industry vulnerable. Although the domestic industry had attempted to address this vulnerability by downsizing and switching to producing other products, such as LDAN, the Commission found that the domestic industry's condition was such that this was achieved at the cost of shuttering higher-cost capacity and reducing employment.[149]

Therefore, the Commission found that the likely volume and price effects of the subject imports would likely have an adverse impact on the production, shipments, sales values, employment, and market share of the domestic industry and would necessarily have a significant adverse impact on the likely revenues of the domestic industry. Those reductions, in turn, would likely have a direct adverse impact on the industry's profitability as well as its ability to raise capital and to make and maintain necessary capital investments. Accordingly, the Commission concluded that, if the antidumping duty order were revoked, subject imports would be likely to have a significant adverse impact on the domestic industry within a reasonably foreseeable time.[150]

### 3. The Current Review

Many indicators of the domestic industry's performance, particularly market share and financial performance, showed considerable improvement from 2007 to 2012. The domestic industry's production capacity remained constant over the period of review,[151] although production steadily decreased.[152]

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[147]First Five-Year Review, USITC Pub. 3924, at 18.

[148]First Five-Year Review, USITC Pub. 3924, at 18-19.

[149]First Five-Year Review, USITC Pub. 3924, at 19.

[150]First Five-Year Review, USITC Pub. 3924, at 19.

[151]Production capacity was unchanged at *** short tons in each year from 2007 through 2012. CR/PR at Table III-2 n.2; and Domestic Industry Posthearing Brief at Exhibit 19.

[152]Production was *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** short tons in 2012. CR/PR at Table III-2.

Capacity utilization also decreased substantially.[153] U.S. shipments decreased,[154] reflecting decreasing apparent U.S. consumption over the period. The domestic industry's end-of-period inventories increased significantly over the period of review.[155] The domestic industry's market share fluctuated over the period and was higher in 2012 than in 2007.[156]

The number of production and related workers increased between 2007 and 2012.[157] The number of hours worked[158] and wages paid[159] followed the same trend. Productivity decreased overall, however, and unit labor costs increased steadily.[160]

The domestic industry as a whole was profitable, with its operating income increasing substantially from 2007 to 2012.[161] During the latter portion of the period, however, ***.[162] The

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[153]Capacity utilization was *** percent in 2007, *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, and *** percent in 2012. CR/PR at Table III-2 n.2; and Domestic Industry Posthearing Brief at Exhibit 19.

[154]U.S. shipments were *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** short tons in 2012. CR/PR at Table III-3.

[155]End-of-period inventories were *** short tons in 2007, *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, and *** in 2012. CR/PR at Table III-5.

[156]The domestic industry's market share was *** percent in 2007, *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, and *** percent in 2012. CR/PR at Table C-1.

[157]The number of production and related workers was *** in 2007, *** in 2008, *** in 2009, *** in 2010, *** in 2011, and *** in 2012. CR/PR at Table III-7.

[158]The number of hours worked was *** in 2007, *** in 2008 and 2009, *** in 2010, *** in 2011, and *** in 2012. CR/PR at Table III-7.

[159]Wages paid were $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. Hourly wages were $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. CR/PR at Table III-7.

[160]In short tons per hour, productivity was *** in 2007, *** in 2008, *** in 2009 and 2010, *** in 2011, and *** in 2012. Unit labor costs per short ton were $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, *** in 2011, and *** in 2012. CR/PR at Table III-7.

[161]Operating income was $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. CR/PR at Table III-8.

[162]*** in 2010, 2011, and 2012. CR/PR at Table III-9. Its operating income was $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. Id. *** operating income was $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. Id. As discussed above, both CF Industries and El Dorado produced HDAN during the period of review using ammonia they either produced or purchased. While CF Industries purchased natural gas as its principal raw material (which it then used to manufacture the ammonia input for its HDAN production), El Dorado purchased the ammonia input for its HDAN production. CR at III-15 to III-16 and n.14, PR at III-6 and n.14. The price of natural gas decreased over the period of review, showing particularly significant declines since 2008, while the price of ammonia increased substantially. Compare CR/PR at Table V-2 with tabulation at CR at III-16, PR at III-6. Given that raw materials are a factor in industry profitability, El Dorado's dependence on ammonia for its HDAN production explains much of its financial performance during the period, particularly after 2009. CR/PR at Table III-9. El Dorado has announced plans to build an ammonia production plant, but reported that it will not be operational until at least late 2015. Domestic Industry Posthearing Brief, Exhibit 1 at 53; Hearing Transcript at 42 (Fuzzell); and CR

(continued...)

industry's quantity of net sales fluctuated over the period of review, but decreased from 2010 to 2012.[163] Its operating income margin also fluctuated from 2007 to 2012, when it reached a period peak.[164] Capital expenditures and research and development expenses increased steadily over the period.[165]

In light of the foregoing, we find the domestic industry is not currently in a vulnerable condition. The industry's market share was high and was higher in 2012 than 2007, and the industry overall enjoys healthy profits, notwithstanding decreases in apparent U.S. consumption.

Should the order under review be revoked, however, we have found that the volume of subject imports would likely increase to significant levels. Demand has decreased over the period of review and is likely to remain stagnant or decrease in the future, particularly in light of anticipated additional regulations on HDAN handling. We have further found that the additional likely volumes of subject imports would be priced in a manner that would likely undersell the domestic like product and likely have significant depressing and/or suppressing effects on prices for the domestic like product. Consequently, the domestic industry would need to respond to subject imports either by foregoing sales and ceding market share or by cutting or restraining prices in the face of volatile costs for raw materials.[166] [167] The resulting loss of production or revenues would likely cause significant deterioration in the financial performance of the domestic industry from current levels in light of likely demand conditions. Further

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[162](...continued)
at III-24 and n.25, PR at III-9 and n.25.

[163]The quantity of net sales was *** million short tons in 2007, *** million short tons in 2008, *** million short tons in 2009, *** million short tons in 2010, *** million short tons in 2011, and *** million short tons in 2012. CR/PR at Table III-8.

[164]The U.S. industry's operating income margin was *** percent in 2007, *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, and *** percent in 2012. CR/PR at Table III-8.

[165]Capital expenditures were $*** in 2007, $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, and $*** in 2012. There were no reported research and development expenses for the period of review. CR/PR at Table III-12.

[166]Ostchem argues that low U.S. natural gas prices gave the domestic industry a competitive advantage over the period of review, which explains much of the industry's favorable financial performance. Ostchem Prehearing Brief at 7-14. The record in this review does show that the recent strong operating margins of the domestic industry generally coincide with decreases in the costs for U.S. natural gas. See CR/PR at V-1 and Figure V-5. Nevertheless, prices for natural gas in the United States were volatile during the period of review, and natural gas prices are forecast to increase somewhat through December 2014. CR/PR at V-1 and Table V-1. In addition, the evidence regarding the prices that Ostchem is paying for natural gas is unclear. Moreover, given the likely significant volumes of low-priced HDAN imports from Ukraine that would enter the United States were the order to be revoked, U.S. natural gas prices will not prevent those imports from have a significant adverse impact on the domestic industry's overall performance.

[167]Commissioners Pearson and Broadbent note that the low, steady U.S. natural gas prices since 2008, combined with strong demand for ammonia to be used in nitrogen fertilizers, explained much of *** over the period of review. ***. CR/PR at Table III-9. Moreover, while natural gas prices are projected to increase by 19.4 percent through December 2014, this increase would be from a low base and prices are estimated to remain at similarly low levels through 2018. CR/PR at V-1. Thus, they find that the *** of the U.S. industry is likely to continue to benefit from low natural gas prices in the immediate future. Nevertheless, they find that this benefit does not prevent significant adverse impact by reason of subject imports, as the price of HDAN has diverged from natural gas prices during the period of review.

deterioration in financial performance likely would result in losses of employment and decreasing investment.[168]

Domestic producers face the additional challenge of limited HDAN storage capacity in the U.S. market. Producers rely on that storage capacity so that they can produce year-round. When increased volumes of imports enter the U.S. distribution system, this displaces existing supply and can negatively affect the domestic producers' production operations in a short amount of time. CF Industries reported precisely this problem during the period of review when increased volumes of nonsubject imports displaced its shipments to customers in Florida, which forced CF Industries to reduce its production.[169] Thus, the anticipated increased volume of imports from Ukraine would either immediately displace domestic producers' shipments or place pressure on domestic producers to meet the low prices at which those imports are offered in order to maintain their shipments in this distribution chain and continue producing year-round.

We have also considered the role of factors other than subject imports, including decreasing demand and the presence of nonsubject imports in the U.S. market, so as not to attribute likely injury from other factors to the subject imports. With the antidumping duty order in place, the domestic industry has *** despite the decrease in apparent U.S. consumption. Nonsubject imports held an appreciable share of the market over the period of review, and there is no indication that they are likely to have an adverse impact on the domestic industry in the reasonably foreseeable future.[170]

Accordingly, we conclude that, if the antidumping order were revoked, subject imports would be likely to have a significant adverse impact on the domestic industry within a reasonably foreseeable time.

## CONCLUSION

For the foregoing reasons, we determine that revocation of the antidumping duty order on subject certain ammonium nitrate from Ukraine would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

[168]We note that the Domestic Industry has attempted to quantify the impact of revocation by relying on economic modeling. Domestic Industry Prehearing Brief at 78-79 and Exhibit 45. We have not relied on this modeling in reaching our determination.

[169]Domestic Industry Posthearing Brief, Exhibit 5 at ¶ 5.

[170]Moreover, during the original period of investigation, subject imports undersold the nonsubject imports, and the bulk of the increase in subject imports either replaced unfairly traded Russian imports in the U.S. market or came at the expense of the domestic industry, rather than replacing fairly traded nonsubject imports. INV-Y-147, Table IV-2 (August 9, 2001), EDIS Doc. 485775. Similarly, upon revocation, the subject imports would likely capture market share from the domestic industry and/or require the industry to cut prices and forego revenues to retain sales.

# PART I: INTRODUCTION

## BACKGROUND

On June 1, 2012, the U.S. International Trade Commission ("USITC" or "Commission") gave notice, pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"), [1] that it had instituted a review to determine whether revocation of the antidumping duty order on high density ammonium nitrate ("HDAN") from Ukraine would likely lead to the continuation or recurrence of material injury to a domestic industry.[2] [3] Effective October 17, 2012, the Commission determined that it would conduct a full review pursuant to section 751(c)(5) of the Act. [4] The tabulation on the following page presents information relating to the schedule of this proceeding.[5]

[1] 19 U.S.C. 1675(c)

[2] *Ammonium Nitrate from Ukraine Institution of Five-Year Review*, 77 FR 32669, June 1, 2012. All interested parties were requested to respond to this notice by submitting the information requested by the Commission.

[3] In accordance with section 751(c) of the Act, the U.S. Department of Commerce ("Commerce") published a notice of initiation of the five-year review of the subject antidumping duty order concurrently with the Commission's notice of institution. *Initiation of Five-Year ("Sunset") Review*, 77 FR 32527, June 1, 2012.

[4] *Ammonium Nitrate from Ukraine; Notice of Commission Determination To Conduct a Full Five-Year Review and Scheduling of a Full Five-year Review Concerning the Antidumping Duty Order on Ammonium Nitrate from Ukraine*, 77 FR 65015, October 24, 2012. The Commission found that both the domestic and respondent interested party group responses to its notice of institution were adequate.

[5] The web addresses for the Commission's notice of institution, notice to conduct full reviews, scheduling notice, and statement on adequacy appear in appendix A and may also be found at the Commission's web site (internet address *www.usitc.gov*). Commissioners' votes on whether to conduct an expedited or full review may also be found at the web site. Appendix B presents the witnesses appearing at the Commission's hearing.

| Effective date | Action |
|---|---|
| September 12, 2001 | Commerce's antidumping duty order on HDAN from Ukraine (66 FR 47451) |
| July 9, 2007 | Commerce's continuation of the antidumping duty order after first five-year review (72 FR 37195) |
| June 1, 2012 | Commission's institution of the five-year review (77 FR 32669) |
| | Commerce's initiation of the five-year review (77 FR 32527) |
| September 27, 2012 | Commerce's final results of the expedited second sunset review of the antidumping duty order (77 FR 59377) |
| October 17, 2012 | Commission's determination to conduct a full review and scheduling of the review (77 FR 65015, October 24, 2012) |
| December 4, 2012 | Commission's revised scheduling of the review (77 FR 73674, December 11, 2012) |
| April 4, 2013 | Commission's hearing |
| May 13, 2013 | Scheduled date for the Commission's vote |
| May 24, 2013 | Scheduled date for Commission's determination to be transmitted to Commerce |

## The Original Investigations

On October 13, 2000, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of HDAN from Ukraine.[6] Following an affirmative final determination by Commerce and injury by the Commission, Commerce published antidumping duty orders with respect to Ukraine on September 12, 2001.[7]

[6] The petition was filed by the ad hoc Committee for Fair Ammonium Nitrate Trade ("COFANT") including Air Products & Chemicals, Inc. ("Air Products"), Allentown, PA; El Dorado Chemical Co. ("El Dorado"), Oklahoma City, OK; LaRoche Industries, Inc. ("LaRoche"), Atlanta, GA; Mississippi Chemical Corp. ("MCC"), Yazoo City, MS; and Nitram, Inc. ("Nitram"), Tampa, FL. On November 1, 2000, El Dorado acquired the LaRoche nitrogen plants at Crystal City, MO, and Cherokee, AL.

[7] *Antidumping Duty Order: Solid Agricultural Grade Ammonium Nitrate from Ukraine*, 66 FR 47451, September 12, 2001.

## Subsequent Five-Year Reviews

In August 2006, the Commission instituted the first five-year review on HDAN from Ukraine [8] and determined on November 6, 2006 that it would conduct a full review.[9] On December 5, 2006, Commerce determined in its full review that revocation of the antidumping duty order on HDAN from Ukraine would be likely to lead to continuation or recurrence of dumping.[10] On June 27, 2007, the Commission determined that revocation of the antidumping duty order on HDAN from Ukraine would be likely to lead to continuation or recurrence of material injury to the domestic injury.[11] Consequently, Commerce issued a continuation of the antidumping duty order on imports of HDAN from Ukraine, effective July 9, 2007.[12]

## SUMMARY DATA

Table I-1 presents a summary of data from the original investigation, first five-year review, and the current full five-year review.

[8] *Ammonium Nitrate from Ukraine*, 71 FR 43516, August 1, 2006.

[9] *Ammonium Nitrate from Ukraine*, 71 FR 67366, November 26, 2006.

[10] *Solid Agricultural Grade Ammonium Nitrate from Ukraine: Final Results of the Expedited Sunset Review of the Antidumping Duty Order*, 71 FR 70508, December 5, 2006.

[11] *Certain Ammonium Nitrate from Ukraine*, 72 FR 35260, June 27, 2007.

[12] *Solid Agricultural Grade Ammonium Nitrate from Ukraine: Continuation of Antidumping Duty Order*, 72 FR 37195, July 9, 2007.

**Table I-1**
**HDAN: Comparative data from the original investigation, the first review, and second review, 1998-2000 and 2001-2012**

***(Quantity in short tons, value in 1,000 dollars, shares/ratios in percent)***

| Item | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|
| **U.S. consumption:** | | | | | | | |
| Quantity | 2,381,218 | 2,555,054 | 2,305,727 | 1,888,260 | 2,034,755 | 2,162,963 | 1,890,360 |
| U.S. producers' share | 82.3 | 78.9 | 78.4 | 73.8 | 76.2 | 64.8 | 68.5 |
| U.S. importers' share: | | | | | | | |
| Ukraine | *** | *** | *** | 0.0 | 0.0 | 0.0 | 0.0 |
| All other sources | *** | *** | *** | 26.2 | 23.8 | 35.2 | 31.5 |
| Total imports | 17.7 | 21.1 | 21.6 | 26.2 | 23.8 | 35.2 | 31.5 |
| **U.S. consumption:** | | | | | | | |
| Value | 278,332 | 253,871 | 261,796 | 263,846 | 230,117 | 326,164 | 326,558 |
| U.S. producers' share | 85.6 | 81.7 | 83.6 | 73.2 | 76.5 | 65.8 | 68.8 |
| U.S. importers' share: | | | | | | | |
| Ukraine | *** | *** | *** | 0.0 | 0.0 | 0.0 | 0.0 |
| All other sources | *** | *** | *** | 26.8 | 23.5 | 34.2 | 31.2 |
| Total imports | 14.4 | 18.3 | 16.4 | 26.8 | 23.5 | 34.2 | 31.2 |
| **Shipments of U.S. imports from:** | | | | | | | |
| **Ukraine:** Quantity | *** | *** | *** | 0 | 0 | 0 | 0 |
| Value | *** | *** | *** | 0 | 0 | 0 | 0 |
| Unit Value | $*** | $*** | $*** | ([1]) | ([1]) | ([1]) | ([1]) |
| **All other countries:** Quantity | *** | *** | *** | 494,848 | 484,658 | 760,971 | 595,790 |
| Value | *** | *** | *** | 70,619 | 54,008 | 111,453 | 102,044 |
| Unit Value | $*** | $*** | $*** | $142.71 | $111.44 | $146.46 | $171.28 |
| **All countries:** Quantity | 421,429 | 540,200 | 498,582 | 494,848 | 484,658 | 760,971 | 595,790 |
| Value | 40,011 | 46,363 | 42,918 | 70,619 | 54,008 | 111,453 | 102,044 |
| Unit Value | $94.94 | $85.83 | $86.08 | $142.71 | $111.44 | $146.46 | $171.28 |

**Table I-1—*Continued***
**HDAN: Comparative data from the original investigation, the first review, and second review, 1998-2000 and 2001-2012**

***(Quantity in short tons, value in 1,000 dollars, shares/ratios in percent)***

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 1,504,608 | *** | *** | *** | *** | *** | *** | *** |
| 71.1 | *** | *** | *** | *** | *** | *** | *** |
| | | | | | | | |
| 0.0 | *** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28.9 | *** | *** | *** | *** | *** | *** | *** |
| 28.9 | *** | *** | *** | *** | *** | *** | *** |
| | | | | | | | |
| 314,899 | *** | *** | *** | *** | *** | *** | *** |
| 69.9 | *** | *** | *** | *** | *** | *** | *** |
| | | | | | | | |
| 0.0 | *** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.1 | *** | *** | *** | *** | *** | *** | *** |
| 30.1 | *** | *** | *** | *** | *** | *** | *** |
| | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| 434,571 | 667,781 | *** | *** | *** | *** | *** | *** |
| 94,918 | 157,481 | *** | *** | *** | *** | *** | *** |
| $218.42 | $235.83 | $*** | $*** | $*** | $*** | $*** | $*** |
| 434,571 | 667,781 | *** | *** | *** | *** | *** | *** |
| 94,918 | 157,481 | *** | *** | *** | *** | *** | *** |
| $218.42 | $235.83 | $*** | $*** | $*** | $*** | $*** | $*** |

Table continued on next page.

**Table I-1 *Continued***
**HDAN: Comparative data from the original investigation, the first review, and second review, 1998-2000 and 2001-2012**

***(Quantity in short tons, value in 1,000 dollars, shares/ratios in percent)***

| Item | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|
| **U.S. producers:** | | | | | | | |
| Capacity quantity | 2,585,210 | 2,673,064 | 2,666,251 | 2,047,578 | 2,039,125 | 2,074,340 | 2,050,042 |
| Production quantity | 2,126,197 | 1,970,942 | 1,679,379 | 1,432,727 | 1,581,114 | 1,368,676 | 1,282,263 |
| Capacity utilization | 82.2 | 73.7 | 63.0 | 70.0 | 77.5 | 66.0 | 62.5 |
| **U.S. shipments:** | | | | | | | |
| Quantity | 1,959,789 | 2,014,854 | 1,807,145 | 1,393,412 | 1,550,097 | 1,401,992 | 1,294,570 |
| Value | 238,321 | 207,508 | 218,878 | 193,227 | 176,109 | 214,711 | 224,514 |
| Unit Value | $121.61 | $102.99 | $121.12 | $138.67 | $113.61 | $153.15 | $173.43 |
| Ending inventory quantity | 352,614 | 247,435 | 97,376 | 105,499 | 104,719 | 65,491 | 42,963 |
| Inventories/total shipments | *** | *** | *** | *** | *** | *** | *** |
| Production workers | 426 | 422 | 389 | 293 | 290 | 287 | 277 |
| Hours worked (*1,000*) | 942 | 927 | 852 | 658 | 664 | 636 | 604 |
| Wages paid (*1,000 dollars*) | 18,833 | 18,841 | 17,442 | 13,898 | 14,505 | 13,914 | 13,870 |
| Hourly wages | $19.99 | $20.33 | $20.48 | $21.12 | $21.84 | $21.88 | $22.96 |
| Productivity (*short tons per hour*) | 2,257.1 | 2,126.4 | 1,873.6 | *** | *** | *** | *** |
| Net sales: Quantity | 1,996,912 | 2,039,952 | 1,821,094 | *** | *** | *** | *** |
| Value | 240,189 | 208,916 | 219,625 | *** | *** | *** | *** |
| Unit Value | $120.28 | $102.41 | $120.60 | $*** | $*** | $*** | $*** |
| Cost of goods sold | 203,688 | 201,592 | 209,720 | *** | *** | *** | *** |
| Gross profit or (loss) | 36,501 | 7,324 | 9,905 | *** | *** | *** | *** |
| Operating income or (loss) (*value*) | 16,826 | (8,258) | (5,510) | *** | *** | *** | *** |
| Unit cost of goods sold | $102.00 | $98.82 | $115.16 | $*** | $*** | $*** | $*** |
| Unit operating income or (loss) | $8.43 | ($4.05) | ($3.03) | *** | *** | *** | *** |
| Cost of goods sold/sales (percent) | 84.8 | 96.5 | 95.5 | *** | *** | *** | *** |
| Operating income or (loss)/sales | 7.0 | (4.0) | (2.5) | *** | *** | *** | *** |

**Table I-1—*Continued***
**HDAN: Comparative data from the original investigation, the first review, and second review, 1998-2000 and 2001-2012**

***(Quantity in short tons, value in 1,000 dollars, shares/ratios in percent)***

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 1,747,368 | *** | *** | *** | *** | *** | *** | *** |
| 1,066,799 | *** | *** | *** | *** | *** | *** | *** |
| 61.1 | *** | *** | *** | *** | *** | *** | *** |
| | | | | | | | |
| 1,070,037 | *** | *** | *** | *** | *** | *** | *** |
| 219,981 | *** | *** | *** | *** | *** | *** | *** |
| $205.58 | $*** | $*** | $*** | $*** | $*** | $*** | $*** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| 179 | *** | *** | *** | *** | *** | *** | *** |
| 378 | *** | *** | *** | *** | *** | *** | *** |
| 8,707 | *** | *** | *** | *** | *** | *** | *** |
| $23.03 | $*** | $*** | $*** | $*** | $*** | $*** | $*** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| $*** | $*** | $*** | $*** | $*** | $*** | $*** | $*** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| $*** | $*** | $*** | $*** | $*** | $*** | $*** | $*** |
| $*** | $*** | $*** | $*** | $*** | $*** | $*** | $*** |
| *** | *** | *** | *** | *** | *** | *** | *** |
| *** | *** | *** | *** | *** | *** | *** | *** |

[1] Not applicable.

Source: Compiled from data submitted in response to Commission questionnaires and from adjusted official Commerce statistics obtained in the original investigation.

## PREVIOUS AND RELATED INVESTIGATIONS

The subject product was included in an investigation of all ammonium nitrate that the Commission instituted on April 27, 1998. This investigation, No. 332-393, was instituted under section 332(g) of the Tariff Act of 1930 in response to a request from the Committee on Finance of the U.S. Senate. The results are contained in USITC Publication 3135 (October 1998): *Ammonium Nitrate: A Comparative Analysis of Factors Affecting Global Trade*. Further, on July 23, 1999, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of dumped imports of certain ammonium nitrate from Russia.[13] On May 19, 2000, before the Commission reached a final determination, Commerce entered into a suspension agreement with Russia and suspended the antidumping investigation. On June 29, 2000, the petitioners requested a continuation of the investigation and both Commerce and the Commission resumed their investigations. On July 11, 2000, Commerce made a final affirmative dumping determination, with margins as follows: 253.98 percent *ad valorem* for JSC Azot Nevinnomyssk ("Nevinka") and Russia-wide. Critical circumstances were found also with respect to Nevinka and Russia-wide. The Commission made a final affirmative injury determination on August 14, 2000, and also determined that critical circumstances did not exist with respect to the subject imports. Commerce did not issue an antidumping duty order because of the suspension agreement.

On March 31, 2005, the Commission gave notice, pursuant to section 751(c) of the Tariff Act of 1930 (the Act), that it had instituted a review to determine whether termination of the suspended investigation on certain ammonium nitrate from Russia would likely lead to the continuation or recurrence of material injury to a domestic industry. Effective July 5, 2005, the Commission determined that it would conduct a full review pursuant to section 751(c)(5) of the Act. In March 2006, the Commission determined that termination of the suspended investigation on ammonium nitrate from Russia would be likely to lead to continuation or recurrence of material injury to the domestic industry within a reasonably foreseeable time.[14] In April 2006, Commerce ordered the continuation of the suspension agreement and of the suspended antidumping duty agreement on ammonium nitrate from Russia.[15]

In March 2011, the Commission instituted a five-year sunset review on ammonium nitrate from Russia.[16] In May 2011, Commerce terminated the suspension agreement and issued antidumping duty orders on ammonium nitrate from Russia.[17] Following an affirmative final determination by Commerce and a determination by the Commission that revocation of the antidumping duty order would be likely to lead to continuation or recurrence of injury to the domestic industry, Commerce issued a continuation of the antidumping duty orders with respect to Russia, effective August 10, 2011.[18]

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[13] The petition was filed by Air Products, MCC, El Dorado, Nitram, LaRoche, and Wil-Gro Fertilizer, Inc. ("Wil-Gro"), Celina, TX.

[14] 71 FR 16177, March 30, 2006.

[15] *Continuation of Suspended Antidumping Duty Investigation: Ammonium Nitrate from the Russian Federation,* 71 FR 17080, April 5, 2006.

[16] *Ammonium Nitrate from Russia,* 76 FR 11273, March 1, 2011.

[17] *Termination of the Suspension Agreement on Solid Fertilizer Grade Ammonium Nitrate From the Russinan Federation and Notice of Antidumping Duty Order,* 76 FR 23569, April 27, 2011.

[18] *Continuation of Antidumping Duty Order on Solid Fertilizer Grade Ammonium Nitrate From the Russian Federation,* 76 FR 49449, August 10, 2011.

## STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

### Statutory criteria

Section 751(c) of the Act requires Commerce and the Commission to conduct a review no later than five years after the issuance of an antidumping or countervailing duty order or the suspension of an investigation to determine whether revocation of the order or termination of the suspended investigation "would be likely to lead to continuation or recurrence of dumping or a countervailable subsidy (as the case may be) and of material injury."

Section 752(a) of the Act provides that in making its determination of likelihood of continuation or recurrence of material injury--

> *(1) IN GENERAL.-- . . . the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission shall consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated. The Commission shall take into account--*
>
> > *(A) its prior injury determinations, including the volume, price effect, and impact of imports of the subject merchandise on the industry before the order was issued or the suspension agreement was accepted,*
> > *(B) whether any improvement in the state of the industry is related to the order or the suspension agreement,*
> > *(C) whether the industry is vulnerable to material injury if the order is revoked or the suspension agreement is terminated, and*
> > *(D) in an antidumping proceeding . . ., (Commerce's findings) regarding duty absorption . . ..*
>
> *(2) VOLUME.--In evaluating the likely volume of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether the likely volume of imports of the subject merchandise would be significant if the order is revoked or the suspended investigation is terminated, either in absolute terms or relative to production or consumption in the United States. In so doing, the Commission shall consider all relevant economic factors, including--*
>
> > *(A) any likely increase in production capacity or existing unused production capacity in the exporting country,*
> > *(B) existing inventories of the subject merchandise, or likely increases in inventories,*
> > *(C) the existence of barriers to the importation of such merchandise into countries other than the United States, and*

*(D) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.*

*(3) PRICE.--In evaluating the likely price effects of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether--*

*(A) there is likely to be significant price underselling by imports of the subject merchandise as compared to domestic like products, and*
*(B) imports of the subject merchandise are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.*

*(4) IMPACT ON THE INDUSTRY.--In evaluating the likely impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated, the Commission shall consider all relevant economic factors which are likely to have a bearing on the state of the industry in the United States, including, but not limited to–*

*(A) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity,*
*(B) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, and*
*(C) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.*

*The Commission shall evaluate all such relevant economic factors . . . within the context of the business cycle and the conditions of competition that are distinctive to the affected industry.*

Section 752(a)(6) of the Act states further that in making its determination, "the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy. If a countervailable subsidy is involved, the Commission shall consider information regarding the nature of the countervailable subsidy and whether the subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement."

## Organization of the Report

Information obtained during the course of the review that relates to the statutory criteria is presented throughout this report. A summary of trade and financial data for HDAN as collected in the review is presented in appendix C. U.S. industry data are based on the questionnaire responses of two U.S. producers of HDAN that are believed to have accounted for 100.0 percent of domestic production of HDAN in 2012. U.S. import data and related information are based on the questionnaire responses of five U.S. importers of HDAN that accounted for at least 86.3 percent of U.S. imports during 2012. Foreign industry data and related information are based on the questionnaire response of one producer and exporter of HDAN in Ukraine.[19] Responses by U.S. producers, importers, purchasers, and foreign producers of HDAN to a series of questions concerning the significance of the existing antidumping duty order and the likely effects of revocation of such order are presented in appendix D. Apparent consumption and import tables that include proprietary customs data for importers of HDAN that did not respond to the Commission's questionnaire appear in appendix E.

## COMMERCE'S REVIEWS

### Administrative Reviews

Commerce completed no antidumping duty administrative reviews for HDAN from Ukraine.

### Five-Year Reviews

On September 27, 2012, Commerce found that revocation of the antidumping duty order on HDAN from Ukraine would likely lead to continuation or recurrence of dumping. Table I-2 presents the antidumping duty margins calculated by Commerce in its original investigation, first review, and second review.

**Table I-2**
**HDAN: Commerce's original, first five-year, and second five-year antidumping duty margins for producers/exporters in Ukraine**

| Producer/exporter | Original margin (*percent*) | First five-year review margin (*percent*) | Second five-year review margin (*percent*) |
|---|---|---|---|
| J.S.C. "Concern" Stirol | 156.29 | 156.29 | 156.29 |
| All others | 156.29 | 156.29 | 156.29 |

Source: Antidumping duty order, 66 FR 47451, September 12, 2001, final results of first expedited review, 71 FR 70508, December 5, 2006, and final results of second expedited review 77 FR 59377, September 27, 2012.

[19] The four responding Ukrainian producers of HDAN from the last review were acquired by Ostchem Group in 2010 and 2011. These companies will be referred to collectively as "Ostchem" in this report. Ostchem's foreign producer questionnaire response, section II-13.

## THE SUBJECT MERCHANDISE

### Commerce's scope

The imported product subject to the antidumping duty order under review, as defined by Commerce, is as follows:

> *"Solid, fertilizer grade ammonium nitrate products, whether prilled, granular or in other solid form, with or without additives or coating, and with a bulk density equal to or greater than 53 pounds per cubic foot. Specifically excluded from this scope is solid ammonium nitrate with a bulk density less than 53 pounds per cubic foot (commonly referred to as industrial or explosive grade ammonium nitrate)."*

### Tariff treatment

Imports of HDAN are classifiable under the Harmonized Tariff Schedule of the United States ("HTS") subheading 3102.30.00 as set forth in the following tabulation:

| HTS Provision | Article Description | General[1] | Special[2] | Column[3] |
|---|---|---|---|---|
| | | Rates (*percent ad valorem*) | | |
| 3102 | Mineral or chemical fertilizers, nitrogenous | | | |
| 3102.30.00 | Ammonium nitrate, whether or not in aqueous solution | Free | ([2]) | Free |

[1] Normal trade relations, formerly known as the most-favored-nation duty rate, applicable to Ukraine.
[2] No special rates apply to imports of ammonium nitrate from certain trading partners to the United States.
[3] Applies to imports from a small number of countries that do not enjoy normal trade relations duty status.

Source: Harmonized Tariff Schedule of the United States (2013).

## THE PRODUCT

### Physical Characteristics and Uses[20]

In its purest form, ammonium nitrate ("AN") is a white crystalline solid inorganic compound containing 35 percent nitrogen ("N") by weight, which melts at 337 degrees Fahrenheit, and is highly soluble in water. The product is synthesized from ammonia and nitric acid, and has the chemical composition $NH_4NO_3$. Commercial grade AN is produced in three major forms: (1) subject high-density fertilizer grade HDAN; (2) nonsubject low-density industrial explosives grade LDAN; and (3) nonsubject molten AN synthesis solution (83-90 percent AN).[21] Synthesis solution is sold commercially for use in

[20] The discussion in this section is based principally on information provided in CF Industries' and El Dorado's public websites, and producers' questionnaire responses as noted, together with selected information contained in *Certain Ammonium Nitrate from Ukraine, Inv. No. 731-TA-894 (Review)*, USITC Publication 3924, June 2007, pp. I-8 – I-12, various party communications, and the Commission hearing of April 4, 2013: Hearing transcript, pp. 31-38 (Gough).

[21] CF and El Dorado product specifications and material safety data sheets provided via e-mail correspondence from Margaret C. Marsh, Esq., Akin, Gump, Strauss, Hauer & Feld, LLP, February 5, 2013. CF product

emulsion explosives and for other industrial applications. In more diluted form, it is also used in the production of urea ammonium nitrate ("UAN") fertilizer solutions.

HDAN, which is the product covered by the scope of this review and was also the domestic like product found by the Commission in the original investigation, is produced in the United States predominately as spherical fertilizer prills with a particle size range of about 1 - 2 millimeters (mm),[22] and a guaranteed minimum analysis of 34 percent plant available N by weight, equally divided between ammonium ($NH_4^+$) nitrogen and nitrate ($NO_3^-$) nitrogen. The nitrate form is fast-acting and becomes immediately available to fertilized plants, while the ammonium form is slower acting. The product contains magnesium oxide (MgO), an internal stabilizing agent which adds strength and integrity to the prills, and prevents product degradation which may occur via expansion and contraction of the crystal structure at given ambient temperatures, especially around 90 degrees Fahrenheit. The prills may also be lightly coated with an external conditioning agent which prevents atmospheric moisture absorption and provides for free-flowing, anti-caking characteristics, as HDAN tends to be hygroscopic (subject to moisture uptake). Uncoated HDAN product is also used to a limited extent in cased or packaged explosives and emulsions, and in selected specialty industrial markets.[23] HDAN by itself is a relatively benign compound, but the product is a strong oxidizer which contains its own oxygen for burning, and which will support the combustion of given materials under the proper conditions. Therefore, it is important to prevent the contamination of the product with oxidizable organic materials such as fuel oil and other hydrocarbons which may potentially create fires and also cause HDAN to decompose and detonate. Charcoal, wood chips, chlorates, nitrated compounds, finely divided metals, acids, phosphorus, and sulfur should also be avoided.[24] [25]

HDAN is a specialty niche market nitrogen fertilizer that continues to be favored in selected applications. HDAN may be used by itself for crop fertilization, or bulk blended with phosphorus ("P") and potassium ("K") to produce N-P-K bulk blends.[26] The product is fast-acting because its nitrate form is an immediate source of plant-available nitrogen, while its ammonium form is converted more slowly to nitrate in the soil, and continues to feed the plant for a relatively prolonged period. The product is popularly used for direct application to the soil surface on pasture grass and for hay production in the warmer, more humid southeastern, and southwestern-tier regions of the country where rapid growth and

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specifications also available at http://www.cfindustries.com/products_ammonium-nitrate.html, retrieved February 15, 2013.

[22] El Dorado's subject prills are about 1.5 mm on average, and range from 1 - 2 mm, while CF's prills average ***. E-mail correspondence from Valerie A. Slater, Akin, Gump, Strauss, Hauer & Feld, LLP, March 27, 2013. Ukraine prills range in particle size from 1 to 4mm, and are produced in three product quality grades, top grade, first grade, and second grade. The top grade assays 34.4 percent N, contains MgO, and is predominately 2 to 4mm in particle size range (80% of total), with 95 percent of the total in the 1 to 4 mm range, and having a crush strength of 0.8 kilograms (kg)/granule. The first grade assays 34.4 percent nitrogen, contains MgO, and has a guaranteed particle size range of not less than 50 percent as 2 to 4mm, and 95 percent from 1 to 4mm, with a crush strength of 0.7kg/granule. Second grade product assays 34.4 percent N, contains MgO, and has a particle size range of 1 to 4mm (95 percent of total), and a lower crush strength of 0.5kg/granule. E-mail correspondence from Martin J. Lewin, Kalik Lewin, March 12;22, 2013.

[23] El Dorado's E-2 (high-density) ammonium nitrate reportedly remains the industry standard in packaged explosive materials because of its density, purity and ability to withstand degradation during storage. These same purity and storage qualities, as well as excellent solubility, makes it ideal for the specialty industrial markets (http://www.eldoradochemical.com/acmina.html, retrieved February 15, 2013).

[24] *Fertilizer Manual*, United Nations Industrial Development Organization (UNIDO), Vienna, Austria, and International Fertilizer Development Center (IFDC) Muscle Shoals, AL, 1998, pp. 220-226.

[25] *Material Safety Data Sheets*, CF and El Dorado, footnote 21.

[26] El Dorado's E-2 ammonium nitrate prills are developed specifically to meet the needs of the fertilizer industry's bulk blenders. E-2's high density (60 pounds per cubic foot.) is comparable to the weight and shape of the phosphorus and potassium components, allowing for easier mixing and reduced separation during transport to the farmers' field (http://www.eldoradochemical.com/choice1.htm, retrieved February 17, 2013).

protein development are paramount for the feeding of cattle, including in the Midwest, and where nitrogen losses to the atmosphere via volatilization are minimized compared to solid urea, a higher N analysis fertilizer, and to lower analysis UAN solution. HDAN is also popular for direct soil surface application to vegetables and citrus crops where multiple crops are produced and where rapid growth is important, and also to traditional row crops: corn, wheat, cotton, milo, and other grains, for example, that may be cultivated under no-till applications rather than to traditional plow-down.[27] [28]

HDAN is typically a somewhat higher cost nitrogen fertilizer on a per unit N basis compared to the more widely available higher analysis solid urea (46 percent N) and to UAN solutions of similar analysis range (28-32 percent N). Nevertheless, as a specialty niche market nitrogen fertilizer product for selected applications, HDAN has been shown to be a proven product of choice as previously noted. Conversely, HDAN because of its explosive nature and prospects for use as a source of terrorism, has been the subject of rising security regulations promulgated by federal agencies, notably more recently by the Department of Homeland Security (DHS).[29] [30] Although there appears to have been limited construction of significance in global HDAN production capacity in the past few years,[31] the U.S. nitrogen fertilizer industry as a whole during the subject period of investigation (POI) has experienced a transition from a high cost producer position, to a low cost global producer. This turnaround has developed because of a substantial increase in the production of low cost natural gas feedstock tapped from U.S. shale plays. For example, El Dorado plans to invest $250 - $300 million to build an ammonia plant at its El Dorado, AR, facility (onstream late-2015) based on favorably priced natural gas feedstock and improved production economics compared to the more volatile prices of traditionally purchased ammonia raw material used for ammonium nitrate production.[32] [33] Additionally, on November 1, 2012, CF announced a $3.8 billion nitrogen fertilizer expansion project designed to construct new capacity for

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[27] *** producer questionnaire response (sections IV-9; IV-10) and *** producer questionnaire response (sections IV-9; Attachment IV-12).

[28] *Forage Protein Profit*, El Dorado (http://www.eldoradochemical.com/anitrate2.htm , retrieved February 15, 2013.

[29] The Chemical Facility Anti-Terrorism Standard (CFATS) regulations promulgated under DHS in 2007, required the ammonium nitrate industry, amongst others, that met or exceeded designated screening threshold quantities (6CFR Part 27, Appendix A, November 20, 2007) to submit "Top-Screen" information to determine if a given facility was considered to be high-risk and subject to additional regulations. Additionally, in FY 2008, DHS was given the authority to regulate ammonium nitrate products specifically via the Secure Handling of Ammonium Nitrate provision. This proposed rule would implement anti-terrorism measures to better secure the homeland with the purpose of preventing the use of ammonium nitrate in an act of terrorism, and to promulgate regulations requiring potential buyers and sellers of ammonium nitrate to register with DHS, and be subject to a large number of regulations. ***. *** and ***.

[30] *Ammonium Nitrate Security Program: Proposed Rule; request for comments*, National Protection and Programs Directorate, DHS, 76 FR 46908, August 3, 2011; *Introduction to the Unified Agenda of Federal Regulatory and Deregulatory Actions, Regulatory Information Service Center: Ammonium Nitrate Security Program, developing a Final Rule*, DHS, 78 FR 1388, January 8, 2013. The formulation of final rules by the end of 2013 is a general goal, ***. Staff telephone interview with Mr. John MacLaren, Ammonium Nitrate Security Program Manager, DHS, April 3, 2013.

[31] There appears to have been more construction activity in the industrial ammonium nitrate explosives sector, where "about 99 percent of commercial explosives today are AN-based and there are no viable substitutes." *Ammonium Nitrate Security Program, Docket ID 2008-0076*, correspondence to Department of Homeland Security, J. Christopher Ronay, President, Institute of Makers of Explosives, December 1, 2011.

[32] ***.

[33] Hearing transcript, pp. 38-41 (Fuzzell).

ammonia, urea, nitric acid, and UAN solution.[34] Several other U.S. producers of a variety of nitrogen fertilizer products and other interested entities have followed suit.[35]

**Manufacturing Processes and Channels of Distribution**

The HDAN manufacturing process in the United States is similar for the two current producers, CF Industries and El Dorado, as both produce prilled products. Product is also moved similarly to downstream warehouses or other facilities in 1,500 short ton capacity barges, 100 ton rail cars, and 25 ton trucks. El Dorado's HDAN is sold under the E-2 trade name, while CF Industries' product is sold under the Amtrate® registered trade mark. The products are believed to be interchangeable for most applications.

A typical ammonium nitrate synthesis scheme involves the chemical reaction of ammonia with nitric acid in four basic steps: (1) ammonia synthesis; (2) nitric acid synthesis; (3) ammonium nitrate synthesis solution production and concentration; and (4) prilling and finishing. Ammonia may be synthesized onsite, or purchased. CF produces its ammonia onsite,[36] while El Dorado operates on purchased ammonia.[37]

The basic HDAN process is initiated by the production of anhydrous ammonia ($NH_3$), formed by the reaction of hydrogen–stripped from natural gas feedstock–with nitrogen from the air, under conditions of high temperature and pressure. In a second section of the plant, nitric acid ($HNO_3$) is produced by transforming ammonia into nitrogen oxides via passage over a platinum gauze catalyst under high temperature and pressure, and dissolving in water to produce a 57-63 percent nitric acid solution. In a third section of the plant, ammonium nitrate synthesis solution (85-90 percent AN) is produced by reacting the nitric acid solution with ammonia in a neutralizer vessel. Next, magnesium oxide (MgO) stabilizer is injected into the molten ammonium nitrate synthesis solution before it is concentrated to a 99-percent AN melt and pumped to the top of a multistory prilling tower where AN is sprayed out into spherical droplets. As the molten droplets fall downward through the tower in a countercurrent upward flow of air, they cool and solidify by the time they hit the base of the tower. The product is further cooled at the base of the tower and then may be coated with moisture-inhibiting conditioner in a rotating drum before screening to size. Alternately, granular HDAN may be produced in some plants by spraying molten AN into a rotating drum, pan, or fluid bed granulator.[38] HDAN may also be derived from the nitrophosphate process by reacting precipitated calcium nitrate with ammonia and carbon dioxide to yield AN and calcium carbonate byproduct. Prilled or granular HDAN is produced from concentrated AN following the removal of calcium carbonate. This process is known to be employed primarily in Europe, and also possibly in China and India.[39]

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[34] News Release: *CF Industries Announces Capacity Expansions*, http://phx.corporate-ir.net/phoenix.zhtml?c=190537&p=irol-newsArticle&ID=1753230&highlight=, retrieved November 1, 2012.

[35] *Green Markets*, various editions in 2012.

[36] http://www.cfindustries.com/plants_yazoo-city-ms.html, retrieved February 19, 2013.

[37] LSB Industries' Quarterly Report on Form 10-Q for the period ending March 31, 2012, p. 38.

[38] *Fertilizer Manual*, United Nations Industrial Development Organization (UNIDO), Vienna, Austria, and International Fertilizer Development Center (IFDC) Muscle Shoals, AL, 1998, pp. 234-236.

[39] Ibid, pp. 385-398.

## DOMESTIC LIKE PRODUCT ISSUES

In the original investigation, the Commission found a single domestic like product consisting of HDAN, coextensive with the scope of subject merchandise as solid fertilizer grade ammonium nitrate products with a bulk density equal to or greater than 53 pounds per cubic foot.[40] In its first five-year review on HDAN, the Commission continued to define HDAN as a single like-product, coextensive with Commerce's scope definition.[41]

In response to a question soliciting comments regarding the appropriate domestic like product in the Commission's notice of institution of this second review, the domestic interested parties agreed with the definitions of the domestic like product and the domestic industry stated in the Commission's notice of institution. The respondent interested party did not comment on the appropriate domestic like product in its response to the notice of institution or in its prehearing and posthearing briefs.

There are no known domestic like product issues. LDAN could potentially be substituted for HDAN as it is produced by a similar process and has the same relative nitrogen content. However, LDAN is more porous and friable, and more susceptible to product degradation than HDAN. Also, LDAN is heavily regulated by federal agencies such as the Bureau of Alcohol, Tobacco, Firearms, and Explosives ("ATFE"). Unlike HDAN, a potential buyer must present a certified explosives license to a qualified distributor to gain access to the product. Solid urea is a potential substitute for direct application HDAN on pasture and hay and other no-till crops in more temperate climates, but the product is subject to significant volatilization losses on dry soil and in the warm, humid southern-tier climates where HDAN continues to be the product of choice. Additionally, solid HDAN and urea are incompatible, and cannot be bulk-blended because of their combined propensity to absorb atmospheric moisture and go into solution under ambient conditions. Furthermore, urea is an organic compound produced from ammonia and carbon dioxide in separate plants, using different equipment and personnel. Urea ammonium nitrate solution ("UAN") is a nonsubject aqueous liquid physical mixture of ammonium nitrate synthesis solution and urea. Thus, it is produced from a nonsubject ammonium nitrate synthesis solution, an intermediate product used in the production of HDAN, and nonsubject urea, which is produced using different process equipment and personnel. Anhydrous ammonia is a high analysis nitrogen fertilizer which is a gas under ambient conditions, and, as such, must be knifed in under the soil using specialty equipment. Its use is largely confined to the midwestern Corn Belt region of the United States. Ammonium sulfate is a solid nitrogen product produced from ammonia and sulfuric acid. It does not contain nitrate nitrogen, has a lower nitrogen content (21 percent N), is acidic in nature, and is manufactured on different process equipment and personnel relative to HDAN. Calcium ammonium nitrate ("CAN") is a homogeneous chemically mixed fertilizer product composed typically of slightly less than 80 percent HDAN maximum and 20 percent limestone minimum. CAN contains about 27 percent by weight of plant-available nitrogen. Nonsubject CAN, unlike HDAN, is not a potentially hazardous oxidizer subject to regulation. CAN may be prepared by the direct injection of ground limestone in the AN melt prior to prilling or granulation. Physically mixed bulk blends of solid ammonium nitrate with limestone are not classified as CAN product.[42]

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[40] *Certain Ammonium Nitrate from Ukraine*, Inv. No. 731-TA-894 (Final), USITC Publication 3448, August 2001, pp. 4-5.

[41] *Certain Ammonium Nitrate from Ukraine*, Inv. No. 731-TA-894 (Review), USITC Publication 3924, June 2007, pp. 4-5

[42] This section is largely derived from *Certain Ammonium Nitrate from Ukraine*, Inv. No. 731-TA-894 (Review), USITC Publication 3924, June 2007, pp. 14-16

## U.S. MARKET PARTICIPANTS

### U.S. Producers

At the time of the original investigation, there were eight responding U.S. producers of HDAN that accounted for approximately *** percent of U.S. production in 2000, while five firms reported producing HDAN in the United States during the period of the first five-year review.[43] In the current proceeding, the Commission received questionnaires from two U.S. producers who are believed to account for all domestic production of HDAN.

Presented in table I-3 is a list of current domestic producers of HDAN and each company's position on continuation of the orders, production location(s), related and/or affiliated firms, and share of reported production of HDAN in 2012.

**Table I-3**
**HDAN: U.S. producers, positions on the order, U.S. production locations, related and/or affiliated firms, and shares of 2012 reported U.S. production**

| Firm | Position on continuation of the orders | U.S. production location(s) | Related and/or affiliated firms | Share of production *(percent)* |
|---|---|---|---|---|
| CF Industries | Petitioner | Yazoo City, MS | Growhow UK Limited[1] | *** |
| El Dorado | Petitioner | El Dorado, AR | LSB Industries[2] | *** |

[1] ***.
[2] ***.

Source: Compiled from data submitted in response to Commission questionnaires.

As indicated in the table above, ***. ***.

[43] However, according to domestic interested parties in the first review, by 2006 there were only two U.S. firms producing HDAN.

## U.S. Importers

In these current proceedings, the Commission issued importers' questionnaires to 12 firms believed to be importers of HDAN. Usable questionnaire responses were received from five companies, while four companies indicated that they have not imported HDAN from 2007-12. Table I-4 lists all responding U.S. importers of HDAN, their locations, and their shares of reported U.S. imports in 2012.

**Table I-4**
**HDAN: U.S. importers, U.S. headquarters, and share of reported quantity of imports in 2012**

| Firm | Headquarters | Share of reported imports (*percent*) |
|---|---|---|
| Ameropa North America, Inc. | Tampa, FL | *** |
| Gavilon Fertilizer, LLC | Savannah, GA[1] | *** |
| Oakley Fertilizer, Inc. | North Little Rock, AR | *** |
| Transammonia, Inc. | New York, NY | *** |
| Yara North America | Tampa, FL[2] | *** |
| Total | | 100.0 |

[1] Gavilon Fertilizer is ***.
[2] Yara is ***.

Note.—Because of rounding, shares may not total to 100.0 percent.

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. Purchasers

The Commission sent purchasers' questionnaires to 17 companies believed to have purchased bulk HDAN during the period 2007-12. Questionnaire responses were received from 8 purchasers, with all 8 reporting that they had purchased HDAN since January 1, 2007. Four of the responding purchasers reported that they were retailers; four reported that they were wholesalers; and one reported that it was a U.S. producer.[44] Based on questionnaire responses, the three largest reporting U.S. purchasers of HDAN in 2012 were ***. ***, characterized itself as a wholesaler of HDAN, and reported purchases of *** in 2012.[45] The next largest responding purchaser, ***, characterized itself as a retailer of HDAN and reported HDAN purchases of $*** in 2012. The third largest responding purchaser, ***, located in ***, which also characterized itself as a retailer, reported HDAN purchases of $*** in 2012.

[44] *** reported that it was both a retailer and a wholesaler.
[45] ***.

## APPARENT U.S. CONSUMPTION

Data concerning apparent U.S. consumption of HDAN during 2007-2012 are shown in table I-5.

**Table I-5**
**HDAN: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, 2007-12**

| Item | Calendar year | | | | | |
|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| **Quantity (*short tons*)** | | | | | | |
| U.S. producers' U.S. shipments | *** | *** | *** | *** | *** | *** |
| U.S. shipments of imports from-- | | | | | | |
| Ukraine | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Nonsubject imports | *** | *** | *** | *** | *** | *** |
| Total import shipments | *** | *** | *** | *** | *** | *** |
| Apparent U.S. consumption | *** | *** | *** | *** | *** | *** |
| **Value (*1,000 dollars*)** | | | | | | |
| U.S. producers' U.S. shipments | *** | *** | *** | *** | *** | *** |
| U.S. shipments of imports from-- | | | | | | |
| Ukraine | 0 | 0 | 0 | 0 | 0 | 0 |
| Nonsubject imports | *** | *** | *** | *** | *** | *** |
| Total import shipments | *** | *** | *** | *** | *** | *** |
| Apparent U.S. consumption | *** | *** | *** | *** | *** | *** |

[1] There were no subject imports during the period of review.

Source: Compiled from data submitted in response to Commission questionnaires.

## U.S. MARKET SHARES

U.S. market share data are presented in table I-6.

**Table I-6**
**HDAN: U.S. consumption and market shares, 2007-12**

| Item | Calendar year | | | | | |
|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| **Quantity (*short tons*)** | | | | | | |
| Apparent U.S. consumption | *** | *** | *** | *** | *** | *** |
| **Value (*1,000 dollars*)** | | | | | | |
| Apparent U.S. consumption | *** | *** | *** | *** | *** | *** |
| **Share of quantity (*percent*)** | | | | | | |
| U.S. producers' U.S. shipments | *** | *** | *** | *** | *** | *** |
| U.S. imports from-- | | | | | | |
| Ukraine | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nonsubject imports | *** | *** | *** | *** | *** | *** |
| Total U.S. imports | *** | *** | *** | *** | *** | *** |
| **Share of value (*percent*)** | | | | | | |
| U.S. producers' U.S. shipments | *** | *** | *** | *** | *** | *** |
| U.S. imports from-- | | | | | | |
| Ukraine | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nonsubject imports | *** | *** | *** | *** | *** | *** |
| Total U.S. imports | *** | *** | *** | *** | *** | *** |

Source: Compiled from data submitted in response to Commission questionnaires.

# PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

## MARKET CHARACTERISITCS

HDAN is a niche market nitrogen fertilizer that is favored in selected applications. HDAN accounted for 2.4 percent of total single nutrient nitrogen fertilizer consumption in the United States in 2011.[1] It performs well in temperate climates and is applied to the soil surface making it preferred in applications where no-till farming practices are used.

The quantity of HDAN consumed in the United States, on a nitrogen ton basis, decreased by 28.7 percent during the 2007-11 crop years.[2] The U.S. HDAN market is influenced by various U.S. market conditions. Supply and demand factors affecting the U.S. HDAN market include production costs, e.g. natural gas prices, agricultural crop prices (which in turn, affect the demand for HDAN as fertilizer), weather and seasonal factors, actual and potential security rules and regulations,[3] the availability of substitute products, and import competition.

Currently, two U.S. producers, CF Industries and El Dorado, produce HDAN and sell their products *** to the U.S. market. In 2012, CF Industries accounted for *** percent of the total quantity of U.S. HDAN production and El Dorado accounted for the remaining *** percent. Although there were no U.S. imports of HDAN from Ukraine during 2007-12, imports of HDAN from the Netherlands and Georgia have been important sources of foreign supply to the U.S. market during this period. In 2012, imports of HDAN from nonsubject countries accounted for *** percent of total apparent U.S. consumption.

U.S. producers transport HDAN from their plants to their own or their customers' storage/distribution terminals, typically located in or near farming areas. Imports of HDAN arrive in the United States in ships, with the traditional port for fertilizers located in New Orleans, LA. The Mississippi River system serves as an important means for distributing HDAN as a portion of both U.S.-produced and imported HDAN is transported in bulk by barge to storage and distribution locations throughout the Farm Belt. Substantial freight costs relative to product values may limit the marketing range of HDAN suppliers.

## CHANNELS OF DISTRIBUTION

U.S. producers and importers from nonsubject countries sold HDAN primarily to fertilizer distributors and relatively small shares to end users during 2007-12 (table II-1).[4]

**Table II-1**
**HDAN: Channels of distribution for domestic product and U.S. imports sold in the U.S. market as a share of U.S. shipment quantities, by year and by source, 2007-12**

* * * * * * *

[1] Commercial Fertilizers 2011; a cooperative project of the Association of American Plant Food Control Officials, Inc., and the Fertilizer Institute, Washington, DC, April 2013.

[2] Ibid.

[3] Due to its nature as an oxidizer, Congress has directed the Department of Homeland Security (DHS) to establish regulations to prevent the misappropriation or use of ammonium nitrate in a terrorist attack. The impact of these regulations on HDAN production, transport, and inventory are discussed in more detail later on in *Part II* (*U.S. Demand)* of this report.

[4] The majority of U.S. shipments of imported HDAN from all sources are imported and transported by global trading companies. *** accounted for *** percent of reported U.S. shipments of imported HDAN from all sources in 2012.

## GEOGRAPHIC DISTRIBUTION

U.S. producers sold their HDAN nationally, however their sales are primarily concentrated in the Southeast, Midwest, and Central Southwest reflecting primary farming areas (table II-2). Similarly, three importers of HDAN from nonsubject countries sold their product predominantly in the Central Southwest, followed by the Southeast, the Midwest, and the Pacific Coast.

**Table II-2**
**HDAN: Share of U.S. commercial shipment quantities by geographical market areas in the United States served by domestic producers and importers, 2012**

* * * * * * *

## SUPPLY AND DEMAND CONSIDERATIONS

### U.S. Supply

#### Domestic Production

Based on available information, U.S. producers have the ability to respond to changes in demand with moderate changes in the quantity of shipments of U.S.-produced HDAN to the U.S. market. The main factors contributing to this degree of responsiveness are available unused capacity and the availability of production alternatives. However, other factors, such as insufficient export markets and low levels of inventories tend to moderate this degree of responsiveness.

##### *Industry capacity*

U.S. producer's reported capacity remained constant through the period at *** short tons. Based on U.S. producers' reported capacity and production of HDAN, the domestic industry's capacity utilization fluctuated during 2007-12, decreasing from *** percent in 2007 to *** percent in 2008, and increasing to *** percent in 2010 before falling to *** percent in 2012. Capacity utilization averaged *** percent during the full period.[5]

##### *Inventory levels*

U.S. producers reported combined end-of-period inventory quantities fluctuated during the period, from *** percent of their total shipments in 2007, increasing to *** percent in 2009, and falling to *** percent of shipments in 2012.

##### *Alternative markets*

The value of U.S. producers' total reported exports of their U.S.-produced HDAN *** percent of U.S. producers' total shipments in 2007 to *** percent in 2012. Both producers reported that ***.

##### *Production alternatives*

*** reported producing other products on at least some of the equipment and using some of the employees that they use to produce HDAN. ***.

[5] ***.

### *Supply changes*

The majority of firms (*** producers, 4 of 5 importers and all 8 purchasers) reported that there have not been any changes in supply factors that have affected the availability of U.S.-produced HDAN in the U.S. market since 2007. ***. Both conditions are temporary and reportedly do not affect the overall availability of the product. However, *** did report that in October 2012, ***. *** also noted that if additional DHS security rules and regulations result in lower demand in the future, then it is likely that market conditions would force a reduction in HDAN production. In addition, one importer reported that high natural gas prices have closed U.S. production in the past. It also stated that government regulations and transportation restrictions on HDAN, as well as the increase in production of substitute products for HDAN, have also affected the supply of domestic HDAN.

**Supply of Subject Imports from Ukraine**

The Commission received one questionnaire response from Ukrainian producer of HDAN, Ostchem.[6] Based on available information, Ukrainian producer Ostchem has the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of HDAN to the U.S. market. The main factors contributing to this degree of responsiveness of supply is the substantial alternative markets for HDAN; fluctuating levels of unused capacity and low levels of inventories tend to moderate this degree of responsiveness.

#### *Industry capacity*

Reported capacity remained constant at *** short tons during 2007-12 and is projected to remain unchanged in the near future. Ostchem's reported capacity utilization fluctuated during the period, decreasing from *** percent in 2007 to *** percent in 2009 and then increasing to *** percent in 2012.

#### *Inventory levels*

Ostchem's inventories, relative to total shipments, fluctuated during the period from *** percent in 2007 to *** percent in 2010, peaking at *** percent in 2011, before decreasing to *** percent in 2012.

#### *Alternative markets*

Ostchem reported that the majority of its products were shipped to *** during the period, however, the share substantially decreased in 2011 and 2012 (figure II-1). Its total exports, as a share of total shipments of HDAN, fluctuated during the period, decreasing from *** percent in 2007 to *** percent in 2009, and then increased to *** percent in 2012. Ostchem did not export HDAN to the United States during the period.[7]

**Figure II-1**
**HDAN: Shares of total shipments of HDAN by Ukrainian producer Ostchem, by destination, 2007-12**

* * * * * * *

[6] The one responding producer accounts for approximately *** percent of total ammonium nitrate production in Ukraine.

[7] All five companies listed by Ostchem as its largest export purchasers were global trading companies, of which two (***) are currently trading HDAN in the United States.

***Production alternatives***

Ostchem reported *** on the same equipment and machinery used to produce HDAN.

***Supply changes***

All five responding importers of HDAN from nonsubject sources reported that there have been no changes in factors that have affected supply of imports of HDAN from Ukraine. All five responding importers do not anticipate any changes in terms of availability of HDAN imported from Ukraine in the U.S. market.

**Supply of Nonsubject Imports of HDAN to the U.S. Market**

The majority of imports from nonsubject countries were from the Netherlands and Georgia. Nonsubject imports decreased by *** percent from 2007 to 2009 and then increased by *** percent from 2009 to 2012, representing a net decrease of *** percent over the period. Four of five responding importers reported that there have been no changes in the supply of nonsubject imports. However, *** reported that there are fewer nonsubject import options available.

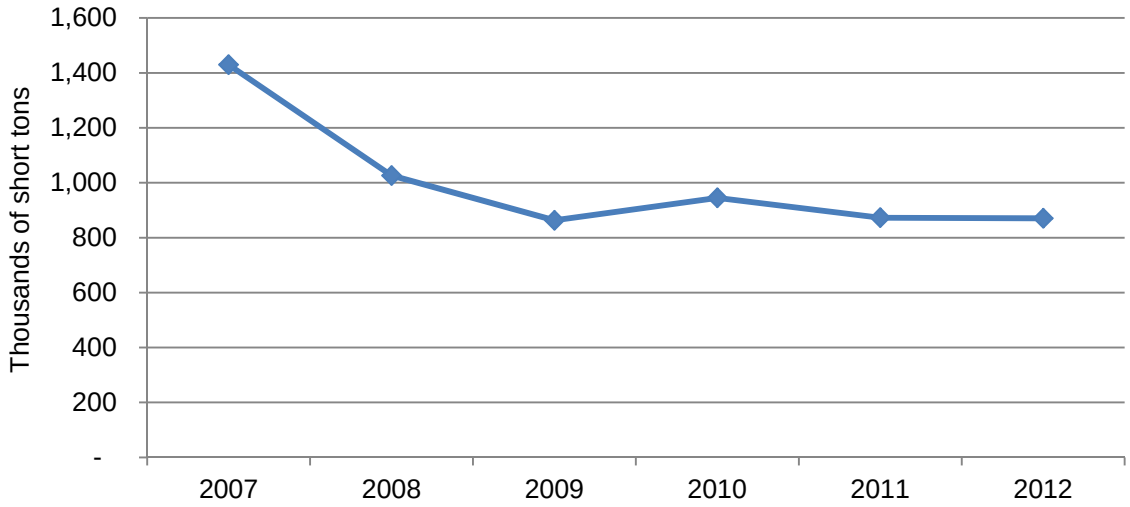
**New Suppliers**

All eight purchasers reported that there have been no new suppliers, either foreign or domestic, that entered the U.S. market since 2007.

**U.S. Demand**

Demand for HDAN, as measured by U.S. apparent consumption decreased by 35.8 percent during 2007-12. As seen in figure II-2, U.S. apparent consumption of HDAN decreased steeply during 2007-08 and then remained relatively flat between 2009 and 2012.

**Figure II-2**
**HDAN: U.S. apparent consumption, by year, 2007-12**




Source: Compiled from data submitted in response to Commission questionnaires.

Based on available information, it is likely that changes in the price level of HDAN would result in moderate changes in the quantity of HDAN demanded. Several factors contribute to this degree of price sensitivity, including the degree to which other principal single-nutrient nitrogen fertilizers are substitutable with HDAN and the cost share of HDAN for use in pastures and growing crops.

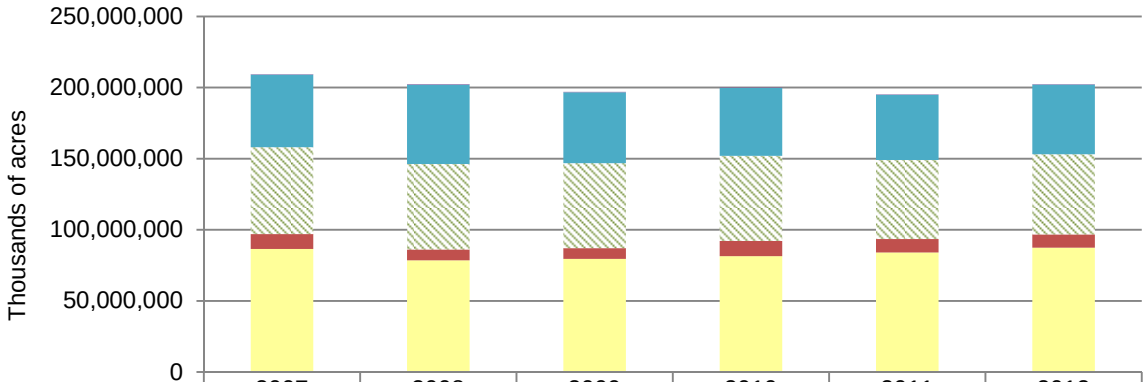
**Demand Characteristics**

HDAN is a dry nitrogen fertilizer. The principal uses for HDAN fertilizer are pasture and hay, cotton, corn, wheat, citrus/vegetables, and tobacco. U.S. HDAN consumption reportedly peaks during the spring planting season, with most demand occurring in the first quarter. U.S. HDAN producers continue to operate during the off-season to build inventories, which supply the lower levels of off-season demand and are used to fill the distribution system in time for the peak season.[8] According to El Dorado, the optimal window for application is short, and therefore, it is important that the product be in the distribution system and ready for dealers to deliver to their farm customers before the season begins.[9]

The overall U.S. demand for HDAN depends on various factors, but is primarily affected by the following: planted acreage and application rates, agronomic factors, weather conditions, actual and potential security rules and regulations, substitutability of other single-nutrient nitrogen fertilizers, and the cost share of HDAN used for pasture and crops.

Total U.S. acres harvested for crops that are the principal users of HDAN fertilizer are shown by crop years 2007-12 in figure II-3. Field crop harvested acres as a whole fluctuated annually during the period, with corn acreage steadily increasing every year after 2008.

**Figure II-3**
**Corn, Cotton, Hay, Wheat, and Tobacco: U.S. acreage harvested, 2007-2012**




| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Tobacco | 356,000 | 354,490 | 354,040 | 337,500 | 325,040 | 336,230 |
| Wheat | 50,999,000 | 55,699,000 | 49,893,000 | 47,619,000 | 45,705,000 | 48,991,000 |
| Hay | 61,006,000 | 60,152,000 | 59,775,000 | 59,872,000 | 55,653,000 | 56,260,000 |
| Cotton | 10,489,100 | 7,568,700 | 7,528,700 | 10,698,700 | 9,460,900 | 9,426,800 |
| Corn | 86,520,000 | 78,570,000 | 79,490,000 | 81,446,000 | 83,989,000 | 87,375,000 |

Source: National Agricultural Statistics Service, USDA, http://www.nass.usda.gov/Statistics_by_Subject/index.php, retrieved February 13, 2013.

[8] *** producer questionnaire response, section IV-21.
[9] Hearing transcript, pp. 34-35 (Gough).

Both producers reported that there have not been any changes in the end uses of HDAN since 2007. Both producers do not anticipate any changes in the end uses of HDAN in the near future.[10]

Crop prices are an integral driver of farmers' fertilization practices. High crop prices encourage farmers to apply higher application rates of fertilizers as greater yields bring about higher additional revenue at higher crop prices.[11] From 2007-12, prices of corn, hay, and wheat have increased by 96.8 percent, 50.8 percent, and 31.9 percent, respectively.[12] The current high agricultural commodity prices are anticipated to stimulate fertilizer demand.[13] [14]

**Cost Share**

Both U.S. producers reported the estimated cost share for the primary end uses for HDAN, which included: forage (pasture and hay), cotton, corn, grains, and wheat.[15] The end uses and the estimated cost share of HDAN to the total production costs of each reported crop/plant are shown in table II-3. Based on the reported information for specific crops/plants, HDAN cost shares ranged from 4 to 15 percent.

**Table II-3**
**HDAN: U.S. producers' responses regarding the cost share for primary end uses for HDAN**

| End use | HDAN cost share (percent) |
|---|---|
| Corn | 4 |
| Cotton | 12 |
| Forage/pasture | 6-10 |
| Grains | 15 |
| Wheat | 4 |

Source: Compiled from data submitted in response to Commission questionnaires.

**Substitute Products**

Demand for HDAN is also affected by the substitutability of HDAN with other fertilizers. Principal substitutes for HDAN are other single-nutrient nitrogen fertilizers including urea for forages; anhydrous ammonia, UAN, and urea for corn; and UAN and urea for cotton, wheat, and citrus/vegetables. Total U.S. nitrogen fertilizer consumption of the various forms and types of nitrogen fertilizer by nutrient short tons during crop years 2007-11 are shown in table II-4. Total U.S. single nutrient nitrogen fertilizer consumption increased slightly during the period 2007-11, from 10.7 million tons nitrogen to 10.8 million tons nitrogen.

[10] No importers or purchasers provided any responses on the end uses for HDAN.

[11] "Prices, Nutrient Carryover to Drive 2013 Fertilizer Applications," Farm Journal, November 8, 2012.

[12] National Agricultural Statistics Service, USDA, http://www.nass.usda.gov/Statistics_by_Subject/index.php, retrieved February 26, 2013.

[13] "Short-Term Fertilizer Outlook 2012-2013," International Fertilizer Industry Association (IFA), January 2013.

[14] Petitioner contends that the substantial increases for the prices of these crops have not resulted in any increase in demand for HDAN. It also notes that while some HDAN is used on corn, corn is not a principal consuming crop for HDAN. Petitioner reported that the ten largest HDAN consuming states in 2010 (the most recent year for which data are available) accounted for 76 percent of total HDAN consumption, but only 16 percent of total U.S. corn acreage planted in 2012. Petitioner's prehearing brief, pp. 18-19.

[15] No importers or purchasers provided responses to this question.

**Table II-4**
**U.S. consumption of selected nitrogen fertilizers as a share of nutrient short tons, by product form, 2007-11[1]**

| Fertilizer form | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| | Share of consumption (percent) | | | | |
| Ammonium sulfate | 2.7 | 2.7 | 2.6 | 2.6 | 2.9 |
| Anhydrous ammonia | 32.5 | 36.3 | 33.7 | 32.6 | 32.3 |
| Aqua ammonia | 0.7 | 0.9 | 0.9 | 0.3 | 0.3 |
| HDAN | 3.3 | 2.8 | 2.6 | 2.4 | 2.4 |
| Nitrogen solutions | 32.8 | 29.6 | 31.3 | 32.9 | 31.7 |
| Urea | 24.5 | 23.9 | 24.6 | 24.7 | 25.9 |
| Other N fertilizers[2] | 3.5 | 3.8 | 4.2 | 4.6 | 4.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

[1] Crop years, ending on June 30 of the indicated year. Data for crop year 2012 are currently not available.
[2] Other single nutrient nitrogen fertilizers and all natural organics.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Commercial Fertilizers 2007-2009 editions; a cooperative project of the Association of American Plant Food Control Officials, Inc., and the Fertilizer Institute, Washington, DC, December 2011; ***.

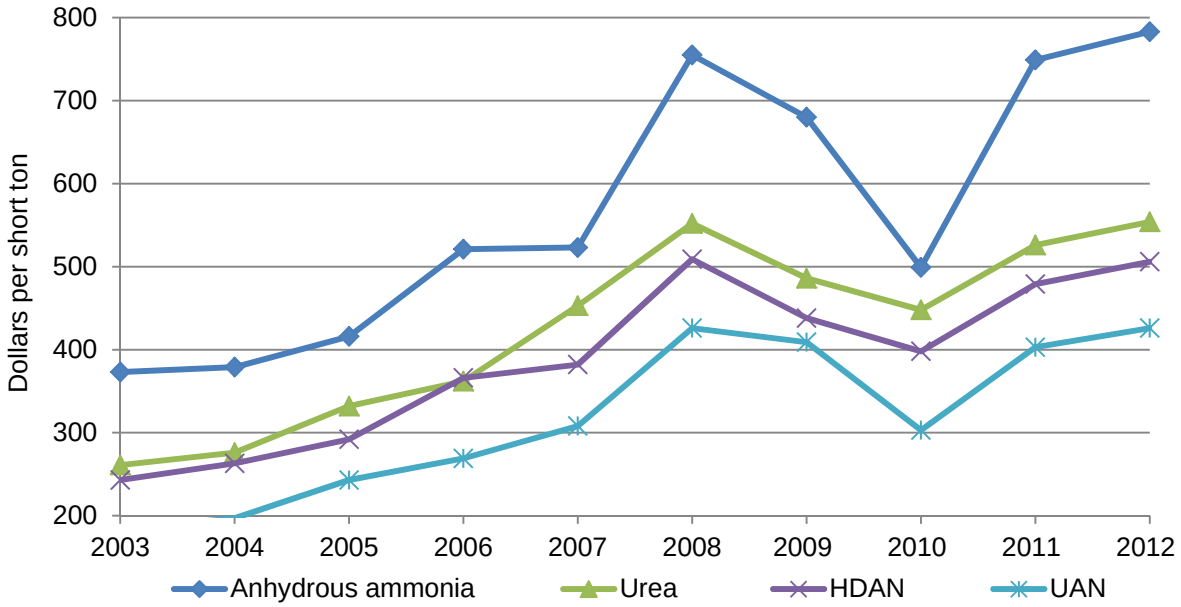
Both U.S. producers, all 5 importers, 7 of 8 purchasers, and Ukrainian producer Ostchem identified potential substitutes. Substitutes include anhydrous ammonia, calcium ammonium nitrate (CAN), UAN, and urea. Factors that may limit substitutability include product availability, equipment availability (including access to specialized equipment for direct injection of ammonia), special storage, weather, tillage methods,[16] handling characteristics, nitrogen volatilization, end-user preferences, and prices.

The majority of all responding firms (***, 2 of 4 importers, 5 of 7 purchasers, ***) indicated that changes in prices of substitutes do not affect the price of HDAN. *** noted that prices of single-nutrient fertilizers are linked to the cost of natural gas and rise or fall in tandem. One importer reported that the prices of urea, CAN, and UAN have increased the prices of HDAN.

Figure II-4 shows prices paid by farmers for anhydrous ammonia, HDAN, UAN, and urea between 2003 and 2012. After generally increasing from 2003 to 2008, prices for all four products declined from 2008 to 2010, and then increased in 2011 and 2012.

[16] Anhydrous ammonia is applied sub-surface by injection or knifing while HDAN is applied on soil surface. It is normally applied preplant while HDAN can be applied preplant or post-emerge.

**Figure II-4**
**Nitrogen fertilizers: Prices paid by farmers for anhydrous ammonia, HDAN, UAN, and urea in March/April, 2003-2012**




Source: Agricultural Prices, National Agricultural Statistics Service, USDA

The majority of firms reported that there have not been any changes in the number or types of products that can be substituted for HDAN since 2007. However, two reported that the use of coated fertilizers has increased. One firm (***) reported that "The use of controlled release nitrogen products and nitrogen inhibitors has increased and these are marketed as competitors with HDAN. These products are designed to reduce nitrogen losses due to nitrogen volatilization after the fertilizer has been applied. In 2007, there were only a few products with limited volumes of controlled release urea, but sales and product choice have increased since then. These products include coated urea and inhibitors that are applied to urea or sometimes directly to soil before or during the use of ammonia, urea or UAN (nitrogen solutions). In addition, major fertilizer producers are now producing these products and heavily marketing them, including Agrium Inc. and Koch Industries. These alternative products will continue to put pressure on HDAN sales in an already shrinking market, and likely lead to lower sales combined with the increase in DHS security rules and regulations." *** stated that "there has been a proliferation of coated fertilizer, as well as nitrogen inhibitors, such as Agrotain, that have seemingly increased their presence in the market."

**Business Cycles**

The vast majority of producers, importers, and purchasers reported that the HDAN market is subject to business cycles and conditions of competition distinctive to the HDAN market. The fertilizer market is seasonal, with the highest consumption period being spring when crops are planted. However, both producers reported that firms additionally seek to produce and ship their product in the off-season due to limited storage and optimized production costs. Both producers reported that if there are large imports during the off-season, it would quickly fill the U.S. distribution system and make it difficult for U.S. producers to sustain continual growth.

Two firms reported that there have been changes in the business cycles and conditions of competition for HDAN since January 1, 2007. Both *** reported that an important factor has been the DHS regulations which have placed pressure on sales of HDAN and have driven consumers to handle alternative products that are less nitrogen efficient. *** also noted that domestic production levels have decreased due to plant closures which have increased the need for imports.

**Demand Trends**

The majority of firms reported that demand for HDAN has decreased since January 1, 2007 and the majority also anticipate that demand will continue to decrease in the near future (table II-5). They reported that the demand for HDAN has decreased due to more stringent security rules and regulations. *** reported that several customers have switched to urea or other nitrogen fertilizers and many dealers/locations have stopped carrying HDAN and have switched to other fertilizers in regions where HDAN is not strongly preferred.[17] Other factors reported include: decreased planted acres of hay and pastures, fewer profitable cow/calf producers, increased availability of viable substitutes, and lower-priced nitrogen substitutes.

**Table II-5**
**HDAN: U.S. producer, importer, and purchaser responses regarding the demand for HDAN in the United States**

| Item | Number of firms reporting | | | |
|---|---|---|---|---|
| | Increase | No Change | Decrease | Fluctuate |
| **Demand since 2007** | | | | |
| U.S. producers | *** | *** | *** | *** |
| Importers | *** | *** | *** | *** |
| Purchasers | *** | *** | *** | *** |
| Foreign producers | *** | *** | *** | *** |
| **Total** | **0** | **2** | **13** | **0** |
| **Anticipated demand** | | | | |
| U.S. producers | *** | *** | *** | *** |
| Importers | *** | *** | *** | *** |
| Purchasers | *** | *** | *** | *** |
| Foreign producers | *** | *** | *** | *** |
| **Total** | **0** | **4** | **11** | **1** |

Source: Compiled from data submitted in response to Commission questionnaires.

The DHS has announced two new sets of rules covering HDAN: the Chemical Facility Anti-Terrorism Standards ("CFATS") and the Secure Handling of Ammonium Nitrate Act. The CFATS regulations announced in 2007, require the ammonium nitrate industry, as well as other high-risk chemical facilities, that meet or exceed designated screening threshold quantities to submit "Top-Screen" information to determine if a given facility is considered to be high-risk and subject to additional regulations.

In 2008, Congress initially passed the Secure Handling of Ammonium Nitrate Act which would tighten control of HDAN, although DHS has yet to implement the regulations. In August 2011, DHS announced the creation of an Ammonium Nitrate Security Program, which is intended to prevent the misappropriation or use of ammonium nitrate in a terrorist attack. Transactions involving the sale or transfer of ammonium nitrate will be regulated at the point of sale. Under the proposed regulations, individuals who purchase large quantities of ammonium nitrate must first register in advance and can only purchase the substance after the government has approved their application. Upon approval, individuals will receive a federal use number and a photo ID which they must present at the time of purchase. In addition, dealers are prohibited from selling more than twenty-five pounds of fertilizer to individuals who

[17] ***, section IV-20; hearing transcript, p. 45 (Hopkins).

are not registered. Dealers will also be required to keep records on all sales and to report any loss or theft within twenty-four hours.[18] DHS has received comments from its Notice of Proposed Rulemaking (NPRM) published in the *Federal Register* as well as consulted with other Federal agencies, State officials, and private sector stakeholders in DHS's development of a final rule.[19] According to ***, DHS will issue the final rule on the Ammonium Nitrate Security Program in December 2013.[20]

When asked to discuss any changes in the U.S. HDAN industry since 2007, all three responding purchasers noted that increased security regulations have decreased the overall demand for HDAN. *** stated "In the last sunset review, we noted that there had been a 20-25 percent decline in HDAN usage brought about by state and national security measures. From 2007 to 2010, HDAN usage continued to decline. The majority of this decline came on rapidly when DHS published the Chemical Facility Anti-Terrorism Standard (CFATS) (April 2007) which requires all dealers handling products on this list, HDAN being one, to complete and submit a CSAT Top-Screen to determine if the facility is high and thus subject to additional requirements. The net result was that a number of dealers elected to discontinue handling HDAN."

*** anticipate that demand for HDAN will continue to decrease due to DHS security regulations. *** reported that it expects customers to continue to drop HDAN and switch to other nitrogen fertilizers; it also anticipates increased competition from controlled release urea. *** expects DHS to announce additional rules and regulation in December 2013 which it anticipates will decrease the number of dealers that handle HDAN as the cost of compliance increases. *** also stated that it expects additional regulations on dealers beyond those currently in place will likely result in additional dealers abandoning the use of HDAN in their operations.

### Foreign Demand

The majority of responding U.S. firms indicated that demand outside the United States has remained unchanged since 2007. *** stated that according to Fertecon, world HDAN consumption as a fertilizer was stable to slightly lower over the last five years. U.S. purchaser *** reported that global demand for HDAN depends on the relative costs compared with urea. However, Ostchem reported that demand for HDAN in Ukraine has increased since 2007 due to a strong increase in its application by Ukrainian farmers to increase crop yields. According to data provided by respondents, HDAN consumption in the Ukraine has increased by 24 percent since 2007.[21]

The majority of responding U.S. firms anticipates that foreign demand for HDAN will remain constant. Ostchem expects that demand for HDAN in Ukraine will continue to grow due to continued growth of fertilizer application by Ukrainian famers.

## SUBSTITUTABILITY ISSUES

The degree of substitution between domestically produced and imported HDAN depends upon such factors as relative prices, quality (e.g., prill size, density, coating, etc.), availability/reliability of supply, U.S. transportation costs, and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.). Based on available data, staff believes that there is at least a moderate degree of substitution between domestic HDAN and HDAN imported from Ukraine and other import sources.

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[18] "Ammonium Nitrate Security Program," U.S. Department of Homeland Security, http://www.dhs.gov/ammonium-nitrate-security-program, accessed on February 25, 2013.

[19] "Chemical Facility Anti-Terrorism Standards (CFATS) and Ammonium Nitrate Security Regulation Update," U.S. Department of Homeland Security, July 31, 2012.

[20] *** questionnaire response, section IV-20.

[21] Respondents' posthearing brief, exhibit 1, table 1.

## Factors Affecting Purchasing Decisions

Purchasers were asked a variety of questions to determine what factors influence their decisions when buying HDAN. Information obtained from their responses indicates that quality, availability, and price are relatively important factors.

### Knowledge of Country Sources

All 8 purchasers indicated they had marketing/pricing knowledge of domestically produced HDAN, 1 of HDAN from Ukraine, and 4 of HDAN from nonsubject countries which included: Georgia (4 firms); Bulgaria (3); Romania (3); Russia (3); Egypt (1); Latvia (1); Lithuania (1); and the Netherlands (1). As shown in table II-6, most purchasers (and their customers) "never" make purchasing decisions based on the producer or country of origin.

**Table II-6**
**HDAN: Purchaser responses to questions regarding the origin of their purchases**

| Purchaser/customer decision | Always | Usually | Sometimes | Never |
|---|---|---|---|---|
| Purchaser makes decision based on producer | 0 | 3 | 1 | 4 |
| Purchaser's customer makes decision based on producer | 0 | 1 | 2 | 5 |
| Purchaser makes decision based on country | 0 | 2 | 0 | 6 |
| Purchaser's customer makes decision based on country | 0 | 0 | 1 | 7 |

Source: Compiled from data submitted in response to Commission questionnaires.

### Major Factors in Purchasing

Available information indicates that purchasers consider a variety of factors when purchasing HDAN. While quality and price were most frequently cited as being important factors in their purchase decisions, other factors such as availability are also important considerations (table II-7).

**Table II-7**
**HDAN: Ranking factors used in purchasing decisions, as reported by U.S. purchasers**

| | Number of firms reporting | | | |
|---|---|---|---|---|
| Factor | First | Second | Third | Total |
| Quality | 4 | 4 | 0 | 8 |
| Price | 3 | 4 | 1 | 8 |
| Availability | 1 | 0 | 3 | 4 |
| Terms | 0 | 0 | 2 | 2 |
| Other[1] | 0 | 0 | 2 | 2 |

[1] Other factors include "supplier reputation" and "traditional supplier."

Source: Compiled from data submitted in response to Commission questionnaires.

Purchasers were split when asked how often they purchase HDAN offered at the lowest price, with five of eight purchasers reporting "sometimes," two reporting "usually," and one reporting "always." Five purchasers also reported that they purchase higher-priced HDAN from one source although a comparable product was available at a lower price from another source. Two purchasers (***) identified a strong supplier relationship as reasons for choosing higher-priced HDAN. *** reported that it has a strong preference for rail deliveries over barge deliveries during certain times of the year and has purchased higher-priced rail delivered product at times to avoid barge congestion at its dock. Other factors reported by purchasers were reliability of supply, quality, and availability.

One of 7 purchasers reported that certain grades/types of HDAN were available from only one source (either domestic or foreign). *** reported "all product being manufactured in the United States and imported are prilled with the exception of the granular product that is imported from Yara North America's production."

**Importance of Specified Purchase Factors**

Purchasers were asked to rate the importance of 15 factors when making their purchasing decisions (table II-8). The factors listed as "very important" by more than three-quarters of the responding 8 firms were availability; delivery terms; delivery time; price; product consistency; quality meets industry standards; and reliability of supply.

**Table II-8**
**HDAN: Importance of purchase factors, reported by U.S. purchasers**

| Factor | Very important | Somewhat important | Not important |
|---|---|---|---|
| | *Number of firms responding* | | |
| Availability | 8 | 0 | 0 |
| Delivery terms | 6 | 1 | 1 |
| Delivery time | 7 | 1 | 0 |
| Discounts offered | 3 | 2 | 3 |
| Extension of credit | 2 | 2 | 4 |
| Minimum quantity requirements | 3 | 3 | 2 |
| Packaging | 2 | 2 | 4 |
| Price | 8 | 0 | 0 |
| Product consistency | 8 | 0 | 0 |
| Quality meets industry standards | 8 | 0 | 0 |
| Quality exceeds industry standards | 2 | 2 | 3 |
| Product range | 2 | 0 | 5 |
| Reliability of supply | 8 | 0 | 0 |
| Technical support/service | 1 | 3 | 4 |
| U.S. transportation costs | 4 | 3 | 1 |

Source: Compiled from data submitted in response to Commission questionnaires.

***Factors determining quality***

U.S. purchasers identified various principal factors they considered in determining the quality of HDAN. Reported factors included uniform granulometry, free flowing, nitrogen content, bulk density, absence of foreign material and dust, and moisture content.

***Supplier certification***

Three of 8 purchasers, ***, reported that they require suppliers of HDAN to become certified or pre-qualified for all of their purchases. However, these three purchasers did not describe the process for which suppliers become certified or pre-qualified. One responding purchaser reported that qualification times averaged approximately 15 days. When asked if any domestic or foreign suppliers had failed to obtain certification, all six responding purchasers reported "no."

***Lead times***

Approximately *** percent of sales of U.S.-produced HDAN in 2012 came from inventories, with lead times ranging from 1 to 40 days. The remaining *** percent of sales were produced to order, with lead times ranging from 7 to 90 days. One importer reported that *** percent of its sales came from its foreign manufacturer's inventory with an average lead time of 60 days and the remaining *** percent of its sales came from inventories held in the United states with lead times averaging 15 days.

***Changes in purchasing patterns***

Since January 2007, purchasers of HDAN have changed their purchasing patterns in similar ways with respect to the country of origin of the HDAN (table II-9). Purchasers of domestic HDAN and HDAN from nonsubject countries indicated that their purchases generally fluctuated. Reasons reported for fluctuations in purchases included seasonal demand, application levels, and use of other products.[22] All seven of the responding purchasers reported that they had not purchased HDAN from subject sources.

**Table II-9**
**HDAN: Changes in purchase patterns from U.S., subject countries, and nonsubject countries**

| Source | Decreased | Increased | Constant | Fluctuated | Did not purchase |
|---|---|---|---|---|---|
| United States | 1 | 2 | 2 | 3 | 0 |
| Ukraine | 0 | 0 | 0 | 0 | 7 |
| Nonsubject | 1 | 0 | 2 | 4 | 0 |
| Source: Compiled from data submitted in response to Commission questionnaires. | | | | | |

Four of eight purchasers reported that they had changed suppliers since 2007. *** reported adding a domestic supplier, CF Industries. *** reported adding *** as a new supplier.

Of the 6 responding purchasers, 3 purchased HDAN monthly, 3 purchased quarterly,[23] and 2 purchased on an as-needed basis. When asked if purchasers expected their purchasing pattern to change in the next two years, all 8 purchasers responded "no."

Half of the purchasers (4 of 8) reported contacting between 3 and 5 suppliers before making a purchase. The remainder reported contacting between 2 and 3 suppliers. Five of 8 purchasers reported negotiating with the supplier when purchasing HDAN. Three purchasers reported that negotiations are based on price, availability, and quality of product. One purchaser reported that it negotiated railcar deliveries with its domestic supplier CF Industries and barge deliveries with its importers. Another purchaser reported that it compares price quotes for product that is off loaded from barges versus direct shipment. The majority of purchasers (5 of 8) reported that they do not vary their purchases from a given supplier within a specified time period based on the price offered for that period. However, three purchasers reported varying the quantity they purchases from a given supplier due to price. One purchaser noted that CF Industries is usually more price competitive in the off season and during the

[22] *** stated that "The spring of 2007 was an exceptionally strong season for HDAN for the *** plant. ***.
[23] *** reported that depending on the time of year, it purchases either monthly or quarterly.

high-volume season between February through April, CF Industries obtains a price premium for its product.

***Importance of purchasing domestic product***

The majority of purchasers (6 of 8) reported that buying U.S. product was not an important factor in their firms' purchases. One purchaser reported that buying domestic product was preferred because quality is more consistent. Another purchaser reported that buying domestic product was preferred because of the long-term relationships it has established with its domestic vendors.

**Comparisons of Domestic Product, Subject Imports and Nonsubject Imports**

Purchasers were asked to compare HDAN produced in the United States, Ukraine, and nonsubject countries in 15 purchasing factors (table II-10).

**Table II-10**
**HDAN: Comparisons of product by source country, as reported by U.S. purchasers**

| Factor | U.S. vs. Ukraine | | | U.S. vs. Nonsubject | | | Ukraine vs. Nonsubject | | |
|---|---|---|---|---|---|---|---|---|---|
| | S | C | I | S | C | I | S | C | I |
| Availability | 6 | 1 | 0 | 4 | 3 | 1 | 0 | 4 | 3 |
| Delivery terms | 5 | 2 | 0 | 3 | 4 | 1 | 0 | 4 | 3 |
| Delivery time | 5 | 2 | 0 | 4 | 3 | 1 | 0 | 4 | 3 |
| Discounts offered | 2 | 2 | 1 | 1 | 3 | 2 | 0 | 4 | 1 |
| Extension of credit | 2 | 3 | 0 | 1 | 5 | 0 | 0 | 4 | 1 |
| Minimum quantity requirements | 3 | 3 | 0 | 1 | 5 | 1 | 0 | 5 | 1 |
| Packaging | 2 | 3 | 0 | 1 | 5 | 0 | 0 | 4 | 1 |
| Price[1] | 3 | 2 | 2 | 1 | 4 | 3 | 1 | 4 | 1 |
| Product consistency | 5 | 2 | 0 | 3 | 4 | 0 | 0 | 4 | 2 |
| Quality meets industry standards | 5 | 2 | 0 | 3 | 4 | 0 | 0 | 4 | 2 |
| Quality exceeds industry standards | 3 | 2 | 0 | 2 | 3 | 0 | 0 | 4 | 1 |
| Product range | 3 | 2 | 1 | 2 | 4 | 0 | 0 | 4 | 1 |
| Reliability of supply | 4 | 2 | 0 | 4 | 3 | 0 | 0 | 4 | 2 |
| Technical support/service | 5 | 1 | 0 | 5 | 2 | 0 | 0 | 4 | 2 |
| U.S. transportation costs[1] | 3 | 2 | 1 | 3 | 3 | 1 | 0 | 5 | 1 |

[1] A rating of superior means that price/U.S. transportation cost is generally lower. For example, if a firm reported "U.S. superior", it meant that the price of the U.S. product was generally lower than the price of the imported product.

Note.--S=first listed country's product is superior; C=both countries' products are comparable; I=first listed country's product is inferior.

Source: Compiled from data submitted in response to Commission questionnaires.

When comparing U.S. product to subject products, most responding purchasers reported that U.S. product was superior to product from Ukraine in terms of availability, delivery terms, delivery times, product consistency, quality meets industry standards, quality exceeds industry standards, reliability of supply, and technical support, and a plurality ranked U.S. superior in price, product range, and U.S. transportation costs. The majority of U.S. purchasers reported that U.S. product was comparable to product from Ukraine for all other characteristics.

When comparing U.S. product to HDAN produced in nonsubject countries, a majority of purchasers reported that the U.S. product was superior in terms of reliability of supply, and technical support, and a plurality ranked U.S. superior in availability and delivery time. Most U.S. purchasers

reported that the U.S product was comparable to HDAN produced in nonsubject countries for all other characteristics. The exception to this was price, wherein one purchaser reported that the U.S. product was superior, four reported the products were comparable, and three reported U.S. product was inferior (i.e., the U.S. price is generally higher). The majority of purchasers reported that subject products were comparable to HDAN produced in nonsubject countries.

To determine whether U.S.-produced HDAN can generally be used in the same applications as HDAN from both subject and nonsubject countries, U.S. producers, importers, and purchasers were asked whether HDAN can "always," "frequently," "sometimes," or "never" be used interchangeably. In general, producers, importers, and purchasers identified a high frequency of interchangeability between most country comparisons. Both U.S. producers reported that domestic and imported product from Ukraine are *** interchangeable. The majority of importers and purchasers reported that domestic and imported HDAN from Ukraine are "always" or "frequently" interchangeable (table II-11). *** stated that domestic HDAN and imported HDAN are interchangeable and that in most cases, customers are not aware of the origin of the product. Importers and purchasers reported supplier reliability, quality, and availability as factors that limit or preclude interchangeability. The majority of U.S. producers, importers, and purchasers reported that domestic and imported product from nonsubject countries are "always" or "frequently" interchangeable. In addition, the majority of firms also reported a high frequency of interchangeability between subject and nonsubject country comparisons.

**Table II-11**
**HDAN: Perceived interchangeability of products produced in the United States and in other countries, by country pairs**

| Country pair | U.S. producers | | | | U.S. importers | | | | U.S. purchasers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | F | S | N | A | F | S | N | A | F | S | N |
| **U.S. vs. subject countries** | | | | | | | | | | | | |
| U.S. vs. Ukraine | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **U.S. vs. nonsubject countries** | | | | | | | | | | | | |
| U.S. vs. nonsubject | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **Subject country comparisons** | | | | | | | | | | | | |
| Ukraine vs. nonsubject | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |

Note.--A = Always, F = Frequently, S = Sometimes, N = Never.

Source: Compiled from data submitted in response to Commission questionnaires.

Six responding purchasers reported that domestically produced HDAN "always" meets minimum quality specifications (table II-12). Half of firms with market knowledge indicated the same for product from Ukraine.

**Table II-12**
**HDAN: Ability to meet minimum quality specifications, by source**

| Country | Number of firms reporting | | | | |
|---|---|---|---|---|---|
| | Always | Usually | Sometimes | Rarely or never | Don't know |
| United States | 6 | 1 | 0 | 0 | 0 |
| Ukraine | 2 | 1 | 1 | 0 | 3 |
| Georgia | 1 | 2 | 0 | 0 | 0 |
| Other countries[1] | 2 | 1 | 0 | 0 | 0 |

[1] Other countries reported include Bulgaria, the Netherlands, and Russia.

Source: Compiled from responses to Commission questionnaires.

In addition, producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of HDAN from the United States, subject, or nonsubject countries (table II-13). Both U.S. producers reported that differences other than price were *** important for all country combinations. Two responding importers reported that differences other than price were *** important for all country combinations. The majority of purchasers reported that differences other than price between U.S.-produced, Ukrainian imports, and imports from nonsubject sources are "frequently" a significant factor. Two purchasers reported that quality of the product and availability are significant factors.

**Table II-13**
**HDAN: Perceived significance of differences other than price between products produced in the United States and in other countries, by country pairs**

| Country pair | U.S. producers | | | | U.S. importers | | | | U.S. purchasers | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | F | S | N | A | F | S | N | A | F | S | N |
| **U.S. vs. subject countries** | | | | | | | | | | | | |
| U.S. vs. Ukraine | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **U.S. vs. nonsubject countries** | | | | | | | | | | | | |
| U.S. vs. nonsubject | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **Subject country comparisons** | | | | | | | | | | | | |
| Ukraine vs. nonsubject | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |

Note.--A = Always, F = Frequently, S = Sometimes, N = Never.

Source: Compiled from data submitted in response to Commission questionnaires.

## ELASTICITY ESTIMATES

This section discusses suggested elasticity estimates based on the conditions of competition.

### U.S. Supply Elasticity

The domestic supply elasticity for HDAN measures the sensitivity of the quantity supplied by the U.S. producers to changes in the U.S. market price for HDAN. The elasticity of domestic supply depends on several factors, including the level of excess capacity, the existence of inventories, and the availability of alternate markets for U.S.-produced HDAN. Based on available information, the domestic elasticity of supply for HDAN is estimated to be in the range of 2 to 4.

### U.S. Demand Elasticity

The U.S. demand elasticity for HDAN measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of HDAN. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products, as well as the component share of HDAN in the final cost of end-use products in which it is used. Based on available information, the demand elasticity for HDAN is estimated to be in the range of -0.8 to -1.6.

### Substitution Elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported HDAN. Product differentiation, in turn, depends upon such factors as quality and condition of sale (availability, delivery, etc.). Based on available information indicating that the domestic and imported products can frequently be used interchangeably, the elasticity of substitution between U.S.-produced HDAN and imported HDAN from Ukraine is likely to be in the range of 3 to 5.

# PART III: CONDITION OF THE U.S. INDUSTRY

## OVERVIEW

Information in this part of the report is based on the questionnaire responses of two firms that are believed to account for 100.0 percent of HDAN production in the United States. The responding HDAN producers represented in this section are: El Dorado and CF Industries.

**Table III-1**
**HDAN: Survey of industry events since January 1, 2007**

* * * * * * *

## U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

During the original investigation, there were 10 major U.S. producers of HDAN; eight firms that accounted for approximately *** percent of U.S. production in 2000 responded to the Commission questionnaires. By the first five-year sunset review, the industry had restructured, and in 2006 there were *** firms producing HDAN, ***.[1] Terra Industries was purchased by CF Industries in April 2010.

In their questionnaire responses, both producers reported ***.[2] ***.

Constraints on production capacity were described as ***.

U.S. producers' reported capacity, production, and capacity utilization data for HDAN are presented in table III-2. Capacity *** throughout the period of review. Production fluctuated during the period of review, but reached its lowest point in ***, which is due, in part, to the explosion at the El Dorado plant in May 2012, and to the ***.

**Table III-2**
**HDAN: U.S. producers' production, capacity, and capacity utilization, 2007-12**

* * * * * * *

U.S. producers' capacity, production, and capacity utilization data for LDAN are presented in table III-3.

**Table III-3**
**LDAN: U.S. producers' production, capacity, and capacity utilization, 2007-12**

* * * * * * *

[1] Agrium discontinued HDAN production mid-year 2005, Air Products permanently shut down its HDAN production facility at the end of 2005, and the former Coastal Chem, Inc. facility was acquired by Dyno Nobel ASA in 2003, and now produces LDAN.

[2] ***.

## Changes in Character of Operations

Government regulation of ammonium nitrate products has intensified in the current period of review. The Department of Homeland Security ("DHS") has implemented a set of rules regulating high-risk chemical facilities, including those handling HDAN, and is expected to finalize another set of rules regulating the sale or transfer of ammonium nitrate later this year.

As noted earlier, the Chemical Facility Anti-Terrorism Standards ("CFATS"), adopted in 2007, requires facilities handling high risk chemicals, including HDAN, to submit certain information to DHS. If DHS determines the facility is a high-risk facility, the entity must meet heightened security requirements. Also in 2007, DHS was granted the authority by Congress to regulate the secure handling of ammonium nitrate. This authority, once implemented, will require individuals wishing to purchase, sell, or transfer HDAN to apply for a registration number with DHS, including mandatory screening with a background check. HDAN sellers will have to verify the identity of all buyers and maintain a record of each sale, including maintaining the record for two years. DHS has conducted a public rulemaking on the implementing regulations, and has announced its intention to finalize this "Ammonium Nitrate Security Program" in December 2013. *** states "the existing and upcoming security regulations, along with the potential liability of selling HDAN, have led many retail locations to stop carrying HDAN and switch to other nitrogen fertilizers. The result has been a rapid decline in HDAN sales in the U.S…"[3]

## U.S. PRODUCERS' SHIPMENTS

Table III-4 presents U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. shipments followed a similar trend to U.S. production. U.S. shipments of HDAN dropped *** percent from 2007 to 2008, then increased by *** percent from 2008 to 2010, then decreased by *** percent from 2010 to 2012. By contrast, export shipments followed opposite trends, mostly decreasing when U.S. shipments increased, and increasing when U.S. shipments decreased. Unit values of U.S. shipments fluctuated throughout the period of review but were *** percent higher in 2012 than in 2007.

**Table III-4**
**HDAN: U.S. producers' U.S. shipments, export shipments, and total shipments, by types, 2007-12**

* * * * * * *

## U.S. PRODUCERS' INVENTORIES

Data on U.S. producers' end-of-period inventories are presented in table III-5. U.S. producers' inventories of HDAN increased irregularly, peaking at *** short tons in 2009.

**Table III-5**
**HDAN: U.S. producers' end-of-period inventories, 2007-12**

* * * * * * *

[3] *** and "http://www.dhs.gov/ammonium-nitrate-security-statutes-and-regulations," retrieved February 20, 2013.

## U.S. PRODUCERS' IMPORTS AND PURCHASES

Data on U.S. producers' purchases of HDAN are presented in table III-6. ***.

**Table III-6**
**HDAN: U.S. producers' purchases, U.S. production, and ratio of purchases to U.S. production, by firm, 2007-12**

* * * * * * *

## U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-7 shows U.S. producers' employment-related data during the period examined. The number of production and related workers fluctuated throughout the period of review, but were *** percent higher in 2012 than in 2007. Total hours worked also fluctuated during the period of review, but were *** percent higher in 2012 than in 2007. Productivity decreased irregularly from 2007 to 2012, and was *** percent lower in 2012 than in 2007.

**Table III-7**
**HDAN: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2007-12**

* * * * * * *

## FINANCIAL EXPERIENCE OF U.S. PRODUCERS

### Background

Two firms[4], El Dorado and CF Industries, provided usable financial data on their operations on HDAN, which accounted for all known U.S. production of HDAN in 2012. As a result of structural changes in the industry producing HDAN that were detailed in the previous reviews, El Dorado (at El Dorado, AR)[5] and CF Industries (at Yazoo City, MS)[6] became the only U.S. firms producing HDAN during 2007-12.

Factors that affect the supply of and demand for ammonium nitrate include the availability, cost, and price volatility of natural gas and ammonia (which are feedstocks to HDAN production), competition with other forms of nitrogen for industrial and agricultural use, and security and liability concerns. According to CF Industries, "during the early 2000s, North America experienced an unprecedented period of high natural gas prices. As a result, many manufacturers who used natural gas as a feedstock or energy source were unable to compete with their counterparts in areas with more favorable cost structures. No industry was harder hit than the fertilizer industry, which saw nearly half of its North American ammonia production capacity closed. Since then, the development of North American shale gas reserves has dramatically increased the domestic supply of natural gas."[7] During the current review, prices of natural gas have tended downward, particularly since 2008 (discussed later). "The increase in supply has translated to more favorable natural gas prices and a sustainable advantage for North American nitrogen

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[4] Both firms have a ***. Differences between the financial data and the trade data in this report are due to rounding.

[5] Structural changes were described in the previous review as well as the review on Russia. See, *Ammonium Nitrate from Russia*, Investigation No. 731-TA-856 (Review), USITC Publication 3844 (March 2006). For example, Agrium, Air Products, and Potash Corp. ceased producing HDAN before 2006, leaving only El Dorado and Terra (which purchased MCC in 2004) as the only U.S. producers. El Dorado purchased nitrogen plants at Crystal City, MO, and Cherokee, AL, from LaRoche on November 1, 2000, but suspended HDAN production at its plant in Cherokee, AL *** in order to ***. El Dorado also decided not ***. MCC, which filed for bankruptcy protection in May 2003, was purchased by Terra (which produced nitrogen fertilizers other than ammonium nitrate) in December 2004. Terra started producing industrial grade ammonium nitrate in 2005 after installing a production line for that product at its plant in Yazoo City, MS. Terra was purchased by CF Industries on April 15, 2010.

[6] ***. CF Industries owns and operates the plant at Yazoo City, MS, which was formerly owned and operated by Terra. CF Industries Holdings, which is the holding company for the operations of CF Industries, Inc., acquired Terra in April 2010. Terra Nitrogen Company, L.P. (TNCLP) is an operating partnership, which is an indirect, wholly-owned subsidiary of CF Industries Holdings, Inc. Terra is a Delaware limited partnership that produces nitrogen fertilizer products, principally, anhydrous ammonia (ammonia) and urea ammonium nitrate solutions (UAN), which it manufactures at a facility in Verdigris, OK. CF Industries 2011 Form 10-K and TNPLP 2011 Form 10-K, p. 1.

[7] CF Industries, 2011 Annual Report, p. 23. There were relatively few new nitrogen facilities brought into production in 2002-04 following the cyclical downturn in nitrogen prices that began in 1997. In addition, there was a shift to sustained higher North American natural gas prices during this period, accompanied by substantially higher gas price volatility. This forced the permanent closure of a number of U.S. nitrogen {production} facilities." Citation to Agrium, *Ammonium Nitrate from Russia*, Investigation No. 731-TA-856 (Review), USITC Publication 3844 (March 2006), p. III-7. Also, a spokesman for Terra (now CF Indusrtries) estimated that approximately 30 percent of North American ammonia production capacity was shut down during 2000-05 because of volatile and rising natural gas costs. This was reflected in market exit of three of the five reporting firms as of 2005, leaving El Dorado and CF Industries (Terra) as the remaining two U.S. producers as of 2006.

producers through a fundamental shift in cost structure."[8] Both U.S. producers stated that switching between HDAN and other nitrogen fertilizers, like solid urea, anhydrous ammonia, or UAN solution, is limited because HDAN is unique for certain regions and crops.[9] Finally, security and liability concerns also affect the market for HDAN because of its classification as a hazardous material (it is an oxidizing agent and has the potential to be used as an explosive). These include increased U.S. Coast Guard and State safety requirements, rising insurance costs, and the associated liability related to security concerns on transportation, storage, and sale, and were cited in the prior reviews by certain producers[10] as reasons why they discontinued producing and marketing HDAN. In this review, *** noted that from 2007 to 2010, HDAN consumption continued to decline, in part because of additional security measures that were published in April 2007 (the Chemical Facility Anti-Terrorism Standard ("CFATS")[11] and the Department of Homeland Security (DHS) was granted authority to regulate the secure handling of ammonium nitrate.[12] The regulations reportedly have led to dealers choosing not to handle HDAN and switch to other nitrogen fertilizers.

## Operations on HDAN

Results of U.S. firms' operations on HDAN are briefly summarized here. Total net sales quantities decreased irregularly between 2007 and 2010 and fell *** between 2010 and 2012. Total net sales values likewise decreased irregularly between 2007 and 2010 and then increased irregularly from 2010 to 2012, attributable primarily to increased average unit sales values. The ratio of COGS to sales ***. The two firms together recorded *** for each of the years during 2007-12.[13] Net income before taxes followed changes in ***. These data for the industry are shown in table III-8, while table III-9 provides operating data on a firm-by-firm basis.

**Table III-8**
**HDAN: Results of operations of U.S. firms, fiscal years 2007-12**

* * * * * * *

**Table III-9**
**HDAN: Results of operations of U.S. firms, by firm, fiscal years 2007-12**

* * * * * * *

[8] CF Industries, 2011 Annual Report, p. 23.

[9] According to CF Industries, HDAN consumption appears to be concentrated in the 14 states of the Southeastern and South Central U.S. due to local weather and soil conditions, climate, and application and tillage practices by retailers and growers. Likewise, El Dorado states that sales of HDAN are concentrated in the Central and Southeastern U.S. in relatively close proximity to its El Dorado, AR facility.

[10] Reportedly, Agrium's decision was made as an ongoing process to optimize returns on its business and to reduce potential exposure related to security concerns. *Ammonium Nitrate from Russia*, Investigation No. 731-TA-856 (Review), USITC Publication 3844 (March 2006), p. III-7.

[11] ***. Reportedly, if the DHS determines a facility that handles high-risk chemicals (including HDAN) is a high-risk facility, the facility must meet heightened security requirements.

[12] These measures include the registration of all buyers and sellers, security screening, verification of identity, and records maintenance. These regulations are said to take effect in December 2013.

[13] The data ***.

Raw material costs are a factor in industry profitability. Both El Dorado and CF Industries produced HDAN based on ammonia that they produced or purchased.[14] While CF Industries purchases natural gas as its principal raw material (and then uses the natural gas to produce ammonia), El Dorado purchases ammonia.[15] In the natural gas process route, nitrogen is taken from the air and reacted with natural gas reformed with steam, to produce ammonia, and ammonia is processed with nitric acid to produce HDAN. Although anhydrous ammonia is produced from natural gas, the price does not necessarily follow the spot price of natural gas in the United States because anhydrous ammonia is an internationally traded commodity, and, since 2009, the prices of ammonia and natural gas have diverged. CF Industries purchases natural gas, which is transported by pipeline. El Dorado purchases anhydrous ammonia, which is transported from the Gulf of Mexico by pipeline. Annual prices of ammonia and natural gas are shown in the tabulation below:

**HDAN: Annual high and low published prices of ammonia and natural gas, by years, 2006-12**

| | Ammonia[1] | | Natural gas[2] | |
|---|---|---|---|---|
| Annual period | High | Low | High | Low |
| 2006 | $395 | $270 | $9.90 | $3.54 |
| 2007 | 460 | 295 | 10.59 | 5.30 |
| 2008 | 931 | 125 | 13.16 | 5.36 |
| 2009 | 355 | 125 | 6.10 | 1.85 |
| 2010 | 470 | 300 | 7.51 | 3.18 |
| 2011 | 705 | 475 | 4.92 | 2.80 |
| 2012 | 720 | 360 | 3.77 | 1.83 |

[1] Ammonia prices are based on the Tampa price per metric tonne as published by Fertecon and FMB ammonia reports.

[2] Natural gas prices are based on the daily spot price at the Henry Hub pipeline pricing point and are per MMBtu. Prices for 2006-08 are based on the daily spot prices at the Tennessee 500 pipeline pricing point.

Source: Annual reports on Form 10-K of LSB Industries (parent firm of El Dorado).

U.S. producers were requested to provide the cost of natural gas and purchased ammonia as well as their energy costs in their cost of producing HDAN. In its questionnaire response, CF Industries provided data on the cost of natural gas used in its production of HDAN; this cost ranged from ***

[14] CF Industries relies primarily on purchased natural gas to produce ammonia and then HDAN at its plant in Yazoo City, MS. ***. El Dorado produces HDAN at its plant at El Dorado, AR, from purchased ammonia.

[15] El Dorado purchases approximately 200,000 tons of anhydrous ammonia per year, primarily from one supplier. As reported in the firm's annual report, the cost is based on formulas indexed to published industry prices, primarily tied to import prices. El Dorado also purchases natural gas for its Cherokee facility ("Cherokee Nitrogen Co.", which produces ammonia, urea, nitric acid, and UAN) and for its Pryor, OK facility ("Pryor Chemical Co.", which produces ammonia, urea, nitric acid, and UAN). Its Baytown, TX facility ("El Dorado Nitric Co.") consumes anhydrous ammonia and the production of this facility are sold to a customer pursuant to an agreement that provides for a pass-through of anhydrous ammonia costs. As El Dorado stated in its annual report, "We produce agricultural grade AN from purchased ammonia, which cost is significantly higher compared to previous years, resulting in a cost disadvantage compared to nitrogen fertilizers directly produced from natural gas." LSB 2011 Form 10-K, p. 5 and LXU-Third Quarter 2012 Presentation, p. 16.

percent[16] of total raw material costs to produce HDAN in 2009 to *** percent in 2010, 2011, and 2012. El Dorado's ammonia costs represented between *** and *** percent of its total raw material costs to produce HDAN. CF Industries ***; El Dorado ***. Both firms reported energy costs, which are chiefly composed of electricity, steam, and natural gas used as a process gas. These costs are usually classified as part of other factory costs, and as a share of that category, they generally fell during the periods for which data were reviewed.[17]

Natural gas prices (and costs) have been volatile since 2001, and generally increased from 2003 through 2005 but fell from 2008 to 2012. There are several ways of hedging price risk on natural gas including derivatives. Prior to CF Industries's acquisition of Terra in April 2010, that firm ***.[18] Reportedly ***.[19] [20] El Dorado, which utilizes purchased ammonia as its raw material, stated that ***.[21]

U.S. producers commented on the effects of changes in raw material costs on pricing of HDAN. Both stated that HDAN prices are not tied to raw material costs but vary based on the supply and demand for HDAN.[22]

***.[23]

[16] The Yazoo City, MS plant primarily uses ***.

[17] Energy costs as a percentage of other factory costs generally declined during the period investigated. For CF Industries this ratio ***. For El Dorado this ratio ***.

[18] E-mail to Commission staff from counsel to domestic interested parties to staff, March 26, 2013. EDIS document 504904.

[19] CF industries stated that all natural gas ***. Questionnaire response of ***. This practice ***. *See* also e-mail to Commission staff from counsel to domestic interested parties, March 26, 2013. EDIS document 504904.

[20] According to the firm's annual reports, natural gas purchases accounted for 45 percent CF Industries' total cost of sales of its nitrogen fertilizers in 2011 and a "higher percentage of cash production costs." The firm reported that its cost of natural gas (per MMBtu) was $4.84 in 2009, $4.47 in 2010, and $4.28 in 2011, a cost that included both the cost of natural gas purchases and realized gains and losses on natural gas derivatives. CF Industries' 2011 Form 10-K, pp. 43 and 54. The cost of sales in both 2011 and 2010 was approximately $188 per ton for all nitrogen products. CF Industries' lower unit selling prices for nitrogen products in 2010 compared to 2009 were partially offset by lower unrealized mark-to-market gains on natural gas derivatives. The difference resulted in approximately $9 per ton (5 percent) between the two years ($189 was the average unit cost of sales in 2010 versus $180 per ton in 2009). CF Industries' 2011 Form 10-K, pp. 49, 51-52. The firm reported the use of physical gas supply contracts and derivative financial instruments; the latter uses swaps that reference primarily NYMEX futures contracts prices to hedge, and it hedges approximately 66 percent of its natural gas consumption. Derivatives are recognized on the firm's consolidated balance sheet at fair value and changes in fair value are recognized in earnings immediately in cost of sales. Contract physical prices are frequently based on prices at the Henry Hub in Louisiana. The contracts are traded in months forward and settlement dates are scheduled to coincide with gas purchases during that future period but are not perfect hedges because of location differences. CF Industries' 2011 Form 10-K, pp. 72, 85, and 123. As calculated from ***.

[21] Questionnaire response of ***. El Dorado ***.

[22] U.S. producers' questionnaire responses of ***.

[23] ***. El Dorado reportedly filed an insurance claim for property damage and business interruption relating to damage to its nitric acid reactor in 2012. This claim has been classified as a gain contingency. LSB 2011 Form 10-K, p. 36. Gain contingencies are not recognized in a firm's financial statements. Also, see e-mail to Commission staff from counsel to El Dorado, February 26, 2013 (EDIS document 504903).

## Variance Analysis

The variance analysis showing the effects of prices and volume on U.S. producers' net sales of HDAN, and of costs and volume on their total expenses, is presented in table III-10.[24] The information for this variance analysis is derived from table III-8. The variance analysis provides an assessment of changes in profitability as related to changes in pricing, cost, and volume. A summary variance analysis is presented for *** at the end of table III-10. The variance analysis for the two firms together indicates that the increase in operating income between 2007 and 2012 was mainly due to the increase in average unit vales of total net sales (a favorable price variance) that outweighed the increase in net cost/expenses (higher unit costs and expenses). This was generally true between all years except 2008 and 2009, when sales prices and volume fell and between 2009 and 2010 when unit costs/expenses increased more than did sales unit prices. A comparison of variance analyses for El Dorado and CF Industries separately ***.

**Table III-10**
**HDAN: Variance analysis on U.S. firms' operations, fiscal years 2007-12**

* * * * * * *

## Assets and Return on Investment

The Commission's questionnaire requested data on assets used in the production, warehousing, and sale of HDAN to compute return on investment ("ROI") for 2007 to 2012 (table III-11). The data for total net sales and operating income are from table III-8. Total operating income was divided by total assets, resulting in ROI.

**Table III-11**
**HDAN: Value of assets used in production, warehousing, and sales, and return on investment, fiscal years 2007-12**

* * * * * * *

ROI generally followed changes in operating income (discussed earlier in connection with table III-8), i.e., was ***. ROI also was influenced by changes in the industry's total value of assets.

## Capital Expenditures and Research and Development Expenses

U.S. producers' data on their capital expenditures and research and development ("R&D") expenses for their operations on HDAN are shown in table III-12.

[24] The Commission's variance analysis is calculated in three parts: Sales variance, cost of sales variance (COGS variance), and SG&A expense variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense (cost/expense) variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances. The overall volume component of the variance analysis is generally small.

**Table III-12**
**HDAN: U.S. firms' capital expenditures and research and development expenses, fiscal years 2007-12**

* * * * * * *

El Dorado stated that capital expenditures have been ***. As reported elsewhere, El Dorado is considering investment in producing HDAN through the natural gas-ammonia process; this would mitigate the firm's purchases of ammonia.[25] CF Industries' capital expenditures relate, in part, to certain projects to comply with environmental, health, and safety regulations, and to reduce emissions.

[25] "Our El Dorado Facility produces nitric acids in various concentrations and agricultural and industrial grade AN from purchased ammonia, which is currently at a cost disadvantage compared to products directly produced from natural gas. We believe this cost disadvantage will continue to be significant for the medium and long-term. Therefore we are considering the addition of an anhydrous ammonia production plant at the El Dorado Facility, which if constructed is estimated to cost in the range of $250 million-$300 million and would require an estimated 24-36 months to complete. A definite decision has not been made and the amounts are not included in the above capital expenditures table. If the decision was made to proceed with the construction of a plant, we would expect to fund this project with long-term debt." LSB, Quarterly report, Form 10-Q for the period ended September 30, 2012, p. 39. In that same quarterly report, LSB purchased a working interest in certain natural gas properties in October 2012.

# PART IV: U.S. IMPORTS AND THE FOREIGN INDUSTRY

## U.S. IMPORTS

### Overview

The Commission issued questionnaires to 12 firms believed to have imported HDAN between 2007 and 2012. Five firms provided data and information in response to the questionnaires, while four firms indicated that they had not imported HDAN during the period for which data were collected.[1] Import data in this report are based on the responses of the responding five firms.

### Imports from Subject and Nonsubject Countries

Table IV-1 presents data for U.S. imports of HDAN. There were no imports of HDAN from Ukraine during the period of review. The majority of imports from nonsubject countries were from the Netherlands and Georgia. Nonsubject imports decreased by *** percent from 2007 to 2009 and then increased irregularly by *** percent from 2009 to 2012.

**Table IV-1**
**HDAN: U.S. imports by source, 2007-12**

* * * * * * *

Table IV-2 presents data for U.S. imports of ammonium nitrate products other than HDAN. Imports of ammonium nitrate other than HDAN decreased by *** percent from 2007 to 2010, then increased by *** percent from 2010 to 2011, and finally decreased by *** percent from 2011 to 2012. The average unit values fluctuated between $*** and $***.

**Table IV-2**
**Ammonium nitrate other than HDAN: U.S. imports by source, 2007-12**

* * * * * * *

## U.S. IMPORTERS' IMPORTS SUBSEQUENT TO JANUARY 1, 2013

The Commission requested importers to indicate whether they had imported or arranged for the importation of HDAN from Ukraine for delivery after January 1, 2013. *** indicated that they have imported or arranged for the importation of HDAN from Ukraine for delivery after December 31, 2012.

[1] The HTS subheading 3102.30.00 covers HDAN as well as LDAN and ammonium nitrate solution (which are both nonsubject product). It is believed that the four firms that indicated that they do not import HDAN were importers of LDAN or ammonium nitrate solution. The five firms that provided data on their imports of HDAN and the four firms that indicate that they do not import HDAN (and therefore import an ammonium nitrate product other than HDAN) accounted for 86.1 percent of imports in 2012 under HTS subheading 3102.30.00.

## U.S. IMPORTERS' INVENTORIES

U.S. importers' inventories of HDAN are presented in table IV-3.

**Table IV-3**
**HDAN: U.S. importers' end-of-period inventories of imports, by source, 2007-12**

* * * * * * *

## THE INDUSTRY IN UKRAINE

### Overview

In the previous review, four firms accounting for 100 percent of total ammonium nitrate capacity in Ukraine responded to the Commission's questionnaire. As mentioned previously, all four producers were acquired by Ostchem in 2010 and 2011, which submitted a consolidated questionnaire response for this review.

### Product Operations

Table IV-4 presents data provided by the responding Ukrainian producer and exporter of HDAN. Production of HDAN in Ukraine decreased from 2007-09 by *** percent and increased from 2009-12 by *** percent. Home market shipments followed a similar trend and were between *** and *** short tons during the period of review, and accounted for between *** and *** percent of total shipments. Total exports decreased by *** percent from 2007 to 2009, and increased by *** percent from 2009 to 2012. Capacity utilization decreased by *** percentage points from 2007 to 2009 and then increased by *** percentage points from 2009 to 2012.[2]

**Table IV-4**
**HDAN: Ukrainian capacity, production, shipments, and inventories, 2007-12, projections 2013-14**

* * * * * * *

**Table IV-4--Continued**
**HDAN: Reported Ukrainian capacity, production, shipments, and inventories, 2007-12, projections 2013-14**

* * * * * * *

[2] In its response to the Commission's foreign producer questionnaire, Ostchem projects its capacity to *** in 2013 and 2014. In the domestic interested parties' prehearing brief, they submitted a press release from Group DF (the parent company of Ostchem) that Group DF is "launching a project of a new ammonia nitrate production plant construction which will enable a 900 thousand ton increase to the existing capacity." Later in the release, it states these improvements will raise production by mid-2014. The respondent interested party, in its posthearing brief, states "Stirol is looking to replace its existing 650,000 Mt HDAN plant with a more efficient plant having HDAN capacity of 900,000 Mt, thereby adding 250,000 Mt of additional capacity for manufacturing HDAN in Ukraine to satisfy the growing demand for HDAN in Ukraine's home market." It further states "there is no likelihood of additional capacity going online in Ukraine in the reasonably foreseeable future;" however, it does not indicate when the new plant will be completed.

Global Trade Information Service (GTIS) export data for Ukraine presented in table IV-5 indicate that 10 countries accounted for 84 percent of its export volume in 2012. Turkey, a significant HDAN importer and Ukraine's largest market, is strategically located directly across the Black Sea and accounted for 21 percent of Ukraine HDAN exports in 2012. India and Brazil, traditional importers of Ukrainian product, together with Malaysia, a relatively new market, accounted for approximately 41 percent, in aggregate. Ukraine is a net exporter of HDAN (table IV-6).

**Table IV-5**
**HDAN: Ukrainian exports and average unit values, 2007-12**

| Destination[1] | 2007 | 2008 | 2009 | 2010 | 2011 | 2012[1] |
|---|---|---|---|---|---|---|
| | **Quantity *(short tons*)** | | | | | |
| Turkey | 415,485 | 236,413 | 129,370 | 197,644 | 300,527 | 228,438 |
| India | 92,151 | 39,640 | 16,590 | 0 | 72,646 | 168,302 |
| Malaysia | 0 | 0 | 612 | 617 | 0 | 142,213 |
| Brazil | 22,324 | 69,705 | 17,361 | 90,179 | 102,241 | 121,661 |
| Bulgaria | 2,258 | 4,693 | 11,195 | 0 | 6,614 | 57,562 |
| Egypt | 0 | 85,041 | 41,081 | 10,631 | 22,861 | 47,694 |
| Australia | 27,212 | 30,021 | 26,642 | 37,047 | 32,247 | 41,473 |
| Poland | 0 | 0 | 0 | 0 | 0 | 35,049 |
| Indonesia | 212 | 24,034 | 10,083 | 36,678 | 42,457 | 29,243 |
| Argentina | 86,712 | 49,138 | 0 | 46,297 | 17,932 | 26,784 |
| All other | 382,217 | 330,101 | 125,210 | 172,810 | 331,378 | 168,062 |
| Total exports | 1,028,571 | 868,786 | 378,144 | 591,903 | 928,903 | 1,066,481 |
| | **Unit value (*dollars per short ton*)[2]** | | | | | |
| Turkey | $159.01 | $256.51 | $161.47 | $178.66 | $247.31 | $240.16 |
| India | 141.00 | 289.85 | 130.52 | ([3]) | 239.15 | 237.13 |
| Malaysia | ([3]) | ([3]) | 176.19 | 194.69 | ([3]) | 241.16 |
| Brazil | 166.18 | 306.26 | 129.73 | 188.64 | 238.60 | 249.50 |
| Bulgaria | 176.86 | 286.70 | 300.51 | ([3]) | 284.66 | 225.69 |
| Egypt | ([3]) | 252.75 | 128.52 | 171.64 | 246.11 | 246.46 |
| Australia | 170.29 | 283.79 | 180.14 | 200.20 | 252.11 | 250.22 |
| Poland | ([3]) | ([3]) | ([3]) | ([3]) | ([3]) | 261.05 |
| Indonesia | 248.16 | 247.08 | 163.63 | 195.57 | 251.93 | 250.01 |
| Argentina | 172.49 | 282.91 | ([3]) | 166.10 | 207.75 | 224.14 |
| Country average[4] | 159.06 | 268.58 | 160.15 | 182.65 | 244.60 | 241.55 |
| Total exports | 158.05 | 270.83 | 162.15 | 187.79 | 244.66 | 243.13 |

[1] Ranked by the quantity of exports from Ukraine in 2012.
[2] Unit values f.o.b. at border or national port.
[3] Not applicable.
[4] Weighted average unit values of top 10 countries noted.

Note.– Export figures are quantities reported at the 6-digit level for HTS subheading 3102.30.

Source: Official Ukraine trade statistics, Global Trade Information Services (GTIS)

**Table IV-6**
**HDAN: Ukraine's exports and imports, 2007-12**

| Item | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| | Quantity *(short tons)* | | | | | |
| Exports | 1,028,571 | 868,786 | 378,144 | 591,903 | 928,903 | 1,066,481 |
| Imports[1] | 359,508 | 266,024 | 384,660 | 390,494 | 267,797 | 231,368 |
| Net Exports | 669,063 | 602,762 | (6,516) | 201,409 | 661,106 | 835,113 |

[1] More than 90 percent of Ukraine's imports, 2009-12, were from Russia.

Note. – Export and import figures are quantities reported at the 6-digit level for HTS subheading 3102.30.

Source: Official Ukraine trade statistics, Global Trade Information Services (GTIS).

## Trade Restrictions in Third-Country Markets

In November 2008, Brazil suspended the application of the antidumping duty order on ammonium nitrate from Ukraine. On June 16, 2012, The European Commission ("EC") published a notice of the expiry of certain antidumping measures, including ammonium nitrate from Ukraine. Trade restrictions in third-country markets are presented in table IV-7.

**Table IV-7**
**HDAN: Trade restrictions on imports from Ukraine**

| Country imposing restriction | Year imposed | Year revoked | Restriction |
|---|---|---|---|
| Brazil | 2002 | 2008 | Antidumping duty of 19 percent *ad valorem*[1] |
| China | 2003 | ([2]) | General ban on nitrogen imports[1] |
| European Union | 2001 | 2012 | Antidumping duty of 33.25 euros per metric ton[1 3 4] |

[1] Domestic interested parties' Response to Notice of Institution
[2] Not Applicable.
[3] Council Regulation (EC) No. 132/2001 of January 22, 2001.
[4] European Commission, *Notice of the expiry of certain antidumping measures,* (2012/C 171/11)

Source: Compiled from data submitted in response to Commission questionnaires and the domestic interested parties' Response to the Notice of Institution.

## GLOBAL HDAN MARKET

Global trade balance quantity data presented in tables IV-8 and IV-9 identify and compare the relative importance of merchant market ammonium nitrate export trade countries, together with those countries which import significant quantities of the subject product. According to GTIS data, Russia is by far the largest global export trader of subject product (table IV-8), followed by Ukraine, China, Georgia, and Chile, while Brazil is by far the leading global consumer of imported ammonium nitrate, followed by the United States, Turkey, Indonesia, Peru and India (table IV-9). The EU27 countries

together are both large exporters and importers of subject product (ca. 2 million tons each),[3] but most is reported to be product shipments across borders within the region.[4] Lithuania, the U.K., France, Sweden, Bulgaria, Romania, Poland, and Hungary are typically the largest EU27 traders of subject product.[5]

Russia's traditional export markets in order of importance are Brazil, Turkey, and Ukraine, which together accounted for about 50 percent of the total in 2012. This is followed by Peru, Ghana, and Switzerland, which accounted for another 16 percent in aggregate; imports are miniscule. Ukraine is the second largest exporter for subject product, roughly 20 – 30 percent of the Russian export market. Ukraine's principal export markets in 2012 were Turkey, India, Malaysia, and Brazil, which in aggregate accounted for about 62 percent of the total. In 2012, Ukraine's imports amounted to about 22 percent of its export total, essentially all from Russia (table IV-6). China, the third leading global exporter, shipped product principally to Indonesia, Australia, and Vietnam, which in aggregate accounted for about 70 percent of the total; imports were miniscule. The fourth leading global exporter Georgia's principal export markets in order were the United States, Bulgaria, and France; its imports are miniscule.

**Table IV-8**
**Trade Balance: Global net export trade surplus sources of ammonium nitrate, 2007-12**

| Source | 2007 | 2008 | 2009 | 2010 | 2011 | 2012[1] |
|---|---|---|---|---|---|---|
| | Quantity (*short tons*); exports - imports | | | | | |
| Russia | 2,956,698 | 3,059,198 | 4,429,871 | 3,678,221 | 3,764,086 | 3,412,500 |
| Ukraine | 669,063 | 602,762 | -6,516 | 201,409 | 661,106 | 835,113 |
| China | 283,388 | 186,989 | 231,868 | 283,369 | 432,849 | 511,100 |
| Georgia | ([2]) | ([2]) | ([2]) | 418,181 | 497,139 | 464,129 |
| Chile | 59,304 | 13,363 | 71,191 | 155,585 | 261,111 | 196,392 |
| EU27 (External Trade) | 304,320 | 95,771 | -41,828 | 64,017 | 183,759 | 174,065 |
| South Africa | 58,324 | 75,552 | 59,441 | 73,485 | 64,803 | 96,192 |
| Canada | 317,875 | 493,591 | 251,157 | 124,352 | 183,038 | 77,441 |
| Iran | ([2]) | 14,474 | 53,253 | 91,483 | 100,540 | 56,087 |
| South Korea | 2,277 | 6,475 | 9,954 | 16,336 | 16,912 | 50,751 |
| Thailand | 46,645 | 50,623 | 30,451 | 54,616 | 57,015 | 42,127 |
| Croatia | 21,890 | 31,464 | 19,649 | 49,881 | 21,330 | 28,789 |
| Egypt | 24,677 | 7,381 | -1,797 | 72,985 | 64,233 | 14,485 |
| Philippines | 31,551 | 35,824 | 35,768 | 33,859 | 13,364 | -14,813 |
| Australia | 80,850 | 60,997 | 133,630 | 88,064 | 13,940 | -239,837 |

[1] Ranked in order of quantity of the 15 net trade countries reported.
[2] Data not reported.

Note.- Net trade data are quantities reported at the 6-digit level for HTS subheading 3102.30.

Source: Global Trade Information Services (GTIS).

[3] GTIS data.
[4] ***; *CEH Marketing Research Report*, "Ammonium Nitrate," SRI Consulting, April 2011].
[5] GTIS data.

Brazil is the largest global import source for subject product (table IV-9). In 2012, Russia accounted for 84 percent of Brazil's subject imports, Ukraine, 7 percent, and the Netherlands, 6 percent. The United States was the second largest global net import source in 2012, and was supplied principally in order by Georgia, 52 percent, the Netherlands, 34 percent, followed by Lithuania, Romania, Russia, Bulgaria, China, and Chile. Turkey, typically the second largest global import source, ranked as the third largest global net import market in 2012; Russia and Ukraine accounted for 36 percent each, or 72 percent of Turkey's import total. In 2012, Indonesia, typically the third largest import source, was the fourth largest global import market, supplied by China, 34 percent, together with Thailand, Malaysia and Russia (35 percent in aggregate). Peru ranked as the fifth largest importer in 2012, supplied by Russia and Chile (77 percent), followed by Sweden at 17 percent. In 2012, India was the sixth leading global importer, dominated by shipments from Ukraine and Russia (100 percent in aggregate).

**Table IV-9**

**Trade Balance: Global net import trade deficit sources of ammonium nitrate, 2007-12[1]**

| Source | 2007 | 2008 | 2009 | 2010 | 2011 | 2012[2] |
|---|---|---|---|---|---|---|
| | | | **Quantity (*short tons*); exports – imports** | | | |
| Brazil | -834,490 | -832,700 | -1,020,118 | -1,131,020 | -1,636,800 | -1,359,210 |
| United States | -1,220,208 | -550,932 | -120,000 | -240,136 | -381,771 | -568,680 |
| Turkey | -784,640 | -628,143 | -1,036,958 | -714,490 | -808,796 | -443,491 |
| Indonesia | -298,130 | -373,251 | -400,103 | -458,713 | -569,082 | -405,887 |
| Peru | -337,019 | -363,643 | -233,000 | -304,243 | -326,681 | -390,940 |
| India | -213,421 | -238,214 | -315,378 | -225,865 | -294,096 | -258,778 |
| Morocco | -256,438 | -341,106 | -267,276 | -326,812 | -300,888 | -177,326 |
| Mexico | -185,913 | -13,220 | -75,764 | -92,267 | -131,048 | -155,690 |
| Argentina | -164,555 | -181,745 | -90,606 | -141,660 | -167,836 | -155,020 |
| Colombia | -162,101 | -224,986 | -170,838 | -170,820 | -153,328 | -154,986 |
| Malaysia | 0 | -104,876 | -94,714 | -42,504 | -114,556 | -104,301 |
| Costa Rica | -107,057 | -112,390 | -77,277 | -52,320 | -125,800 | -97,859 |
| Belarus | ([3]) | -97,146 | -177,666 | -261,331 | -133,655 | -90,227 |
| Serbia | -185,891 | -192,812 | -287,915 | -19,296 | -54,232 | -84,009 |
| Ghana | ([3]) | ([3]) | ([3]) | -57,101 | -54,451 | -69,283 |

[1] Cross border net imports between EU27 countries are not included in this analysis.
[2] Ranked in order of the quantity of the top 15 country net imports excluding Australia (Table IV-8). All data are reported for the full calendar year 2012 except Ghana (11 months).
[3] Data not reported.

Note.- Net trade data are quantities reported at the 6-digit level for HTS subheading 3102.30.

Source: Global Trade Information Services (GTIS).

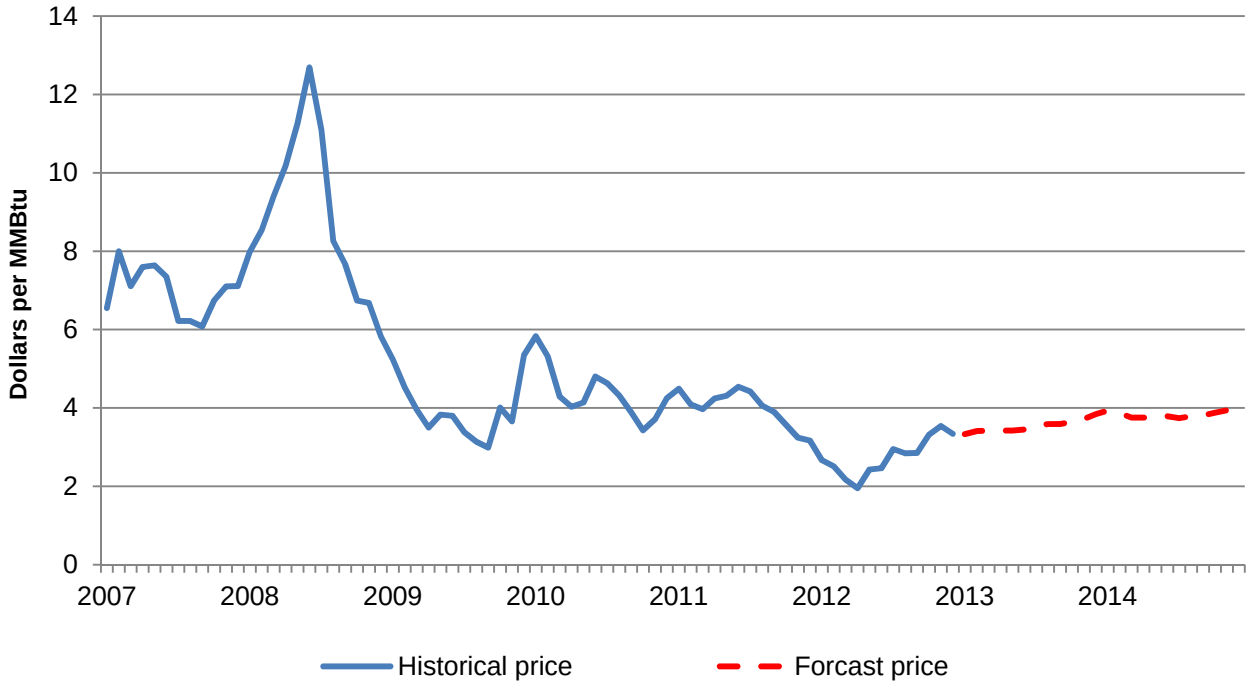
# PART V: PRICING AND RELATED INFORMATION

## FACTORS AFFECTING PRICES

### Raw Material Costs

Natural gas and its derivative, ammonia, are the predominant material inputs used by U.S. firms to produce HDAN. As seen in figure V-1, the price of natural gas decreased by 49.2 percent overall between January 2007 and January 2013, with a large price spike in the second quarter of 2008, followed by a steep decline later in 2008. The price of natural gas is forecasted to fluctuate between February 2013 and December 2014, rising by 19.4 percent overall during this period.[1]

**Figure V-1**
**Natural gas: Monthly historical prices for January 2007-January 2013 and forecast prices for February 2013-December 2014**




Source: Henry Hub Spot natural gas price, downloaded from http://www.eia.gov on February 19, 2013.

As discussed in greater detail in Part III of this report, U.S. producers' raw materials declined as a share of cost-of-goods from approximately *** percent in 2007 to *** percent in 2012, with a peak of *** percent in 2008. The decline in raw materials' share of cost of goods sold is due mainly to lower natural gas prices; however, rising ammonia prices have tempered the decline of raw material costs overall. The cost of ammonia, as a ratio of the total raw materials, increased from *** percent in 2007 to

[1] According to the Energy Information Administration (EIA), with increasing natural gas production from shale gas resources, it is estimated that the Henry Hub spot prices will remain below $4 per million Btu (2011 dollars) through 2018. "The resilience of drilling activity, despite low natural gas prices, is in part a result of high crude oil prices, which significantly improve the economics of natural gas plays that have relatively high liquids content (crude oil, lease condensates, and natural gas liquids). Also contributing to growing production volumes are improved drilling efficiencies, which result in a greater number of wells being drilled more quickly, with fewer rigs and higher initial production rates." EIA, *Annual Energy Outlook 2013 Early Release Overview*, December 5, 2012, pp. 1, 5.

*** percent in 2012. The cost of natural gas, as a ratio of the total raw materials, decreased from *** percent in 2007 to *** percent in 2012.[2]

Producers provided their average net quarterly purchases prices and quantities for their purchases of natural gas and/or ammonia during January 2007-December 2012. Both producers provided purchase data for ammonia and CF Industries provided purchase data for natural gas. Table V-1 and figure V-2 show U.S. producers' quarterly weighted-average net purchase prices and quantities of natural gas and ammonia that they used at least partially to produce HDAN during this period.

**Table V-1**
**HDAN: U.S. HDAN producers' weighted-average net purchase prices and quantities of natural gas and ammonia, by quarters, January 2007-December 2012**

* * * * * * *

**Figure V-2**
**HDAN: U.S. producers' net purchase prices of natural gas and ammonia, by quarters, January 2007-December 2012**

* * * * * * *

As seen in figure V-2, the U.S. producers' quarterly weighted-average purchase price of natural gas and ammonia trended together between the first quarter 2007 and the first quarter of 2010. However, by the latter half of 2010, the price of ammonia steeply increased, while the price of natural gas began to fall. The U.S. producer's purchase price of natural gas decreased by *** percent from 2007-12 while U.S. producers' purchase prices of ammonia increased *** percent during the period.[3] The divergence in pricing between natural gas and ammonia was primarily driven by two factors. Natural gas supplies increased from shale deposits which placed downward pressure on natural gas prices. However, ammonia supplies have tightened due to strong nitrogen fertilizer demand which has resulted in more ammonia production being internally consumed for nitrogen fertilizer production and leaving less available for open market sales. This tightened supply of ammonia has driven prices upward.[4]

Ukrainian HDAN producer (Ostchem) also reported its quarterly net purchase price data for natural gas that it used, at least partially, to produce HDAN during January 2007-December 2012. The weighted-average quarterly net purchase prices of natural gas by CF Industries and Ostchem are shown in figure V-3. The *** purchase price of natural gas was higher than *** between 2007 and the first half of 2009; starting in the third quarter of 2009, *** purchase price of natural gas fell while *** purchase price of natural gas steadily increased. *** reported natural gas purchase price increased *** percent during the period. *** also reported that it purchased *** percent of its natural gas from forward contracts.

**Figure V-3**
**HDAN: U.S. and Ukrainian producers' net purchase price of natural gas, by quarters, January 2007-December 2012**

* * * * * * *

***.
***.

[2] CF Industries purchases natural gas which it uses to produces ammonia to then produce HDAN; El Dorado purchases ammonia which it uses to produce HDAN.

[3] ***.

[4] Petitioner's posthearing brief, answer to Commission questions, p. 13.

### U.S. Inland Transportation Costs

Both U.S. producers reported that their firms generally arrange for transportation to customers' locations. U.S. producers reported that U.S. inland transportation costs raged from *** to *** percent of the delivered price.

As reported in Part II, producers and importers reported that their sales of HDAN were concentrated in the Southeast, Midwest, and Central Southwest. The Mississippi River system serves as an important means of distributing HDAN.

Both U.S. producers reported their share of sales by specified distance categories. Both U.S. producers reported that approximately *** percent of their sales of HDAN were delivered between 101 and 1,000 miles from their production facilities, *** percent were delivered over 1,000 miles, and *** percent of their sales were delivered under 100 miles. HDAN is typically delivered by truck in the United States in distances up to 100 miles from supplier, and by some combination of truck, rail, and barge for distances beyond 100 miles.[5]

## PRICING PRACTICES

### Pricing Methods

Both producers determine the prices of their sales of HDAN ***. *** also reported ***. Two of three responding importers reported selling HDAN on a transaction-by-transaction basis. One importer, ***, reported that its prices are negotiated with dealers and wholesalers and those price negotiations are influenced by direct competition and overall global price levels.

HDAN is commonly sold through short-term contracts and spot sales. *** reported that it sold approximately ***. *** reported that it sold approximately ***.

***.[6] Both producers reported ***.

### Sales Terms and Discounts

*** and one of three responding importers reported that they generally quote prices on a delivered basis; *** reported quoting prices both on a delivered basis as well as f.o.b. from ***; and the remaining two importers reported quoting prices on an f.o.b. basis from Tampa or New Orleans. *** and one importer typically offer payment terms of net *** days; *** reported that payment terms for sales shipped on barges are net *** days while sales shipped by railcars and trucks are net *** days; and two importers reported offering payment terms of net 15 days. *** and *** responding importers reported that they do not have any type of discount policy.

### Price Leadership

Six of eight purchasers reported price leaders which included: CF Industries (4 purchasers); Yara North America (4); Gavilion (3); and El Dorado Chemical (2).

---

[5] Barge is generally considered the least expensive U.S. transportation mode for HDAN, followed by rail, and then by truck, for comparable quantities and distances traveled. Depending on the size, barges can carry 1,200-3,400 short tons of material, averaging typically about 2,500 short tons; rail cars carry 100 short tons and trucks carry 25 short tons. *Certain Ammonium Nitrate from Ukraine, Inv. No. 731-TA-894 (Review)*, USITC Publication 3924, June 2007, p. V-4.

[6] *** did not indicate the average contract duration of its *** contracts.

## PRICE DATA

The Commission requested U.S. producers and importers to provide monthly data for the total quantity and f.o.b. value of the following HDAN product shipped to unrelated U.S. customers during January 2007-December 2012.

***Product 1*.—Solid, fertilizer-grade ammonium nitrate, sold in bulk, with a bulk density equal to or greater than 53 pounds per cubic foot.**

Both U.S. producers provided useable pricing data that are presented in table V-2 and figure V-4. There were no imports of subject HDAN during the period of review. By quantity, price data for January 2007-December 2012 accounted for approximately 94.8 of U.S. producers' shipments of HDAN during the period.

**Table V-2**
**HDAN: U.S. weighted-average f.o.b. prices and quantities of domestic HDAN[1], by months, January 2007-December 2012**

* * * * * * *

**Figure V-4**
**HDAN: U.S. weighted-average f.o.b. prices and quantities of domestic HDAN[1], by months, January 2007-December 2012**

* * * * * * *

### Price Trends and Comparisons

As shown in table V-2 and figure V-4, weighted-average sale prices of domestically produced HDAN fluctuated during the period but overall increased substantially from 2007 levels. HDAN prices spiked in 2008 as natural gas prices peaked. However, as seen in figure V-5, quarterly weighted-average prices of HDAN did not trend closely with quarterly weighted-average prices of natural gas. The price of HDAN continued to increase from 2010 to 2012, while the price of natural gas decreased.

**Figure V-5**
**HDAN: U.S. weighted-average f.o.b. prices of U.S.-produced HDAN and U.S. producers' net purchase prices of their natural gas, by quarters, January 2007-December 2012**

* * * * * * *

Because no price data were reported for Ukraine, no price comparisons are available.[7] [8] However, four of seven responding purchasers indicated that since 2007, the price of U.S.-produced

[7] In the original investigation, prices of imports from Ukraine were lower than the domestic product prices in *** comparisons. Confidential staff report for the original investigation (memorandum INV-Y-147, August 9, 2001), pp. V-10-11. No imports and thus no price data were reported for Ukraine in the first review.

[8] Petitioner calculated a constructed f.o.b. foreign port prices for Ukrainian HDAN exports to the United States for 2010-12. Using this constructed Ukrainian export price to the United States, petitioner estimates that HDAN imports from Ukraine would likely undersell U.S. producers' prices in *** monthly comparisons. Petitioner's prehearing brief, pp. 54-61. Respondents argue that Petitioner's constructed calculations based upon GTIS data reflect the transfer price to NF Trading from its affiliated Ukrainian producers and do not reflect NF Trading's export prices to third countries. Respondents also argue that it is unreasonable to anticipate that Ukraine would

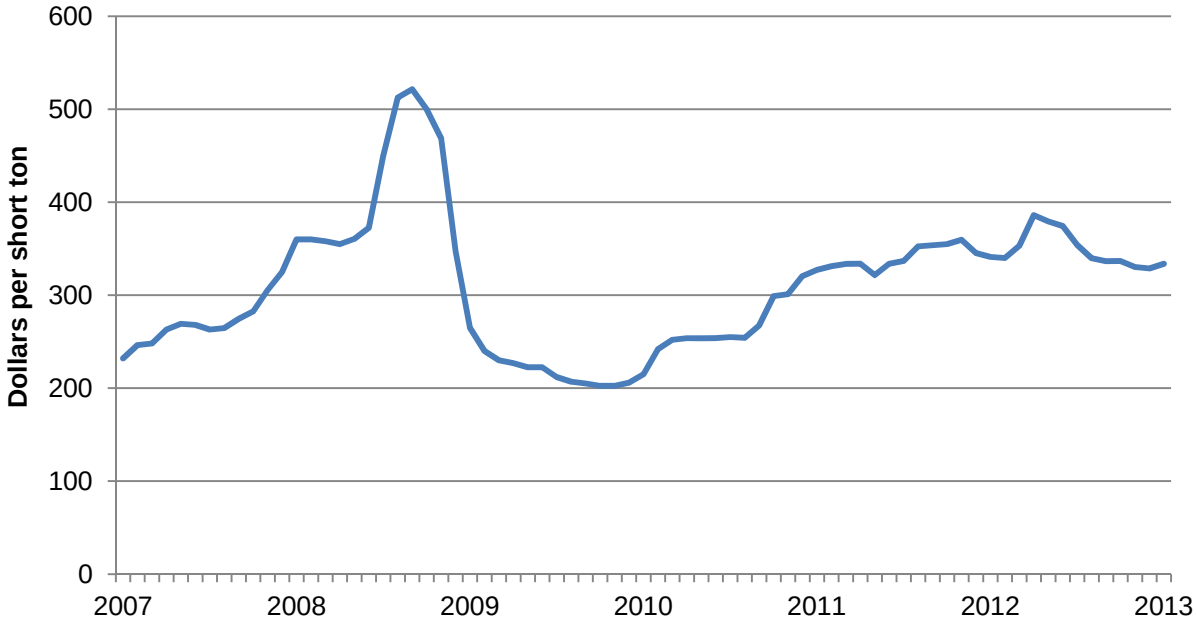
(continued…)

HDAN has changed by the same amount as prices of imports from Ukraine. Three purchasers reported that U.S.-produced HDAN is now higher-priced than imports from Ukraine. One of five responding importers stated that it believed the increase domestic consumption of HDAN in Ukraine has diminished the differential between the prevailing global price for HDAN and that for the United States to approximately $10-$15 per metric ton.[9] Three of the five importers reported that they were unable to compare market prices of HDAN in the U.S. and non-U.S. markets because they only sell in the United States. The one remaining importer compared market prices of HDAN in the U.S. and non-U.S. markets using Green Markets public price data which reported U.S. Gulf NOLA prices being higher than Black Sea prices.

## Public Price Data

Figure V-6 shows Green Market's monthly average Gulf NOLA f.o.b. prices for HDAN.[10] Prices steadily increased during 2007 before spiking upwards in mid-2008. Prices then declined through the end of 2009, fluctuated through mid-2010, trended upwards through mid-2012 and then declined through the end of 2012. Overall, average annual prices of HDAN increased by 29.6 percent since 2007.

**Figure V-6**
**HDAN: Average Gulf NOLA f.o.b. prices, by months, January 2007-January 2013**




Source: Green Markets, various issues.

(…continued)
export to the United States as the same price it exports HDAN to third countries because U.S. prices are higher. Respondents' posthearing bried, pp. 7-8.

[9] *** importer questionnaire response, section III-22.

[10] According to Green Markets, these prices are quotes that do not reflect actual transactions, but represent current market conditions as perceived by selected buyers and sellers. Prices are based on large transactions, involving truckloads or larger volumes. All prices are net of discounts for volume, cash, or prompt payment, if such are offered.

# APPENDIX A

## *FEDERAL REGISTER* NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

| Citation | Title | Link |
|---|---|---|
| 77 FR 32527<br>June 1, 2012 | *Initiation of Five-Year ("Sunset") Review* | http://www.gpo.gov/fdsys/pkg/FR-2012-06-01/pdf/2012-13386.pdf |
| 77 FR 32669<br>June 1, 2012 | *Ammonium Nitrate from Ukraine Institution of a Five-Year Review* | http://www.gpo.gov/fdsys/pkg/FR-2012-06-01/pdf/2012-13076.pdf |
| 77 FR 59377<br>September 27, 2012 | *Solid Agricultural Grade Ammonium Nitrate from Ukraine: Final Results of the Expedited Second Sunset Review of the Antidumping Duty Order* | http://www.gpo.gov/fdsys/pkg/FR-2012-09-27/pdf/2012-23828.pdf |
| 77 FR 65015<br>October 24, 2012 | *Ammonium Nitrate from Ukraine; Notice of Commission Determination to Conduct a Full Five-year Review and Scheduling of a Full Five-year Review Concerning the Antidumping Duty Order on Ammonium Nitrate from Ukraine* | http://www.gpo.gov/fdsys/pkg/FR-2012-10-24/pdf/2012-26127.pdf |
| 77 FR 73674<br>December 11, 2012 | *Ammonium Nitrate from Ukraine; Notice of Revised Schedule of the Five-year Review Concerning the Antidumping Duty Order on Ammonium Nitrate from Ukraine* | http://www.gpo.gov/fdsys/pkg/FR-2012-12-11/pdf/2012-29824.pdf |
| Note.–The press release announcing the Commission's determinations concerning adequacy and the conduct of a full or expedited review can be found at http://usitc.gov/press_room/news_release/2012/er0904kk1.htm. A summary of the Commission's votes concerning adequacy and the conduct of a full or expedited review can be found at http://pubapps2.usitc.gov/sunset/caseProfSuppAttmnt/download/11496. The Commission's explanation of its determinations can be found at http://pubapps2.usitc.gov/sunset/caseProfSuppAttmnt/download/11551. | | |

# APPENDIX B

# HEARING WITNESSES

# CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

**Subject:** Ammonium Nitrate from Ukraine

**Inv. No.:** 731-TA-894 (Second Review)

**Date and Time:** April 4, 2013 - 9:30 a.m.

Sessions were held in connection with this investigation in the Main Hearing Room, 500 E Street (room 101), SW, Washington, DC.

**EMBASSY WITNESSES:**

Embassy of Ukraine
Washington, DC

Natalia Kolmakova, Deputy Director of WTO, Trade Remedies Department of the Ministry of Economic Development and Trade

Yuriy Kharchenko, Chief Expert of Negotiations and Market Access Division of WTO

Volodymyr Shalkivski, First Secretary and Translator for Ms. Kolmakova and Mr. Kharchenko

**OPENING REMARKS:**

In Support of Continuation of Order (**Valerie A. Slater**, Akin Gump Strauss Hauer & Feld LLP)
In Opposition to Continuation of Order (**Martin J. Lewin**, Kalik Lewin)

**In Support of the Continuation of**
**the Antidumping Duty Order:**

Akin Gump Strauss Hauer & Feld LLP
Washington, DC
on behalf of

CF Industries, Inc.
El Dorado Chemical Company

**David Hopkins**, Director, Sales, CF Industries, Inc.

**Donald Thomas**, Director, Technical Services and Quality Programs, CF Industries, Inc.

**Phil Gough**, Senior Vice President, Marketing, El Dorado Chemical Company

**Derek Fuzzell**, Chief Administrative Officer, LSB Chemical Company

**Daniel W. Klett**, Economist, Capital Trade, Inc.

**Valerie A. Slater** )
) – OF COUNSEL
**Margaret C. Marsh** )

**In Opposition to the Continuation of**
**the Antidumping Duty Order:**

Kalik Lewin
Bethesda, MD
on behalf of

OSJC Rivneazot
CJSC Severodonetsk Azot Association
OJSC Concern Stirol
OJSC Azot Cherkassy
NF Trading AG

**Martin J. Lewin** )
) – OF COUNSEL
**Chelsea Severson** )

**REBUTTAL/CLOSING REMARKS:**

In Support of Continuation of Order (**Valerie A. Slater**,
Akin Gump Strauss Hauer & Feld LLP)
In Opposition to Continuation of Order (**Martin J. Lewin**,
Kalik Lewin)

# APPENDIX C

# SUMMARY DATA

**Table C-1**

**Ammonium nitrate: Summary data concerning the U.S. market, 2007-12**

(Quantity=short tons, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per short ton; period changes=percent, except where noted)

| | Reported data | | | | | | Period changes | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Item** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2007-12** | **2007-08** | **2008-09** | **2009-10** | **2010-11** | **2011-12** |
| **U.S. consumption quantity:** | | | | | | | | | | | | |
| Amount | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Producers' share (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Importers' share (1): | | | | | | | | | | | | |
| Ukraine | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Other sources | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Total imports | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **U.S. consumption value:** | | | | | | | | | | | | |
| Amount | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Producers' share (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Importers' share (1): | | | | | | | | | | | | |
| Ukraine | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Other sources | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Total imports | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **U.S. shipments of imports from:** | | | | | | | | | | | | |
| **Ukraine:** | | | | | | | | | | | | |
| Quantity | - | - | - | - | - | - | (2) | (2) | (2) | (2) | (2) | (2) |
| Value | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | (2) | (2) | (2) | (2) | (2) | (2) |
| Unit value | (2) | (2) | (2) | (2) | (2) | (2) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ending inventory quantity | - | - | - | - | - | - | (2) | (2) | (2) | (2) | (2) | (2) |
| **Other sources:** | | | | | | | | | | | | |
| Quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Ending inventory quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **All sources:** | | | | | | | | | | | | |
| Quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Ending inventory quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| **U.S. producers':** | | | | | | | | | | | | |
| Average capacity quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Production quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Capacity utilization (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| U.S. shipments: | | | | | | | | | | | | |
| Quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Export shipments: | | | | | | | | | | | | |
| Quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Ending inventory quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Inventories/total shipments (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Production workers | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Hours worked (1,000s) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Wages paid ($1,000) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Hourly wages | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Productivity (short tons/1000 hours) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit labor costs | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Net sales: | | | | | | | | | | | | |
| Quantity | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Cost of goods sold (COGS) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Gross profit or (loss) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| SG&A expenses | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Operating income or (loss) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Capital expenditures | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit COGS | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit SG&A expenses | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit operating income or (loss) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| COGS/sales (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Operating income or (loss)/ sales (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |

(1) "Reported data" are in percent and "period changes" are in percentage points.
(2) Undefined.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not ad

Unit values and shares are calculated from the unrounded figures.

Source: Compiled from data submitted in response to Commission questionnaires.

# APPENDIX D
# RESPONSES OF U.S. PRODUCERS, U.S. IMPORTERS, U.S. PURCHASERS, AND FOREIGN PRODUCERS CONCERNING THE SIGNIFICANCE OF THE ANTIDUMPING DUTY DUTY ORDER AND THE LIKELY EFFECTS OF REVOCATION

All responses in appendix D contain information that would reveal confidential operations and therefore have been deleted from this report.

# APPENDIX E
# CONSUMPTION AND IMPORT TABLES WITH PROPRIETARY CUSTOMS DATA

The following are consumption and import tables including nonsubject imports for companies that import HDAN but did not submit a questionnaire response (***). The data for the aforementioned companies were retrieved from proprietary Customs data. All other data in this appendix were retrieved from questionnaire responses.

**Table E-1**
**HDAN: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, 2007-12**

* * * * * * *

U.S. market share data are presented in table E-2.

**Table E-2**
**HDAN: U.S. consumption and market shares, 2007-12**

* * * * * * *

U.S. imports are presented in table E-3.

**Table E-3**
**HDAN: U.S. imports by source, 2007-12**

* * * * * * *