**Milk in the Northeast and Other Marketing Areas**

**Doc. No. 23-J-0067; AMS-DA-23-0031**

**Testimony of National Milk Producers Federation**

September, 2023

## **Part 1. Class I Differential Surface Update and Improvement – Introduction and Justification**

This testimony is presented on behalf of the National Milk Producers Federation, hereafter referred to as NMPF, in support of Proposal Number 19.

My name is Jeffrey Sims, Secretary and Chief Market Analysis Officer of Lone Star Milk Producers, Inc. Our headquarters are located at 813 8th Street, Suite 300, Wichita Falls, Texas 76301. Lone Star Milk Producers, Inc. is a Capper-Volstead cooperative association, qualified to market milk on Federal Milk Marketing Orders, a member of NMPF, and fully supports Proposal Number 19. Within NMPF, I serve on the Economic Policy Committee and the Federal Order Task Force. Additionally, I chair the Task Force's Class I Working Group, responsible for developing updates to the Federal Order Class I Differential surface.

This testimony aims to highlight the urgent need for updating and improving the Federal Order Class I pricing structure, known as the Class I differential surface or the Class I pricing surface. The Notice of Hearing lists this as Proposal Number 19.

Before starting our review, it is important to acknowledge the long overdue review and evaluation of national Class I differentials. The regulatory inertia that has led us to this point is regrettable but understandable. Revamping Class I differentials is a challenging task that often gets postponed. Price relationships between competing processing plants are realigned through changes in Class I differentials, and once established, these relationships are typically resistant to disruption. Raw milk suppliers delivering to distributing plants are also hesitant to reset Class I price relationships as it may put their customers in a less competitive position. Similarly, suppliers of raw milk are reluctant to accept changes in differentials that could disadvantage them.

Evaluating and suggesting potential changes in the Class I price surface is a laborious and data-intensive process. The Secretary's evaluation of proposals for amending the Class I pricing surface will be equally challenging. No one relishes taking on this task, leading to frequent postponement until it becomes unavoidable. Unfortunately, we have reached that point now.

In most parts of the country, the Class I differential surface has remained unchanged since its installation during the Order Reform process in the year 2000. Minor increases were made to the Class I price surface in the three southeastern Federal Orders (numbers 5, 6, and 7) in 2008. Since then, no further updates have been made to those Orders.

At this hearing, testimony has already been presented concerning the Secretary's use of the spatial pricing model, the USDSS model, and its reliance on milk marketing and hauling cost data from around 1998 when establishing the Order Reform differentials. Consequently, most Class I differentials across the country are based on milk transportation costs that are a quarter of a century old. It is an understatement to say that an update to national Federal Order Class I differentials is long overdue.

Moreover, substantial testimony has been provided regarding the significant increases in costs associated with converting raw milk into manufactured dairy products. These increased manufacturing costs need to be reflected in updates to the make allowance values in the Class price computation formulas of the Orders. It is important to note that the manufacturing cost allowances, which determine the Class prices in Federal Orders, have been updated twice since the establishment of most Class I differentials in the country. While there may be varying proposals on capturing the increased manufacturing costs in the make allowances, there is no dispute that the costs of manufacturing dairy products have risen considerably since the last update of the make allowances.

Wholesale dairy product prices and Make Allowances are interrelated. Make Allowances are essential in recognizing the cost of converting raw milk, which is largely unusable in its native form, into consumable, or into storable intermediate products. Acknowledging the costs associated with converting raw materials into final products fundamentally recognizes the costs of product utility conversion.

Additionally, Orders must recognize another kind of economic utility: time and place utility. Just as converting raw materials into usable products incurs costs, the conversion of raw materials from one location to another also involves significant costs. Transport and balancing costs represent the time and place utility costs for raw milk.

The Orders currently recognize these time and place utility costs through a Class I differential surface that encourages the movement of milk from areas with surplus supplies to areas with higher demand relative to available supply. This system sends economic signals that milk should be directed towards less well-supplied areas, and the Orders' recognition of geographic differences in milk needs should be maintained. However, what requires change is the effectiveness of these economic signals.

GENERAL PROCESS

In this section of testimony, I will describe the basic process followed by the NMPF Class I Working Group in establishing Proposal Number 19, the Class I differential surface.

The testimony has already addressed the use of the University of Wisconsin spatial price model, which played a crucial role in developing our proposed Class I differential surface. The UW Model is highly sophisticated and considers a wide array of variables that are important in determining the most efficient movement of milk to supply Class I needs across the contiguous forty-eight United States. It is worth noting that the same spatial pricing model was used as the basis for the USDA's development of the Class I differential surface during the Order Reform in 2000, and significant improvements have been made to the model since then.

A fundamental aspect of utilizing the spatial price model is determining the starting point, which is the initial presumed differential low point. Since the purpose of a differential surface is to send economic signals to move milk towards areas with higher milk needs, this economic signal is represented by an increasing differential, which translates to increasing money. Some geographical area will have the highest price and others will have the lowest price, as dictated by mathematics. It is necessary to establish a starting point, and from there, the differentials increase.

Currently, the Class I differential surface relies on a base rate of $1.60 per hundredweight, which is the lowest-valued Class I differential specified in §1000.52 of the Federal Order Class I differentials. The $1.60 Class I differential applies to two extensive areas in the western U.S. The first area includes a significant portion of Idaho, the eastern part of Oregon, most of Montana, a substantial portion of Wyoming, roughly half of North Dakota, and a few counties in northern Minnesota. The second area with a Class I differential of $1.60 encompasses central California, a large portion of southern Nevada, and southern Utah.

The same base rate as currently exists in the Federal Orders was adopted for the spatial model analysis. The model analysis yielded a smaller geographic area at the base rate differential, specifically Ada County, Idaho, for the month of October 2021. The model indicated a differential of $1.70 for this county in May 2021, so some data presented at this hearing may reflect a model-suggested differential for Ada County of $1.65.

Later on, through the differential analysis and price alignment process, the base rate became a higher number than the base rate included in the model runs, for several reasons that will be explained as we progress through the descriptions of the differential development processes.

## BASE DIFFERENTIAL RATE

The establishment of the base Class I differential rate has been founded in the farm level increased cost of converting Grade B milk production to Grade A milk production. This cost differential encapsulates the additional expenses associated with producing Grade A milk compared to Grade B. The base differential rate also takes into account other factors, such as limiting class price inversions, incentivizing milk delivery for Class I use, and ensuring classified prices align with demand elasticities for different product groups. These reasons persist today and provide strong support for maintaining a base Class I differential value substantially greater than zero. Not only should the base level of differential be well more than zero, it needs to be more than its current value. We will delve into the reasons behind Proposal Number 19's effective base differential level surpasses the current rate of $1.60.

One might argue that the Grade A versus Grade B debate is irrelevant, given that the vast majority of milk produced in the country is Grade A and very few plants accept Grade B milk. However,  Grade B milk production still exists, indicating that some farms find economic advantages in remaining Grade B. Therefore, we must recognize the potential for farms to revert to Grade B status. Additionally, there remains an on-farm cost difference between Grade A and Grade B milk production due to the stricter health and sanitary requirements associated with Grade A. These cost disparities between Grade A and Grade B production can be analytically explained.

The Department has dealt with the concern over declining Grade B milk as a share of the U.S. total milk production before, and has always reached the same conclusion, that some positive level of base Class I differential is justified. Unlike almost everything else in the dairy industry, there has not been a substantive change in the proportion of U.S. milk production that is Grade B since Order Reform. The NASS <u>Milk Production, Disposition and Income</u> report - 1999 summary, showed approximately 97 percent of U.S. milk production was Grade A, while from the same report for 2022, the percentage portion of Grade A milk was 99 percent. Consequently, the quantity of Grade B milk produced in the U.S. is certainly not inconsequential, and at 2.25 billion pounds of Grade B milk produced in the U.S during 2022, that was more milk than was produced by 32 of the 50 states. To ignore this quantity of milk as trivial would be folly. The consideration of Grade B milk as a viable potential replacement for Grade A if a price difference between the two Grades no longer exists, cannot be dismissed.

NMPF has conducted an in-depth study of the Pasteurized Milk Ordinance (PMO) and examined the costs associated with meeting the PMO Grade A requirements. These costs primarily stem from the equipment, infrastructure, and enhanced sanitary measures needed for Grade A production, compared to those required for Grade B farms. These additional costs encompass aspects like milk handling equipment, milking lines, milk storage tanks, cleaning chemicals, water quality treatment requirements, and other milk handling equipment within the milk house. By considering the current costs of equipment meeting Grade A versus Grade B specifications, NMPF has determined that the ongoing difference in production costs between Grade A milk and Grade B milk amounts to $1.36 per hundredweight, with Grade A equipment, infrastructure, supplies, etc. being inherently more expensive. The noncash cost of depreciation for the equipment and improvements to the farm for Grade A licensure would add another $1.30 per hundredweight. Later in this hearing, another NMPF witness will provide detailed testimony exploring the nature of these on-farm equipment differences and how they translate into higher production costs for Grade A farms compared to Grade B farms.

Another critical aspect necessitating the application of a base level of Class I differential is the Department's own policy regarding Class I prices, which mandates setting them at a level high enough to prevent regular class price inversions. The higher the base level of Class I differential, representing the minimum value of the differential, the less likely class price inversions are to occur. Limiting the occurrence of price inversions is not only sound policy but also reduces the incentive for depooling milk and the disorderly marketing conditions that follow. Additionally, it is important to note that if class price inversions and subsequent depooling become pervasive, the incentive for producers to maintain Grade A status diminishes, potentially encouraging producers to revert to Grade B, thereby reducing the availability of reserve supplies for Class I.

For an example of how class price inversions can occur, let's consider the specific scenario of a hypothetical June's Advance prices, which are determined based on two weeks of NDPSR observations in May. Suppose the Advance Class III price is $18.00, and the Advance Class IV price is $17.00. Applying the "higher of" process, the effective Advance Class III price becomes the Class I price mover, at $18.00. To ensure that class price inversions are avoided at the Order's low Class I differential point of $1.60, it is necessary for the final Class III price for June to be below $19.60, representing a $1.60 increase. Similarly, the final Class IV price for June must also be below $19.60, reflecting a $2.60 increase. The greater the level of base differential, the fewer the occurrences of class price inversions.

The occurrence of price inversions only happens during a rising price market. Analyzing the period from January 2000 to June 2023, we observed the relationship between the Class I mover (announced at 3.5% butterfat) and the final prices for Class II, Class III, and Class IV (also as announced at 3.5% butterfat). Out of the 282 months studied, the final Class II price exceeded the Mover in 152 months, the final Class III price exceeded the Mover in 104 months, and the final Class IV price exceeded the Mover in 81 months. See Exhibit NMPF – 37A, pages 1 of 29 through 29 of 29.

The count of the number of months detailed in the preceding paragraph would be the number of months that a price inversion would have occurred for the particular Class in any locale with an effective Class I differential of zero. Drilling down even further, at zero differential locations, there would have been 100 months when one of the final Class prices exceeded the Mover, 69 months when there would have been a price inversion in two of the Classes, 33 months when all three of the Class II, Class III and Class IV prices would have exceeded the Mover, and 80 months with no Class price inversion. Put simply, any Order amendment proposal that would set the effective Class I differential at any locale at zero would have caused price inversions more than seventy percent of the time.

To simplify the discussion, let's focus on the relationship between Class III and Class IV prices and the Mover since these classes have the highest potential for depooling and the resulting disorderly marketing conditions.

For the 282 months analyzed, when the final Class III price exceeded the Mover, it did so by an average of $1.12 per hundredweight. Similarly, when the final Class IV price exceeded the Mover, it did so by an average of $0.75 per hundredweight. The standard deviation for months when the Class III price exceeded the Mover was approximately $1.07 per hundredweight, while for months when the Class IV price exceeded the Mover, it was roughly $0.51 per hundredweight. Clearly, the Class III price exhibited greater volatility compared to Class IV, whether measured by average, count of months, or standard deviation.

By applying the Empirical Rule, which states that in a normally distributed population, fifty percent of the population values will be less than the mean, and fifty percent will be greater than the mean, and that sixty eight percent of the population values will be within one standard deviation above and below the mean, we can determine the likelihood of Class price inversions as a percentage of months when Class prices are increasing. For Class III, at the mean plus one standard deviation, we obtain a value of $2.19. For Class IV, the value is $1.26. These figures represent approximately 84 percent of the months when the respective Class prices rose above the announced advanced mover price. Since Class III and Class IV prices do not typically increase rapidly simultaneously, there is an additive effect.

Clearly, the volatility in Class III and Class IV prices, resulting from rising prices during the six-week period between price announcements, contributes to the need for a sufficient base level of Class I differential. The greater the volatility in Class prices, the higher the likelihood of price inversions.

Another mathematical problem supporting the continuation of a base level of Class I differential substantially greater than zero is the pricing of Class II. Currently, the Class II skim milk price for a month is the Class IV advanced skim milk price plus $0.70 per hundredweight. If the Secretary were to reduce the current base level of Class I differential, for example, to $0.60 per hundredweight, there would be an automatic price inversion between Class I and Class II skim milk prices in any month when the Class IV skim milk price is the 'higher-of.' Maintaining a differential between Class II and Class I is not only appropriate but necessary to attract milk supply to Class I use, prevent disorderly depooling, preserve the four Class prices relative to their market value and demand elasticities, and discourage uneconomical milk movements.

NMPF's Proposal Number 19 proposes Class I differentials starting at $2.20 per hundredweight, with differential increases radiating from there. This proposed level of base Class I differential is supported on multiple levels. It compensates dairy farmers for the additional cost of maintaining Grade A status, and provides an elegant solution for the demonstrated volatility of Class prices and the resultant class price inversions.

Again, examining Exhibit NMPF – 37A pages 1 of 29 through 29 of 29, the analysis of Mover versus final Class price data shows that with a minimum Class I differential of $2.20, price inversions would have occurred only 15 times over the 282-month period, 9 times for Class III, and 6 times for Class IV, compared to 26 times at the current $1.60 minimum differential. This means that at $2.20, price inversions would occur less than six percent of the time.

Recent history indicates that there is likely no practical base level of differential value that completely eliminates price inversions. However, when Class III or Class IV prices exceed the base level of Class I differential only around five percent of the time, depooling decreases, and markets become more orderly.

Another factor supporting the need for a base level of Class I differential in excess of the current $1.60 per hundredweight level is that Class I processing plants today have milk quality standards that far exceed the minimum Grade A licensure requirements defined in the Pasteurized Milk Ordinance. Exhibit NMPF – 37B, page 1 of 1 provides a sample of Class I processor milk quality standards, arranged by quality measure. It reports the various plant requirements from most stringent to least stringent, without directly listing specific plants or companies. For reference, the PMO limit for each milk quality measure, if specified, is also included. The Class I plants represented in the sample are from various locations in the United States.

For instance, among the quality measures, the most rigorous requirement for Somatic Cell Counts (SCC) was not greater than 180,000 SCC per milliliter. Some plants required not greater than 300,000, not greater than 350,000, and not greater than 400,000 SCC. No plant allowed milk with SCC above 400,000, which aligns with the export requirement to the EU. Although the PMO sets the Somatic Cell Count limit at not greater than 750,000, the practical limit is 400,000, and some Class I plants even require substantially lower SCC thresholds. Farms must maintain SCC levels significantly below the technically allowed limit to maintain Grade A status to service the Class I market.

The analysis of milk receiving standards for other quality measures yields similar results. In summary, Class I plants demand milk quality that far exceeds the minimum standards for holding a Grade A license.

While Grade A compliance is a reasonable requirement for participating in the Federal Order pool, supplying milk to Class I plants goes beyond Grade A standards. Class I plants require milk that adheres to what can best be described as Grade A Plus quality standards. These standards are substantially higher, and not every Grade A farm can meet them.

We have not quantified the additional cost of producing milk that exceeds the minimum PMO Grade A standards, but such costs undoubtedly exist. This further emphasizes the need for a minimum Class I differential level that exceeds the current $1.60.

## THE DIFFERENTIAL SURFACE

The differential surface presented in Proposal Number 19 reflects a more pronounced price gradient moving toward areas less well supplied with milk compared to the current Orders. This shift is driven by the fact that the cost of transporting milk today is higher than when the differentials were initially established under Order Reform. To fulfill their mission of encouraging milk movement for Class I use, the Orders must more closely align the financial incentives designed at encouraging milk to move to Class I with the actual cost of transportation. As hauling costs continue to rise, and Class I differentials remain static, the phrase 'establishing prices which encourage milk to move to Class I' becomes a punch line, not an objective.

## COSTS OF HAULING

Let's examine costs of hauling milk, which have undergone significant changes over the past twenty-five years. It's evident that milk hauling has become more expensive during this period, with the current cost being at least double that of twenty-five years ago. To provide perspective, it's worth noting that almost one-third of the U.S. population was not yet born the last time the Orders conducted a comprehensive analysis of hauling costs and their impact on the national Class I differential surface. This is precisely the purpose of our discussion today.

To initiate our investigation, we will begin with a literature review.

The Cass Line Haul Index serves as a monthly measure of market fluctuations in per-mile truckload linehaul rates, prepared by Cass Information Systems—a prominent freight accounting and billing company. With its extensive data on freight rates, the Cass index is considered a reliable indicator of transportation industry freight rate trends. The Index covers various types of freight, like refrigerated box shipments, dry box shipments, flatbed trailer hauling, lowboy hauling, and some liquid freight hauling, and as such it may not specifically reflect the monthly changes in milk hauling costs, which involve specialized tankers and handling due to the perishable nature of the product. Despite this limitation, the Line Haul Index provides valuable insights into the overall trends and changes in freight hauling costs, including the impact on the delivered costs of goods such as raw milk. You can find more information on the Cass Information Systems' website at www.cassinfo.com/freight-audit-payment/cass-transportation-indexes/truckload-linehaul-index.

Despite its limitations, the trend displayed in the Line Haul index certainly informs the Secretary of the overall changes and trends in freight hauling costs, and the impact on the delivered costs of all goods, including raw milk.

A second authoritative source on hauling cost data is American Transportation Research Institute. ATRI is a nonprofit association, which annually publishes data on U.S. costs of operating trucks for freight hauling. The 2023 Update was published in June of this year. ATRI's website is TruckingResearch.org, and the study report can be found there.

ATRI's 'An Analysis of the Operational Costs of Trucking: 2023' reports costs of operating trucks for freight hauling for the ten years ended in 2022. The ATRI study determined that the costs of operating a truck and trailer were $1.676 per mile in 2013, and $2.251 per mile in 2022. The 2022 operations costs are 135 percent of the 2013 rate, over just the last ten years, not the 25 years since Order differential rates were last evaluated. The ATRI data are quoted per running mile, so the per loaded mile equivalent would be $3.352 for 2013, and $4.502 for 2022. These costs of operation are variable costs only, and do not include items such as margin and return to management. Milk hauling rates are most often quoted per loaded mile. Today's roughly $4.50 cost of trucking per loaded mile equivalent reported by ATRI is highly consistent with the rates we will quote of milk hauling, when other cost items are also considered. For clarity, running mile rates would best be described as round trip miles - one way loaded and the return trip empty, while per loaded mile rates are just as they are named, charged on miles travelled on the loaded leg only. Subsequently, the mathematic conversion of loaded miles rates to running mile rates is that, per mile, loaded mile rates are twice as high as running mile rates.

It is important to note that while the Cass line-haul pricing data and the ATRI hauling cost data are not specific to milk hauling, haulers of milk compete with haulers of other products for truck drivers and available truck power units. Milk haulers must recoup the same kinds of costs as drive overall average freight rates, such as labor rates, maintenance costs, fuel, and fixed and overhead costs that are experienced for all kinds of freight hauling. Handlers of milk must pay to their milk haulers rates per mile competitive with what shippers of other kinds of freight pay to haul their products, or the milk haulers will migrate to hauling products that are generally easier to haul, and products which are substantially less perishable than raw milk. The particular handling and time-critical aspects of milk hauling suggest freight movement costs that exceed general freight. Buyers of heavy machinery or retail dry goods might want just-in-time delivery, but a bulldozer or a load of sport shirts will not spoil if they sit on a trailer an extra day or two.

Another data point that sheds light on the general cost of transportation is the standard rate for reimbursement of business use of an employee-owned automobile, announced annually by the Internal Revenue Service (IRS). Although these rates cannot directly indicate the cost of milk hauling per mile, they prove useful in comparing transportation cost changes over the past 23 to 24 years. For instance, the IRS standard reimbursement rate for business use of a personal vehicle is now twice as high as it was 23 years ago. See Exhibit NMPF - 37C page 1 of 1.

By examining these various generalized data sets, we can clearly see that the transportation and freight hauling cost environment has significantly evolved compared to 20 to 25 years ago.

Let's now consider two determinations made by the Secretary regarding milk hauling costs, specifically related to the Florida Order. On two occasions, emergency provisions were implemented in Order 6 to address extraordinary costs associated with milk movements during severe hurricanes. In the 2004 proceeding, the Secretary established a maximum mileage rate for milk movement costs at $2.25 per loaded mile. In the 2017 proceeding, this maximum rate increased to $3.75 per loaded mile, surpassing the 2004 rate by 66 percent. It is worth noting that the time span between the 2004 and 2017 determinations is roughly half the duration since the Order reform until the present.

Lastly, we refer to evidence presented during a recent Federal Milk Marketing Order hearing for the three southeastern Orders: Numbers 5, 6, and 7. The hearing addressed proposals to amend the existing transportation credit systems and introduce new Distributing Plant Delivery Credit provisions into the Orders. The evidence presented included hauling cost data from a survey conducted among the members of the proponent marketing agency in common, focusing on September and October 2020. The uncontested data revealed that the average cost of milk hauling during this period was $3.67 per loaded mile, at a time when diesel fuel prices across the Energy Information Administration's Lower Atlantic and Gulf Coast regions averaged around $2.26 per gallon. The Secretary's Recommended Decision proposes adoption of Mileage Rate Factors for Transportation Credit Balancing Funds payments, and for Distributing Plant Delivery Credit payments using the hauling cost data introduced into the record by the proponents, verbatim.

The Secretary has recognized the importance of diesel fuel costs in the costs of milk hauling, and the impact current hauling costs have on the ability to attract milk toward markets that need distant milk. The Mileage Rate Factors used in the Order 5 and Order 7 Transportation Credit Balancing Fund payments have reflected monthly changes in diesel fuel costs for more than 16 years.

## HAULING STRUCTURE

Over the past twenty-five years, there have been significant changes in institutional and structural factors that affect the national Class I differential surface. One of the most prominent factors is the increased cost of transporting milk from one location to another. Fuel prices, labor costs, equipment and maintenance expenses, insurance and overhead costs, and the costs associated with the installation of new technology in vehicles have all risen. Interestingly, these are the same types of cost increases that have been extensively discussed in previous testimonies on dairy product manufacturing make allowances. The fundamental issue of operations cost increases applies to both scenarios, with the only difference being that milk processing plants remain stationary while trucks are constantly on the move.

Trucking costs have also been impacted by additional structural and regulatory factors. Changes in regulations regarding allowable driving hours for truck drivers have reduced the number of miles they can cover in a day and the consecutive days they can spend behind the wheel. While these regulations improve public safety, they also contribute to increased costs in milk transportation.

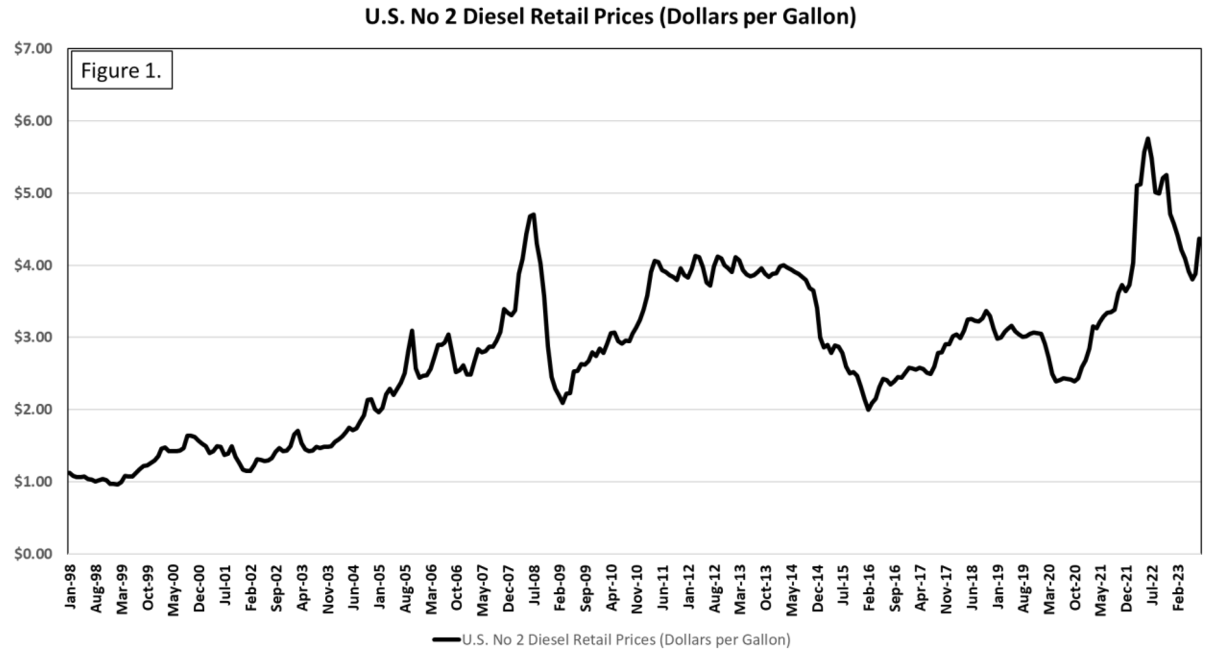
In reality, many of the rising operational costs for milk plants can be directly linked to the cost of product hauling. Milk plants rely on trucks for the delivery of various supplies such as packaging materials, cleaning supplies, and equipment. It is safe to assume that most, if not all, of these items were transported by trucks at some point during their journey to the plant.

It is difficult to comprehend how one could argue for updating federal order pricing provisions to account for fifteen years of increased milk plant manufacturing costs while simultaneously suggesting that the Secretary should disregard the twenty-five years of rising milk hauling costs. Such a claim is either misguided, disingenuous, or knowingly fallacious.

With that said, our purpose today is to present evidence on how these various cost elements, which are unavoidable, have contributed to the overall increase in hauling costs, particularly in milk transportation. Let's examine the major elements that impact the cost of hauling individually to understand their relative influence on today's hauling expenses.

## FUEL COSTS

First, let's consider the prices of diesel fuel. When the current Class I differential surface was developed using data from around 1998, diesel fuel cost approximately $1.00 per gallon. At an average fuel economy of 5.2 to 5.3 miles per gallon for a typical truck and milk tanker-trailer carrying 47,500 pounds of milk, the fuel cost per loaded mile was about $0.19 or $0.0004 per hundredweight per mile. In contrast, the national average cost of diesel fuel today is closer to $4.50 per gallon, and truck fuel economy has improved to around 6.2 miles per gallon. Consequently, the fuel cost today amounts to approximately $0.71 per loaded mile. With the increased load weights of around 49,500 pounds, the fuel cost reaches about $0.00143 per hundredweight per mile, marking an increase of 3.58 times or 258 percent. The U.S. Department of Energy's Energy Information Administration provides graphical representation of the U.S. national average weekly diesel fuel prices from 1998 to August 2023, as shown in Figure 1.




It is important to note that the discussion of diesel fuel costs and their impact on effective hauling rates can be somewhat misleading. While the announced diesel fuel prices from the Energy Information Administration serve as the basis for computing hauler-charged fuel adjusters, the fuel adjusters paid to hauling companies generally account for variable costs beyond fuel itself. These additional costs, which normally follow energy prices, include items like tires, hoses, belts, lubricants, and other related expenses. Therefore, it is not uncommon for fuel adjusters to add $1.00 to $1.50 per mile to the hauling rate at the current national diesel fuel price of $4.40 per gallon.

In 1998, the base cost of hauling was approximately $1.60 to $1.75 per loaded mile, based on the prevailing diesel price of $1.00 per gallon at that time. Fuel adjusters were not as prevalent during this period because diesel fuel prices had remained steady around $1.00 per gallon for an extended period. However, the scenario changed in mid-1999 when diesel fuel prices started to rise significantly. Consequently, haulers began implementing fuel adjusters as diesel prices exceeded the $1.00 per gallon figure.

## BASE HAULING RATE

Over the past 23 years, the cost of machinery involved in long-distance hauling has significantly increased. In the year 2000, a truck power unit outfitted for over the road hauling would typically cost between $75,000 and $80,000. However, in today's market, the cost has risen to approximately $165,000 to $170,000. Additionally, the inclusion of Electronic Log Devices, which were not required two decades ago, adds to the overall expense. This represents an increase of at least 106 to 125 percent in truck costs.

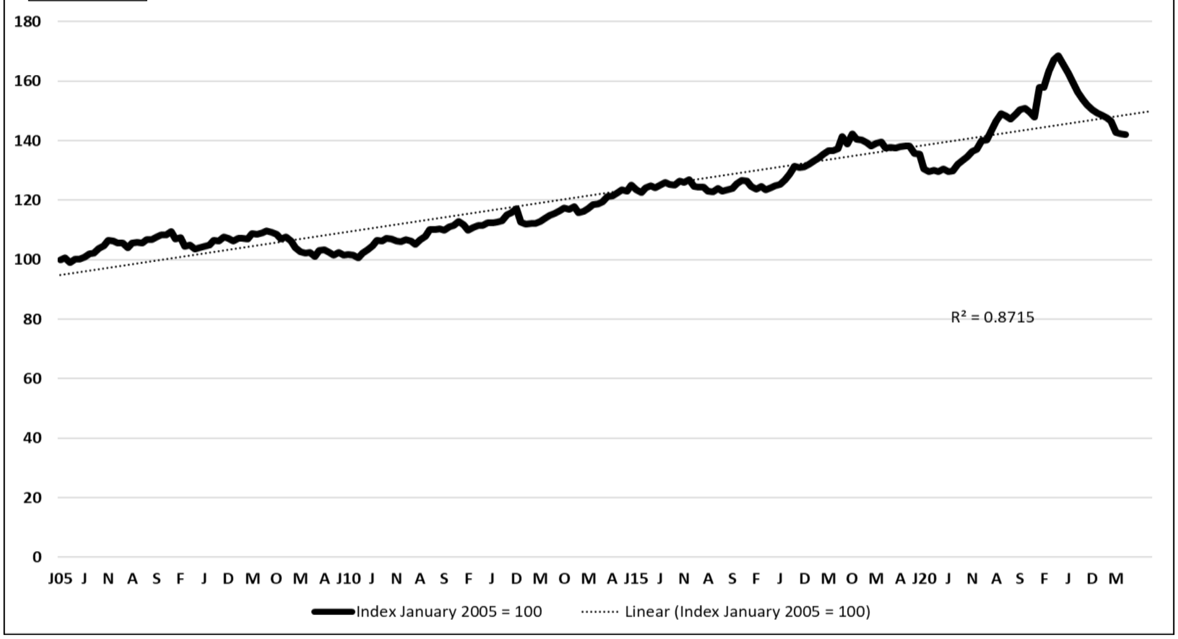
It's important to note that these figures do not include the cost of the tanker-trailer, which has also experienced a sharp rise. For instance, the purchase price of a 6,000-gallon tanker trailer has increased from approximately $47,800 in 2000 to $75,000 today, reflecting a more than 50 percent increase. Acquiring rolling stock is both expensive and challenging due to limited supply. Currently, from the date of placing an order for a new milk tanker to delivery takes around one year, sometimes even longer.

Unlike the late 1990s, opportunities for cost-saving back-hauls are now limited. Back-hauls, which at one time were available to reduce the overall hauling costs by transporting other goods after delivering raw milk, have significantly diminished. For example, in the Florida Order marketing area, back-hauls of orange juice and orange juice concentrate were common in the past. However, factors such as the decline in the Florida citrus industry and the availability of juice concentrate from other countries have virtually eliminated this option. Moreover, many processors now require tanker trailers dedicated solely for transporting milk and other liquid dairy products, prohibiting their use for non-dairy products.

Currently, the typical base rate for hauling milk stands around $3.45 per loaded mile, benchmarked against an average diesel price of $2.00 per gallon. Accounting for today's improved truck fuel economy, this translates to a base rate of approximately $3.34 per gallon at a $1.00 per gallon diesel fuel cost. It's worth noting that this base rate represents an increase of about 100 percent since mid-1998. However, it is essential to recognize that these rates are broad averages applicable over extended periods and large geographic areas. Milk hauling rates are subject to the laws of supply and demand, fluctuating based on the prevailing market conditions. Currently, the strong demand for trucking and limited supplies have led to an upward push in freight rates.

These rate-of-change values in base rates for hauling are supported by the Cass Linehaul Index and the ATRI data. The Cass linehaul data is provided as a graphical representation in Figure 2. When considering both fuel cost increases and base-haul rate increases, the typical hauling rates, even with today's improved truck fuel economy, reach close to $4.50 per loaded mile. This represents an increase of more than two-and-a-half times compared to the prevailing rates in 1998.

Figure 2.




IMPLICATIONS

We face a milk marketing calamity which will result if we do not take immediate steps to improve the economic incentives for supplying milk to Class I plants. To illustrate this point, let's examine the situation in Texas, where the current pricing system is threatening the very viability of delivering farm milk to Class I plants.

In Texas, we face a critical issue. The combination of manufacturing plants conveniently located near major milk production centers in eastern New Mexico and the Texas panhandle, coupled with the diminishing motivation to transport milk from these areas to Class I processing facilities, has placed an enormous strain on milk supply for Class I. Dairy farmers are rightfully questioning the logic of serving Class I plants located hundreds of miles away when there are manufacturing plants just a fraction of that distance. Adding to the problem, the hauling costs have well-more than doubled since the last amendment to the producer price surface in Order 126.

This strain on dairy farmers is pushing them to the brink, as they contemplate the feasibility of continuing to supply the Class I marketplace. The impending crisis in milk supply for Class I in the Order 126 area is becoming increasingly evident, and farmers are on the verge of abandoning their role in supplying Class I because it simply does not make financial sense anymore.

To highlight the gravity of the situation, we have prepared Exhibit NMPF – 37D, pages 1 of 2 and 2 of 2. This exhibit provides a clear representation of the potential net farm returns for dairy farmers in the Order 126 area. By comparing the returns after deducting hauling costs for delivering milk to hard product manufacturing plants at the Class III and Class IV prices in Amarillo, Texas, versus delivering to pool distributing plants in Dallas or Houston and collecting the Order blend, the choice becomes abundantly clear: it is more advantageous for farmers to keep their milk local and forego the Order pool. Over the past four and a half years, there has not been a single month where the minimum blend prices announced by Order 126 incentivized delivering milk to Dallas or Houston versus the Class III price. Texas panhandle producers have incurred substantial net losses when delivering milk to these cities. Even excluding anomaly months, the losses remain significant. Comparing these figures to selling milk locally in Amarillo at the Order minimum Class IV price versus the Order 126 blends in Dallas and Houston, we observe smaller losses. But, it is still more profitable for a farmer to sell milk locally in the panhandle at the Class IV price than to haul it to pool distributing plants in Dallas and Houston for the Order minimum blend. Clearly, the pricing incentives for delivering milk for Class I use are absent, leading farmers to face a challenging decision, and if left uncorrected ultimately resulting in a decline in the milk supply for Class I.

The conditions detailed in the Texas panhandle example can best be described as the most insidious form of a negative Producer Price Differential. Dairy farmers expend tremendous sums of money in hauling their milk to Class I plants, and after paying the cost of hauling, their net return is less than the Class III or Class IV price. Lest we ever forget, it is dairy farmers who pay the cost of hauling to the plants. As the costs of milk hauling per mile increase, as they undoubtedly will, absent an update to the Class I differential surface, the producers' negative returns versus the Class III and Class IV prices will only get worse and worse. This condition is unstainable.

We understand and appreciate the Department's regular reminders that the Order Program does not guarantee dairy farmers a market, a specific price, or a profit. It is equally important for the Secretary to recognize that dairy farmers are not obliged to supply milk to Class I plants if the financial viability is not there. It is a simple matter of economics.

On this issue the Secretary has three options, and they are as clear as they are as stark in their respective results. First option: adopt NMPF's proposed Class I differential surface, and provide needed financial relief which will help assure the aims and purposes of the Order program continue to be met. Second option: do nothing and allow dairy farmers to continue to bear an increasingly disproportionate share of the cost of supplying milk to the nation and the world, which they will do up until the day they say 'WE ARE NOT DOING THIS ANY MORE!', at which point the problem will be too severe to solve. Third option: reduce Class I differentials, or even worse - eliminate them, and see a quick and disastrous end to the supply of milk for Class I use. In reality options two and three get us to the same sad place, option three just gets us there substantially quicker.

Let's take a moment to reflect on the situation. Diesel fuel prices have been rising steadily, and hauling costs have increased significantly since the 1999 Order Reform Final Decision. Even if the differentials included in the Order Reform decision were adequate at the time, which they were not – since the USDA followed their long-standing practice of setting Class I differentials at less than the full cost of hauling, the effectiveness of the Class I differential surface has been severely undermined by the rising costs of transportation. There is no indication that hauling costs will substantially decrease in the future, and if left unaddressed, the differential surface will continue to lose its significance. We are rapidly approaching a point where milk marketers, especially those supplying distant Class I plants, will abandon their role and prioritize manufacturing plants for better returns. This would signify a complete failure of the Federal Milk Marketing Order Program to fulfill its intended purpose.

To prevent such a disastrous outcome, NMPF has proposed an updated and reasonable Class I differential surface for the Federal Milk Marketing Order. Some have expressed shock at the proposed increases, deeming them excessive and unfounded. However, these claims are baseless. We have already demonstrated that hauling costs have more than doubled in the past 25 years since Order Reform. This fact alone justifies increasing the differentials, and in reality, we could argue for even larger adjustments.

In conclusion, it is imperative that the Secretary acknowledge the severity of the situation and take prompt action. By adopting the NMPF's proposed Class I differential surface, we can mitigate the challenges posed by escalating hauling costs and ensure a sustainable milk supply chain. Let us act wisely to preserve the integrity of our industry and support our hardworking dairy farmers.

IMPACT ANALYSIS

Introduced at this hearing as Exhibit – USDA 46, PPD/Uniform Pricing Reflecting NMPF's Proposed Class I Differentials by Order – May 2022 and October 2022, found at Data Requests | Agricultural Marketing Service (usda.gov) is a static analysis conducted by the Federal Order Market Administrators which estimates that the NMPF proposed differentials would have increased the total Class I differential revenues of the eleven Orders by approximately fifty-six percent, based on the two representative months from 2022. When compared to a hauling cost increase of 100 to 150 percent, the requested regulated differential price only mitigates a small portion of the hauling cost increase. It is important to note that the increase in Class I differentials as proposed in Proposal Number 19 is not excessive nor is it greedy, but rather it is a conservative one.

In relation to the proposed increases in the Orders' manufacturing product make allowances, the 56 percent increase in Class I differential revenues is consistent. It might seem like a significant difference when compared to the 15 to 25 percent increase in make allowances requested by NMPF, depending on the dairy product. However, this comparison is inappropriate.

As mentioned, the vast majority of Class I differentials across the country have not been updated since Order Reform, whereas make allowances have been adjusted. NMPF's proposal for updated make allowances, which are not the highest make allowances proposed at this hearing, are as follows: $0.21 per pound for butter and nonfat dry milk, $0.24 per pound for cheese, and $0.23 per pound for dry whey. In contrast, the initial make allowances provided in the 1999 Order reform Final Decision were: $0.114 per pound for butter, $0.137 per pound for nonfat dry milk, $0.1702 per pound for cheese, and $0.137 per pound for dry whey. Therefore, comparing the proposed increases in make allowances by NMPF to the make costs included in the Orders over 23 years ago, the percentage increases are 84.2 percent for butter, 53.3 percent for nonfat dry milk, 41 percent for cheese, and 67.9 percent for dry whey. Considering these changes in dairy product manufacturing costs from the same period, NMPF's proposal for increasing Class I differentials, which have remained unchanged for 23 years, is quite reasonable.

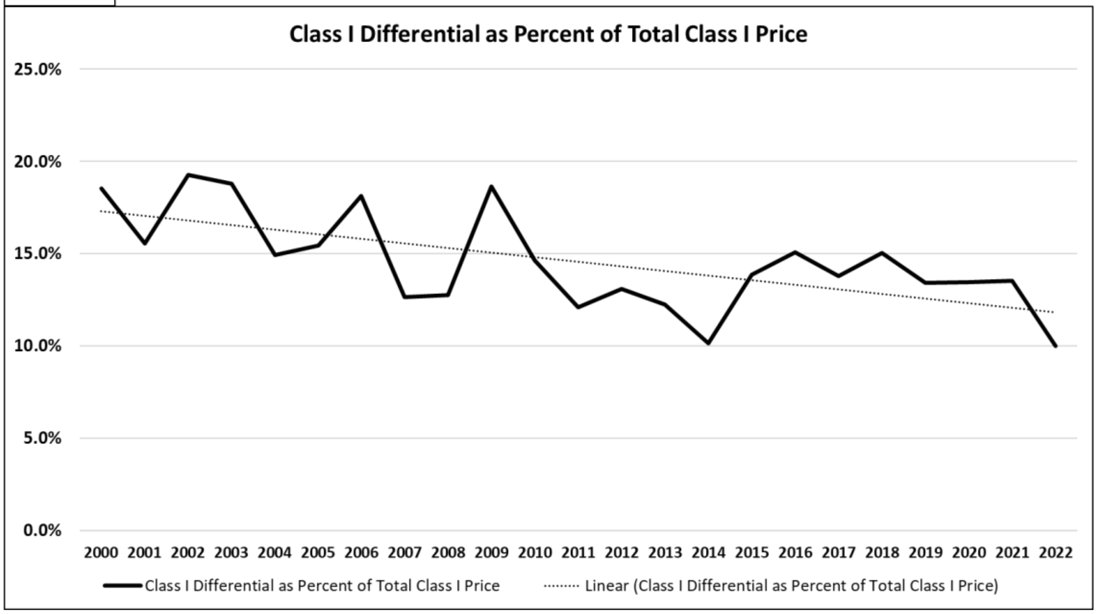
It is important to understand that a 56 percent increase in Class I differential revenues does not equate to a 56 percent increase in the regulated cost of Class I milk. Far from it. Exhibit NMPF – 37E, page 1 of 1 provides a clear representation of the impact of the national average Class I differential on the national average Class I price, including the influence of the Class I mover. By utilizing the simple average of each year's Class I mover from 2000 to 2022, along with the national average Class I differential of approximately $2.63 per hundredweight, it is evident that over the 23-year period, the current Class I differential actually accounts for roughly 14.6 percent of the total Class I price. This percentage is actually slightly overstated since the differentials used in the Exhibit reflect the differentials currently in place in Orders 5, 6, and 7, which were not increased until 2008.

Based on the market administrators' estimate of a 56 percent increase in Class I differential revenues from Tables 22-23,  the estimate is that the NMPF proposed Class I differentials will average $4.09 nationally. Considering Exhibit NMPF – 37E, page 1 of 1, this new differential level would represent just under 21 percent of the total regulated Class I costs.

Overall, the proposed increase in Class I differentials by NMPF would raise the regulated cost of Class I milk under the Orders by slightly less than eight percent. An increase in the regulated cost of Class I milk of this magnitude is not ghastly, not gaudy, not gargantuan, and certainly is not greedy. Rather, in light of the increases in the cost of hauling milk, this proposal for increasing Class I differentials provides for an increase that is in fact, guarded.

Also of note is the declining portion of the total Class I price attributable to the Class I differential, graphically displayed in Figure 3.,which is built from the data presented in Exhibit NMPF -37E page 1 of 1 . The failure to regularly update Class I differentials has reduced the relevance of the differentials as part of the total Federal Order Class I price, and continued neglect will further relegate the differentials into insignificance, which will severely limit, if not eliminate their effectiveness in encouraging milk to supply Class I markets.

Figure 3.




It is important to note that the proposed differential surface does not eliminate losses for hauling milk; it merely reduces them. The NMPF Class I differential proposal does not aim to challenge or disregard the Department's longstanding policy of minimum pricing but rather our proposal  perpetuates that principle.

The fundamental question facing the industry, and particularly the Secretary, is whether the current Class I differential surface adequately meets the needs of the marketplace, sets prices that insure a sufficient milk supply for Class I needs – including providing the incentives needed to get that milk delivered to Class I plants, and promotes orderly marketing. Our answer is that it falls short in all three aspects.

Let us examine the situation. People and cows are not readily compatible in close proximity to each other. Geographically, milk production tends to be located far from human population centers, while Class I processing remains concentrated in cities. This has led to increased distances that milk must travel from cows to consumers. Additionally, the reduction in the number of dairy farms can increase milk assembly costs in regions where smaller farms are still prevalent.

The combination of increased milk transportation distances to serve Class I markets, along with significant increases in the per-mile cost of milk hauling, threatens the supply of milk for Class I.

These rising costs of delivering milk to Class I plants, driven by increased hauling rates and longer distances, coincide with substantial structural changes in Class I milk processing.

Exhibit NMPF - 37F, page 1 of 1 presents a straightforward analysis of the change in the number and Class I milk processing throughput of plants regulated under the ten Federal Milk Marketing Orders that existed in January 2000 and January 2023.

Using data from the market administrators or published data requested from them, we examined the number of pool distributing plants pooled on each order during those two months, noted the pounds of Class I producer milk on the Order during those months, and calculated the average Class I milk per month per pool distributing plant. Over the 23-year period since the beginning of the Order Reform, the number of pool distributing plants has decreased by thirty-four percent, from 291 to 193. During the same timeframe, the average pool distributing plant has increased their Class I milk processing by twenty-five percent. In early 2000, an average pool distributing plant would process approximately 8.7 tanker loads of milk into Class I products per day, whereas today the average is closer to 10.8 loads per day.

This increased concentration in Class I processing has resulted in greater distances for milk delivery - as we previously testified, has increased the market influence of Class I processors, and created larger route disposition footprints per plant.

## IMPACT ON SMALL BUSINESSES

NMPF has thoroughly evaluated its Class I differential proposal, both as an independent measure and as part of NMPF's comprehensive package of Order amendment proposals. After careful consideration, we have concluded that the proposal will not significantly impact a substantial number of small businesses. The additional funds generated in the Order pools through the proposed higher Class I differentials will elevate Order blends and Producer Price Differentials, thereby increasing dairy farmer income.

While Class I processing plants may experience a slight rise in their regulated Class I costs due to higher differentials, the overall effect on raw product costs remains uncertain. However, what handlers of Class I milk gain from this endeavor, how they enjoy a positive impact, is a regulated system of milk prices that incentivizes dairy farmers to supply milk to their fluid milk processing plants. It is worth noting that milk plants, whether small businesses or large enterprises, cannot sustain themselves without a reliable milk supply. Federal Order prices that foster the delivery of milk to Class I plants play a significant role in preserving the orderly and economically viable milk supply to processing plants, ultimately benefiting the consuming public they serve.

## SUMMARY

The escalating costs associated with transporting milk from farms to milk processing plants, particularly Class I fluid milk processing plants, have significantly risen over the past 25 years since the Federal Milk Marketing Order program last examined these costs and their implications for the Class I differential surface.

During this hearing, proponents of updating the Federal Order's make allowances have emphasized the urgent need for updating and making more reflective of real costs, the current dairy product manufacturing cost allowances. They argue that these allowances must align with the expenses involved in converting raw milk into dairy products. Dairy farmers are equally and rightfully just as concerned about maintaining a Class I differential surface that accurately reflect the cost of transporting milk. The dairy farmers' argument for updating Class I differentials is an even more compelling one due to the substantial time elapsed since the last update.

This proceeding has presented a challenging situation for the Federal Milk Order program. Increasing make allowances would undoubtedly improve the profitability of hard-product manufacturing plants or reduce their financial losses, all else being equal. Several proponents have highlighted the importance of viable manufacturing plants as outlets for farm milk, and we wholeheartedly agree with this viewpoint.

Some proponents argue that the existing inadequate make allowance levels have discouraged investment in manufacturing capacity, and it is challenging to dispute this claim. However, it is also crucial to acknowledge that this constrained hard product manufacturing capacity may be a reason why milk is being delivered to Class I plants.

The current Class I differentials established by the Order program no longer align with the reality of milk hauling costs, creating a diminishing incentive to deliver milk for Class I use. Consequently, the industry now ships milk to Class I plants not due to the pricing provisions of the Order, but because of insufficient capacity at manufacturing plants to handle milk supplies. This situation represents a bizarre, and backward outcome compared to the program's intended purpose. Joseph Heller would be proud.

Considering these circumstances, it becomes necessary to review the fundamentals and examine the facts at hand.

Fact One: The costs of dairy product manufacturing, and milk delivery, have significantly increased in the past 15 and 25 years, respectively, since the Order program last reviewed them.

Fact Two: The Order program uses wholesale dairy product prices as the basis for determining Class prices, and a make allowance is an essential component of the Class price equations.

Fact Three: The Orders are responsible for providing financial incentives to insure the availability of milk for Class I use. These incentives take the form of a Class I price designed to be superior to other Classes over time and a Class I price surface intended to attract milk from surplus supply areas to regions with a higher relative demand.

Fact Four: The cost increases mentioned in Fact One have rendered the mechanisms outlined in Facts Two and Three inadequate for their intended purposes.

Fact Five: Left uncorrected, the incentive to supply milk to plants for Class I use will be so inferior to the costs of making those deliveries of milk, the milk will cease moving to Class I.

Therefore, it is imperative that the Secretary updates both make allowances and Class I differentials. The consequences of inaction on these two issues is clear and convincing. The failure to address either matter would leave the industry in a worse state than it is currently.

**Part 2. The Class I Differential Proposal Development Process**

This testimony is presented on behalf of National Milk Producers Federation, hereafter NMPF, and is further testimony submitted in support of Proposal Number 19, and the manner and processes used to develop the proposed Class I pricing surface as provided in Proposal Number 19.

The process employed in developing the proposed updates to the Federal Order Class I differential surface was a collaborative one, and relied heavily on the expertise and local market knowledge of multiple staff members of numerous NMPF member cooperatives. To be honest, no single soul can be an expert on Class I differentials in every one of the more than 3,100 counties, parishes, and independent cities in the forty-eight contiguous states, all of which must carry a stated Class I differential in §1000.52. Consequently, the testimony will reflect the contribution of this local knowledge and market intelligence. We will employ a rotating series of primary witnesses and supporting witnesses with regional knowledge who each were instrumental in the process of developing the recommended Class I price surface in their respective regions. Each witness will individually present their direct testimony on how, and why, the differential recommendation in their region was developed as proposed.

Each region will present its own testimony providing explanations and justifications for its proposed differentials. The four regional Working Groups were: the Northeast-Mideast region, roughly the geographic territory covered by the Order 1 and Order 33 Marketing Areas, plus some unregulated territory;  the Midwest region, roughly the geographic territory covered by the Order 30 Marketing Area and the eastern portion of the Order 32 Marketing Area, plus some unregulated territory; the Southeast-Southwest region, roughly the geographic territory covered by the Order 5, Order 6, Order 7 and Order 126 Marketing Areas, plus some unregulated territory; and the Western regional Working Group, whose territory covered the Order 51, Order 124, and Order 131 Marketing Areas, the western portion of the Order 32 Marketing Areas, plus the large unregulated territories of the western states.

We will begin our testimony on Proposal number 19 with a general description of the methodology employed in developing our proposed Class I differential surface.

USDA's use of the spatial pricing Model in Order Reform for developing the Class I differential system in place in much of the country today, took the Model results and modified the suggested price surface with real-world, boots on the ground knowledge of milk plant locations, milk supply locations, and day to day implications of milk movements which simply cannot be captured in the spatial pricing Model.

Models are, by definition, a simplified version of reality. The model results must then be tempered and augmented with the kinds of milk movement knowledge that can never be captured in a Model, no matter how sophisticated it is. Additionally, models use historical data, typically over a period of time, and in the case of the spatial price Model, over a full month. In reality, milk plants receive milk daily, and the demand and supply of milk shifts daily. Scheduling milk and balancing milk supplies is a daily endeavor, sometimes a daily nightmare. No model can capture the interplay of milk balancing that occurs on a daily basis. Particularly with regard to development of a Class I price surface, it is important to note the fact that Class I plants' variability in daily, monthly, and seasonal milk receiving often is more variable than plants processing other products. The human touch is a necessary element in the development of a workable Class I pricing surface.

The NMPF full Class I Price Working Group followed USDA's precedent in how the spatial price Model aided us in the development of our Class I differential recommendation, and how we combined the Model output with the human knowledge element.

Here is the basic process the Class I Price Working Group employed. First, three basic runs of the spatial price Model were completed, with improvements to the quality of the Model's data each time. The Class I Price Working Group then analyzed the Model output, and collaboratively, in a face-to-face meeting, developed a set of initial Class I Differential recommendations for nineteen cities, all of which were located near the border where two regions abutted. These came to be known as the "anchor cities" recommendations. These anchor city Class I differential recommendations aided the regional Working Groups in providing something of a starting point in development of their regional recommendations.

From there, each regional Working Group began developing the recommended Class I differential surface for the geographic area assigned them. These regional Working Groups became colloquially referred to as the Colored Pencil Crews, in recognition of the need for deep dive, hands on, nitty-gritty attention to the Model's output and the implications of real-life milk supplies and demands, as well as a nostalgic nod to the days when blank paper maps and colored pencils would have been used to draw differential maps. Members of the four Colored Pencil Crews extended to cooperative staff members well beyond the members of the full national Class I Working Group, and included staff members with day-to-day responsibilities in routing milk, balancing milk supplies, and selecting optimal farm to market supplies and deliveries of milk to real-life buyers and users of Class I milk. In other words, these are people who know their markets, where milk comes from, where it goes to, and why.

It bears noting that the members of the various regional Working Groups were not necessarily mutually exclusive. Several members of the regional Working Groups served on more than one regional Working Group, thus providing pertinent inter-regional information as each regional Working Group worked through the proposed Class I differentials.

As each regional Working Group completed their initial Class I differential recommendations, their work was published to the full Class I Working Group, and neighboring regions then collaborated to make certain the alignment of Class I prices across Order or regional lines made sense and met the reasonableness criteria. There were a few adjustments on border areas, all minor in nature. The process and system progressed until all four regions completed their recommendations and their recommendations meshed with their neighboring regions. Imagine if you will, a massive four-piece wooden jigsaw puzzle where the tabs and blanks are there, but may not initially fit perfectly, and thus may need a little sanding to allow them to snug up together. When the region-to-region price alignment process was completed, we had a forty-eight-state map of Class I differentials, and the associated list of counties, parishes and independent cities and their respective Class I differentials. These became the list of Class I differentials proposed for amending §1000.52.

The §1000.52 differentials as proposed to be amended represent the entire differential for all Orders, thus §1005.51(b), §1006.51(b), and §1007.51(b) are no longer needed, and are proposed to be eliminated.

It should be noted that the number of adjustments which eventually were made to satisfy price alignment criteria inter-regionally were actually quite small, and the magnitude of the few needed changes was likewise small, often on the order of nickels and dimes, certainly not dollars.

The work of each of the regional Working Groups followed much the same pattern, and included the obvious review of county and plant level data from the spatial Model output, the current alignment of Class I differential prices between existing plants, the location of milk supplies, and how those supplies were utilized daily and seasonally. Coupled with the anchor cities price recommendation, the Model output, and the lay of the land locally, the regional Class I differential surfaces were developed.

In the end, a few of the anchor cities' initial recommended Class I differentials were changed, but by and large, the initial anchor cities' differentials held up to the additional scrutiny of the regional Working Groups.

The several witnesses to follow will testify on a more granular level about how their regional Working Groups arrived at their recommended Class I differentials. I will commence the regional work description process by testifying as to how the Southeast-Southwest regional Working Group went about its work.

**Part 3. Development of the Southeast/Southwest Regional Class I Differential Proposal (Orders 5, 6, 7, and 126)**

I suspect all of the regional witnesses will testify as to why their region presented unique challenges to updating the Class I differential surface, and they all would be right, in their own ways. However, none of the other regions faced the critical and worsening milk deficit condition existing in the southeast.

Throughout the Class I differential development process, collaboration was our watchword. The Southeast-Southwest regional Working Group began its work with a partially blank spreadsheet listing the city location of all the pool distributing plants regulated on Orders 5, 6, 7 and 126, the current effective Class I differential at each plant, the Model output for May and October 2021, the simple average of the May-October Model differential results, and the initial anchor cities differential recommendation for the four anchor cities in the southeast-southwest region. Each of the five cooperative associations represented on the regional Working Group was asked to populate the spreadsheet with their recommended Class I differential for each city location. In the case of the Southeast-Southwest regional Working Group, two of the cooperative associations collaborated on a recommended price surface and submitted their recommendation to the Southeast-Southwest regional Working Group jointly, with the spreadsheet and a preliminary map. One cooperative did not make a recommendation for one of the four Order areas, but did so for the other three Orders.

The fully populated spreadsheet was distributed to the regional Working Group members, and the spreadsheet included the simple average of the cooperatives' submitted recommendations. Predictably, there were differences represented in the initial spreadsheet submissions, but the range of recommended differentials at locations where differences existed was small.

After some time was given for the Southeast-Southwest regional Working Group to digest the various recommendations, the regional Working Group scheduled a video conference, at which a draft map was displayed with the ability to edit the map in real time. Through this map drawing exercise, the modern equivalent of using paper maps and colored pencils, many of the differences in location specific differential recommendations were resolved. At this point the Southeast-Southwest regional Working Group had a map and recommendation that was probably 95 percent complete. Remaining city locations were largely near the region's borders, and could be impacted by recommendations from the other regional Working Groups. A second video conference was held to work out the remaining city differentials left undecided from the first conference.

All of the Southeast-Southwest regional Working Group members reported very similar processes used in developing their individual initial recommendations. A desire to respect, when possible, current city to city price relationships was universal within the Southeast-Southwest regional Working Group. But what was also universally accepted was that due to the milk deficit nature of the three southeast Order areas and the eastern portion of the Order 126 marketing area, and the need to provide proper financial incentives to move milk into and within the Orders, the slope of the Class I differential surface in Orders 5, 6, 7, and 126 needed to steepen. This need for a steepened price surface, while known intuitively by the Southeast-Southwest regional Working Group members, was also strikingly borne out in the Model results. Changing the north to south, and southwest to southeast slope of milk prices would necessitate widening the spread in some differential prices city to city as we worked our way southward. The Southeast-Southwest regional Working Group did realize that there were clusters of plants, often within metropolitan areas, that currently had the same Class I differential, and that differential consistency would be appropriate to attempt, as possible, to continue. These plant clusters with current common Class I differentials included the plants along the Louisiana Gulf Coast; the London-Somerset, Kentucky and the Nashville and Murfreesboro, Tennessee area; the Atlanta, Georgia metro area; the Mount Crawford, and Verona, Virginia area; the Lynchburg, Wirtz, and Newport News, Virginia area; the Winston-Salem, High Point, Julian, and Asheville, North Carolina area; the Athens and Powell, Tennessee area; the Orlando-Tampa, Florida combined metro areas; the Miami, Florida metro area; the Dallas-Fort Worth, Texas metroplex; the Amarillo-Lubbock, Texas metro areas; and the Houston – Conroe, Texas area.

Continuing the jigsaw puzzle analogy, the Southeast-Southwest regional Working Group determined that a reasonable method of evaluating the Model output and progressively determining recommended differentials at all the plant locations was to start at something akin to the corners of Orders 5, 6, and 7. Due to the intertwined relationship of milk supplies and milk demand for these three Orders, it was determined that considering and establishing Class I differentials across Orders 5, 6 and 7 would be undertaken more or less all together.

There were four anchor cities included in the Southeast-Southwest region: Winchester, Kentucky; Nashville, Tennessee; Asheville, North Carolina; and Amarillo, Texas. The Southeast-Southwest regional Working Group's critical review of the anchor recommendations was that they were appropriate recommendations for Winchester, Kentucky; and Nashville, Tennessee, and we used these anchor prices to key off of in working through the Order 5, 6, 7 differentials.

Next, we determined that for the Order 5, 6, 7 part of the process, establishing the recommended differential in the Miami, Florida area would be prudent. The Southeast-Southwest regional Working Group agreed that the differential result from the spatial Model for Miami, Florida was reasonable in light of the distance to south Florida from reserve supplies, and adopted $7.90 as the recommended differential for Miami. So, at this point we had differential prices established at a city at the northern end of Order 5, Winchester, Kentucky at $4.60; a differential at a city roughly in the center of the Order 5 and 7 area, Nashville, Tennessee at $4.85; and a city at the far south end of the region, Miami, at $7.90.

The next point for review was the southwest corner of Order 7, basically the three cities on the Louisiana Gulf Coast. These three cities currently have the same differential, and the Southeast-Southwest regional Working Group determined that retaining that relationship was appropriate. The Model results provided a range of prices for these three cities, ascending from west to east, Lafayette to Baton Rouge to Hammond. The Working Group agreed that the logical differential would be near the average of the three cities' Model results, and set the differential for all three of these cities at $5.70.

Next differentials in southern Missouri and Arkansas were evaluated. It was determined, that while the Springfield, and Fordland, Missouri cities, and the cities of Fayetteville and Fort Smith, Aransas currently exist across three Order 7 pricing zones, the common local milk procurement area and the common supplemental milk procurement area shared by these plants created a need for a common Class I differential across this four-city area. It was determined that based on proposed anchor city differential at Norman Oklahoma of $3.85, a price difference Norman to southwest-Missouri and northwest Arkansas was appropriate. A differential of $4.00 was recommended for the two southwest-Missouri and for the two northwest Arkansas cities.

Having built something like at least some the corners of the puzzle, we progressively worked toward the middle.

The Southeast-Southwest regional Working Group then reviewed the Class I differential needed at Little Rock, Arkansas. Little Rock shares much the same local and supplemental milk procurement areas as the southwest-Missouri and northwest Arkansas cities, but the distance the milk moves to Little Rock is considerably longer. The Working Group determined that based on milk procurement costs, a $0.60 higher differential at Little Rock versus the southwest-Missouri and northwest Arkansas cities was justified, and established the recommended Class I differential at Little Rock to be $4.60.

Memphis, Tennessee often draws milk from the same supply regions as does Little Rock, and the distance, particularly for milk moving from the southwest as supplemental milk, must move more miles to Memphis than to deliver to Little Rock. Thus, the differential value at Memphis should exceed the differential at Little Rock in order to attract a supply to Memphis. With an established recommended differential at Nashville of $4.85, and the established differential at Little Rock of $4.60, the Working Group set the Memphis differential at $4.75.

There are very few partially regulated distributing plants within or nearby the Order 5, 6 and 7 marketing areas. In fact, in terms of plants of considerable size, we understand that there are only two. One of the two is located in Murray, Kentucky. Geographically, Murray is relatively close to Memphis, Tennessee and Little Rock, Arkansas, and the Working Group determined that the recommended differential for Murray should be reflective of that. Murray does sit somewhat closer to available milk supplies, both local in-area supplies, and the likely sources of supplemental milk to the north, than does Memphis. The Working Group determined that the differential at Murray should be set equal to Little Rock, that is $4.60.

The last location on the west side of Order 7 to establish was Kosciusko, Mississippi. The current differential at Kosciusko is $0.50 less than the plants on the Louisiana Gulf Coast. In reality, the cost to supply milk for Kosciusko as much nearer to the cost of supplying these coastal plants than it is to being $0.50 less than the coastal plants. The Southeast-Southwest regional Working Group determined that a differential difference between Kosciusko and the coastal plants was more appropriate at $0.20 less than the coast than the current $0.50. The Working Group established the recommended differential at Kosciusko at $5.50.

For the northern portion of Order 5, the Indiana and Kentucky plants, the recommended differentials were determined in the following manner. As previously testified, the regional Working Group had already established that the differentials at London and Somerset, Kentucky should continue to be the same as Nashville, Tennessee, and thus the Working Group established the east-central Kentucky Order 5 plant differentials at $4.85. The recommended anchor differential at Winchester, Kentucky was retained, and established by the Working Group as initially anchored, thus the Winchester, Kentucky differential was set at $4.60.

At this point there was one remaining plant in the northern portion of Order 5, Holland, Indiana. Keying off of the anchor cities prices of $3.70 at both Indianapolis, Indiana, and St. Louis, Missouri, the Southeast-Southwest regional Working Group established the Holland differential at $4.00, which aligns well with Indianapolis and St. Louis, and Winchester, Kentucky.

The Working Group turned its attention to the Virginia and the Carolinas portion of Order 5, moving to another corner of the puzzle if you will.

After a review of the Model results the Working Group realized and recognized that some of the Model-suggested differentials were higher than really necessary to attract and retain a supply for the Virginia and the Carolinas portion of the Order 5 area, and accordingly, the initial anchor city differential, set at $5.70 for Asheville, North Carolina, was deemed as having been set too high. However, it was determined that the Model results for northern Virginia were reasonable.

Based in this determination, the differential at Mount Crawford and Verona, Virginia was established at $4.70. The plant at Mount Crawford, Virginia is one of the two prominent partially regulated distributing plants located within the three southeastern Orders.

The Lynchburg, Wirtz, and Newport News, Virginia areas all currently have the same Class I differential, and the regional Working Group determined this pricing uniformity should continue. Based on the distance milk moves to supply these plants across the southern tier of Virginia, the Working Group determined that a $0.30 higher differential at the southern Virginia plants versus the northern Virginia plants was appropriate. The Working Group established the differential for the cities of Lynchburg, Wirtz, and Newport News, Virginia at $5.00.

Similarly, the Southeast-Southwest regional Working Group had determined that the cities of Winston-Salem, High Point, and Julian, North Carolina; and Athens and Powell, Tennessee should all carry the same Class I differential. Currently these cities have equal Class I differentials, excepting Powell, Tennessee, whose differential is $0.20 less than the other cities. The supply of milk for the central North Carolina plants is similar in source as the northern and southern Virginia plant clusters, but the milk must move farther when coming from the north. The regional Working Group determined that a $0.20 higher differential for central North Carolina provided the proper incentives to move milk from the northern reserve supplies, which creates a recommended differential of $5.20 for the central North Carolina plants. Comparing this central North Carolina differential to the anchor differential at Nashville, Tennessee, which is $4.85, provided reasonable price alignment between the eastern Tennessee plant locations and Nashville. Consequently, the Powell and Athens, Tennessee cities' differentials were set at $5.20. This amount satisfied both the desire for price alignment between the eastern and the central Tennessee plants, and provided a consistent differential to the differential established for the central North Carolina plants.

At this point, three plant locations within Order 5 remained to set a recommended differential, these being Asheville, North Carolina; Spartanburg, South Carolina; and Walterboro, South Carolina.

The mountainous terrain of western North Carolina creates additional challenges in supplying Asheville, and thus it was determined that Asheville should carry a somewhat higher differential than the central North Carolina plants. While the anchor price at Asheville had been initially set at $5.70, and the Southeast-Southwest regional Working Group deemed that too high, and $0.20 price gradient between the central North Carolina plants and the eastern Tennessee plants to Asheville was determined to be warranted. Consequently, the Class I differential for Asheville is recommended to be $5.40.

There remained two plant locations to evaluate in Order 5, both in South Carolina, and the first to be determined was Spartanburg. Spartanburg's current Class I differential is $0.20 higher than the central and eastern North Carolina plants. Since these recommendations include separating Asheville differential from the central North Carolina plants' differential, and as discussed providing a $0.20 higher differential in Asheville than central North Carolina, the question arose of which of these northern pricing areas should be used as the reference zone to Spartanburg. Geographically, Spartanburg, South Carolina is substantially closer to Asheville, North Carolina than it is to the Winston Salem, and High Point, North Carolina plants. Consequently, the regional Working Group deemed Asheville to be the better reference point. The Working Group determined that the current differential difference between Asheville and Spartanburg should be retained, $0.20 per hundredweight, and thus established the recommended differential at Spartanburg at $5.60.

The sole remaining Order 5 plant for which to determine a Class differential was Walterboro, in Colleton County, South Carolina, a coastal county near where South Carolina and Georgia meet on the Atlantic Ocean. The plant in Walterboro appears on the market administrator's handler list as a pool distributing one month during 2022, and is not listed any month otherwise under any category of regulated or partially regulated plants. The current Class I differential at Walterboro is $4.30 per hundredweight, $0.70 higher than Spartanburg. Previously we determined that the Spartanburg differential is proposed to increase $2.00 per hundredweight from current, and the regional Working Group determined that the Walterboro differential should increase a like amount. Thus, the Class I differential for Walterboro is proposed to be $6.30.

The Southeast-Southwest regional Working Group then reviewed the Class I differential for the Atlanta, Georgia metro area. As previously stated, the Working Group had committed based on long precedent that the plants in the Atlanta metro area, which currently carry the same differential, should continue to do so. Comparing the distance to Atlanta from available supplies, particularly supplemental supplies, a price which exceeded Spartanburg, South Carolina was deemed appropriate, as is the case currently. The current relationship between Spartanburg and Atlanta, is a $0.20 higher differential in Atlanta. The Working Group determined that based on the distance to Atlanta from supplemental supplies both from the north and from the west, a larger differential difference versus Spartanburg than currently exists is warranted. The Working Group concluded that a $0.35 higher differential in Atlanta and Dacula versus Spartanburg was warranted, and established the recommended differential for the Atlanta metro area plants at $5.95.

Lastly for Order 7, the regional Working Group evaluated the proposed Class I differential for Slocomb, Alabama, which is in Geneva County, on the Alabama-Florida border, and just north of the panhandle of Florida, that portion of Florida which is part of the Southeast Order marketing area. Geneva county is the adjacent county directly west of Houston County, whose major city is Dothan. The plant located in Slocomb is listed in market administrator statistics as alternating between pool distributing plant and exempt plant status, with roughly half the time being pooled. The current Class differential for Geneva County is $4.30 per hundredweight, $0.50 greater than the Atlanta metro plants. The Working Group, in reviewing the intended slope of Class I differentials determined that Slocomb, Alabama should carry the same Class I differential as Atlanta, $5.95 per hundredweight.

Now it was time to finish up the recommended differential surface for Order 6.

As discussed, the recommended differential had already been established for Miami, Florida metro area at $7.90 per hundredweight. All that remained for Order 6 was to establish the differentials for the Tampa-Orlando, Florida corridor, and Myakka City, Florida.

Florida plants located in Orange City, Orlando, Tampa, Plant City, and Lakeland all currently carry the same differential, and the regional Working Group determined that this relationship should continue. The current differential difference between the Tampa-Orlando corridor plants and Miami is $0.60, with Miami being the higher. A substantial portion of the milk produced within the state of Florida is located between the Tampa-Orlando corridor and Miami, and moves both south to Miami, and north to the Tampa-Orlando corridor plants. Consequently, the regional Working Group determined that the current $0.60 spread between the Tampa-Orlando corridor plants and the Miami metro area plants remained reasonable. Therefore, the differential for the Tampa-Orlando plants was set at $7.30, $0.60 less than Miami's proposed $7.90 differential.

Myakka City, Florida currently carries a differential $0.40 greater than plants in the Tampa-Orlando corridor. Based on Myakka City's nearness to Tampa, the current $0.40 spread was deemed too high, and too high by about double. The proposed differential at Myakka City was established at $7.50, $0.20 higher than Tampa-Orlando corridor plants' proposed $7.30 differential.

Lastly, the Southeast-Southwest regional Working Group tackled Class I differentials across the Order 126 marketing area. Order 126, at least ostensibly, should be a marketing area with sufficient milk supplies to meet the Class I needs of the area. However, there is a major disconnect between the location of the Order's milk supplies and the location of the prevalence of the Order's population. The shear distances milk must move within the Order 126 marketing rival some of the distances supplemental milk moves into the southeastern Orders. The vast majority of Order 126's milk supplies are produced in the Texas panhandle and Eastern New Mexico areas, and along with those supplies of milk, exists the predominance of the Order 126 marketing area's hard product manufacturing.

The major population centers within the Order 126 marketing area are largely located on the eastern side of Texas, and include the Dallas-Fort Worth metroplex, the Houston metro area, the San Antonio metro area, and the Austin metro area. On the western side of Texas is the

Amarillo-Lubbock city cluster, and El Paso. There are two major metropolitan areas in New Mexico, Albuquerque in the north, and Las Cruces in the south. Not surprisingly, with the exception of Las Cruces, Order 126's pool distributing plants can mostly be found in these listed major cities. The Dallas-Fort Worth-Arlington MSA is the U.S.'s fourth most populous, and the Houston-The Woodlands – Sugarland MSA is the U.S.'s fifth most populous. From Hereford, Texas it is approximately 385 miles to the center of the Dallas-Fort Worth metroplex, and is approximately 635 miles to Houston.

Like most of the rest of the country, the current Class I differential surface in the Order 126 marketing area has fallen woefully inadequate in incentivizing the movement of milk from the locations of milk supply to the areas of Class I demand. While milk production has grown in Texas over the last decade, virtually all that growth has occurred in the panhandle area.

Currently, according to the Order 126's website, there are 19 pool distributing plants regulated by the Order, only two of which are located outside the major metropolitan areas listed earlier. Also as testified earlier, the Southeast-Southwest regional Working Group determined that plants currently carrying the same Class I differential and located within the same metro areas, should continue to have the same differential, if possible.

There was one anchor city located in the Order 126 area, Amarillo, which sits at the junction of the Order 126 and the southern portion of the Order 32 area. The anchor city differential was initially set by the full Class I Working Group at $2.65. Nearby was the anchor city of Norman, Oklahoma, with an initial anchor city differential of $3.85.

Currently, there are equal stair steps in the Class I differential between the Texas panhandle and the Dallas-Fort metroplex, and then between the Dallas-Fort metroplex and Houston. The current Texas panhandle differential is $2.40, Dallas – Fort Worth is $3.00, and Houston is $3.60, two successive $0.60 steps coming out of the panhandle. The regional Working Group determined that the magnitude of these steps is inadequate to attract milk south and east from the panhandle, but that equal steps between the locales is still appropriate.

In reviewing the Model results, the suggested differential for Houston, averaging the two Model run months, was $4.70. Comparing this differential to the regional Working Group's recommended differential for plants along the Louisiana Gulf coast of $5.70, the Working Group determined that a modestly higher differential than the Model suggestion for Houston was reasonable, and established the Houston-Conroe differential at $5.00.

In reviewing the differentials established for the southeast Orders, and for the Midwest and northeast regions, there emerged an obvious northeast to southwest differential zone of $4.00, which, when extended along it's line, would reach the Dallas-Fort Worth area.  With a Model-recommended differential of $3.70 to $3.75 for the DFW region, establishing a differential of

$4.00 for the DFW area was determined to be reasonable. The county of Kaufman, Texas is included in the proposed $4.00 zone.

This would be a good time to pause and discuss, and would provide an excellent object lesson, on why the human touch, the colored pencil work if you will, is an integral part of the Class I differential surface development process. It's been said that developing Class I differentials is part art, part science, and I've said that many times myself. All the regional Working Groups had access to answers generated by the science part, the spatial pricing Model, but the art part integrates the boots on the ground experience, precedent, and institutional memory into the process to actually make it feasible.

Geographically, Fort Worth is on the west side of the metroplex, and Dallas is on the east side. As is the case for many parts of the Order 126 marketing area, both cities are supplied heavily from milk produced in the Texas panhandle region. Logistically, and scientifically if you will, it is easier, and a shorter haul from the Texas panhandle to Fort Worth than it is to Dallas. It is roughly 30 miles from the City Hall in Fort Worth to the City Hall in Dallas. Thus, it should be cheaper to supply plants in Fort Worth than to supply plants in Dallas. This is borne out in the spatial Model's results which suggests the differential in Dallas should be $0.05 higher than the differential in Fort Worth.

In a world driven purely by logic and science, a differing Class I differential in these two cities might work. In practicality, no way. The Class I differential has been the same in Dallas and Fort Worth for many, many years, and should continue to exist in that way. These are the kind of human touch adjustments that make the art part of the Class I differential development equation so necessary.

In reality, we wouldn't want to burden the cold, calculating logic of a linear programming Model with hundreds of likely ever-changing constraints, limitations, qualifiers, bounds and exceptions. That would defeat the purpose of generating a science-based Model result. It is decidedly better to get the science-driven answer knowing that it is a backward-looking clinical result that will need modifying, and then adapt it with real world experience.

So, back to applying the art and science.

Since the Southeast-Southwest regional Working Group had determined that there should be equal per hundredweight steps from Houston to Dallas-Fort Worth, and Dallas-Fort Worth to the Texas panhandle, and the established difference between Houston and DFW was $1.00, $3.00 was established as the recommended differential for the panhandle, $3.00 being $1.00 less than the $4.00 differential recommended for the Dallas-Fort Worth metroplex. In accordance with regional Working Group's desire to preserve same-differential pricing in as many cities as practicable, the $3.00 differential is applicable to both Amarillo and Lubbock.

Gustine, Texas, which is southwest of the Dallas-Fort Worth metroplex currently has a Class I differential of $2.80, $0.20 less than the metroplex. Consistent with the change in slope of the recommended differential in Texas, with greater differences moving northwest to southeast, the Working Group determined that an increase in the Gustine differential was justified, and should be slightly greater than the proposed change at Dallas-Fort Worth. Gustine is recommended to have a differential of $3.85, an increase of $1.05, compared to the $1.00 increase proposed for Dallas-Fort Worth.

There is only one Order 126 pool distributing plant located in New Mexico, and that one plant is in Albuquerque, in the northern half of the state. The current Class I differential for Albuquerque is $2.35 per hundredweight. The predominance of supply for Albuquerque comes from counties near the middle of the state, likely Valencia and Socorro counties, occasionally supplemented by milk supplies produced in the heavy production region of southeast New Mexico, which includes the notable milk producing counties of Chaves, Curry, Eddy, Lea, and Roosevelt. Additionally, on rare occasions, and depending on the overall supply-demand conditions of the region, small quantities of milk may move from the Texas panhandle to Albuquerque.

The distance milk would move from Valencia and Socorro counties to Albuquerque is mostly less than an average of 60 miles, thus this is a local and relatively low cost haul. This milk in the two central New Mexico counties is not likely to be drawn on a regular basis away from Albuquerque to the New Mexico manufacturing facilities in the southern part of the state due to sheer distance. From the central New Mexico counties to the nearest of the hard product plants in the southern half of the state would be more than twice as far as to go to Albuquerque, and across less than hospitable terrain, and traversing over less than ideal roads. Consequently, there is little practical threat that the central New Mexico located farm milk would want to serve any location other than Albuquerque on a regular daily basis.

In reviewing the milk production data, and the general disincentives to move milk long distances within New Mexico due to the over-abundance of mountain ranges, and the dearth of suitable roadways, it became apparent that New Mexico has three pockets of milk production, each of which has what effectively its own primary local in-state market for milk.

As described, the central New Mexico milk shed, Valencia and Socorro counties, principally serves Albuquerque. The southeastern milk shed, Chaves, Curry, Eddy, Lea, and Roosevelt counties principally serve the large manufacturing plants in Clovis, Dexter, Portales, and Roswell. And finally, the southwestern milk shed, containing Luna and Don Anna counties principally serves the manufacturing plant in Las Cruses, plus the Class I plants in El Paso, Texas. Only in very tight supply seasons is there much cross mixing of the milk supplies amongst these milk sheds.

Inasmuch as there is little overlap in procurement for milk plants located in the state of New Mexico, and there is little likelihood that the principal supply of milk for the State's lone Class I plant will be drawn away from that plant, then there is little reason to reflect substantial differences within state of the value of milk.

However, there are compelling reasons to vary the relationship of the state's Class I differential level versus the heavy Class I use areas of Texas, and this fact drove the development of the proposed Class I differential level for New Mexico.

The current Class I differential in southern New Mexico is $2.10, $0.90 per hundredweight less than the DFW metroplex, and $0.30 less than the Texas panhandle. This lower differential in southeastern New Mexico reflects both the additional mileage and the on-the-road time required to move milk into the metroplex versus the Texas panhandle, and the substantially smaller quantity of Class I demand that exists in New Mexico versus Texas.

The mileage difference between the eastern New Mexico dairy farms and the DFW metroplex, when looking purely at the atlas, is only about 30 miles greater than the Texas panhandle to the metroplex distance. However, much of the standard route from eastern New Mexico to DFW is on roads containing two lanes which go through, not around, the small rural towns. The principal route from the Texas panhandle to DFW is virtually all four-lane, and while not an interstate highway per se, does have bypasses around a number of the small towns, thus carrying a speed limit higher than the two lane road from New Mexico. In reality, due purely to these differences in road conditions, the difference in time on the road is more than an hour different, with the New Mexico to DFW route being the slower. It's an important hour. We will explain further a little later in this testimony what we mean, but for now suffice it to say that a truck travelling five hours one way means a lot when compared to one travelling six and a half hours one way.

The balancing plant located in Portales, New Mexico receives seasonal reserve supplies from both the New Mexico and Texas panhandle areas. When milk supplies get tight, like in late summer and early autumn, milk is pulled out of the Portales balancing facility and sent to the heavy Class I demand cities in eastern and southern Texas. The milk that is the first to be pulled out of balancing is the milk located in Texas, since the logistics of moving this milk to the Texas Class I facilities is much preferable.

Consequently, the milk marketing system that has grown out this geographic, topographic, and traffic-graphic difference has led to the milk in the panhandle moving to supply the large Class I markets in central and eastern Texas, and the New Mexico milk staying home to a much greater degree.

Considering the nature of milk supplies across the State of New Mexico, how they are utilized, in particular the configuration of local plants within or nearby local milk sheds, it was determined that the same differential should be applicable across all of New Mexico, $2.70 per hundredweight. This recommended differential across New Mexico aligns well with the recommended differentials in the neighboring states of Colorado, the panhandle of Texas, Arizona, and the city of El Paso.

The regional Working Group then considered the Class I differentials at Austin and San Antonio, Texas. The current differential at Austin is $3.30, $0.30 higher than Dallas-Fort Worth. The Working Group determined that a slight increase in the spread between Austin and Dallas-Fort Worth was needed, increasing the slope of the differential surface to attract milk supplies to the large metro areas south of Dallas-Fort Worth. The regional Working Group recommends a difference in the differential between Austin and Dallas-Fort Worth be increased from $0.30 to $0.35, thus the differential is proposed at $4.35 for Austin.

The current differential at San Antonio is $3.45, $0.15 higher than Austin, $0.45 higher than Dallas-Fort Worth, and $0.15 less than Houston. Based on the recommended differentials of $4.00 at Dallas-Fort Worth, $5.00 at Houston and $4.35 at Austin, a greater difference at San Antonio versus Austin and versus Dallas-Fort Worth is justified. The regional Working Group determined that a $0.35 spread between Austin and San Antonio was appropriate, which also spread the difference between San Antonio and Houston to $0.30. The Class I differential proposed for San Antonio, Texas is $4.70.

Moving to the far western end of Texas, the Southeast-Southwest regional Working Group reviewed the recommended differential at El Paso. The current differential at El Paso is $2.25, $0.75 less than Dallas-Fort Worth, and $1.05 less than Austin. The Working Group is proposing a $1.00 differential increase at Dallas, and a Class I differential increase of $1.05 at Austin, thus some increase at El Paso is warranted. El Paso's Class I differential is recommended to increase by $0.60 per hundredweight, less than Dallas-Fort Worth and Austin increases, but equal to the recommended increase in the Texas panhandle. The El Paso differential is recommended to change from $2.25 to $2.85.

Lastly, the regional Working Group reviewed Class I differentials for the pool distributing plants located in east-Texas. There are currently two pool distributing plants located generally east of the Dallas-Fort Worth metroplex; these being in Sulphur Springs, Texas – Hopkins, County; and Tyler, Texas – Smith County. These plant locations all currently carry a differential which is identical to the Dallas – Fort Worth metroplex.

For many years the area in and around Sulphur Springs was a pocket of milk production, at milk production totals which were at that time notable. However, suffering much the same fate as farms to the east in the southeastern Order areas, milk production in this region has declined substantially, and milk from the Texas panhandle must be trucked in to meet the fluid needs of these east Texas plants.

In fact, the most practical line of travel from the Texas panhandle to these east Texas locations passes directly through the Dallas-Fort Worth area. Consequently, the Working Group determined that some price gradient between the Dallas-Fort Worth area and east Texas was necessary to aid in attracting the supply of milk to east Texas from the reserve supply area of the panhandle, even though no such price difference exists today.

It was determined that, akin to our prices established for many areas, both of these east Texas plant locations should carry a like Class I differential. The regional Working Group concluded that a $0.35 greater Class I differential for plants in east-Texas versus Dallas-Fort Worth was appropriate. Thus, the Class I differential is recommended for the plant locations of Sulphur Springs, and Tyler, Texas at $4.35 per hundredweight.

While the purpose of the Class I differential surface is to attract supplies of milk for use by Class I plants, the impact of the differentials on the blend price surface and the relative blend prices at manufacturing plants is, while secondarily so, also important.

The issue of how the proposed Class I differentials impact manufacturing plants in the three southeastern Orders is, quite frankly, not really much of an issue, simply because there just are not very many manufacturing facilities operating in a region so critically short of milk. By our count, there is one pool supply plant regulated on Order 5, and one pool supply plant regulated on Order 7, and none regulated on Order 6.

An informal count of sizable nonpool manufacturing facilities put the number, across all three Orders, at perhaps a dozen or so, several of which may not receive substantial quantities of farm milk, and may only operate seasonally. The Southeast-Southwest regional Working Group has determined that none of the proposed changes in the Order 5, 6 and 7 Class I differentials will have a substantive impact on these pool and nonpool manufacturing plants, and that the changes in blend prices resulting from the proposed changes in the Class I differential surface will have little influence one way or another on these manufacturing plants' desire to operate, nor will the proposed differential surface negatively alter the bettered incentives to move milk out of manufacturing uses when milk is needed to supply Class I in the southeast.

The plant count and quantity of milk processed into manufactured products in the Order 126 area is another matter.

There are six plants located within the Southwest Order marketing area which off-and-on qualify as §1126.7(d) cooperative association pool supply plants. These plants are located in Dalhart, Canyon, and Littlefield, Texas; and Clovis, Dexter and Portales, New Mexico. There are at least four other large-quantity hard product nonpool manufacturing plants located in the

Texas panhandle and the southern portion of New Mexico, and are located in Dalhart and Amarillo, Texas; and in Roswell and Las Cruces, New Mexico. There also exists a host of soft product plants and smaller quantity hard product plants located throughout the Order 126 marketing area, some of which may not regularly receive raw farm milk.

As a matter of practicality, the location value at the ten pool and nonpool plants that are of substantial size represented the plants of most concern regarding the impact of the proposed Class I differential surface in Order 126.

All five of the listed Texas plant locations, pool and nonpool, are in the panhandle region, and today carry the same location value as do the Amarillo and Lubbock pool distributing plants, that is, $2.40 per hundredweight. This present price relationship is proposed to remain, and the large-quantity Texas panhandle manufacturing plants are recommended to be in the proposed $3.00 differential zone. As already mentioned, the Texas panhandle region is both the primary and/or at least a potential reserve supply region for most, if not all, of the pool distributing plants located in Texas. Maintaining a constant differential relationship between the panhandle manufacturing plants and panhandle pool distributing plants will not, in and of itself, alter the incentive to move milk out of the Texas panhandle to pool distributing plants located elsewhere in the marketing area, but the general increase in the slope of differentials as proposed will increase the incentive to supply the south-Texas and east-Texas Class I plants with milk coming out of the panhandle.

All of the large-quantity pool and nonpool manufacturing plants in New Mexico are located in the southern half of the state, and currently carry a location value $0.30 per hundredweight less than the Texas panhandle, in recognition of eastern New Mexico's status as a potential reserve supply area for the Texas Class I plants in the southern and eastern portion of the state. As mentioned, there are no pool distributing plants located in southern New Mexico.

The Southeast-Southwest regional Working Group proposes retaining the $0.30 location value difference between the Texas panhandle and southeastern New Mexico, that is, a proposed differential value of $2.70 for southeastern New Mexico. This differential level will preserve the current relationship between the two reserve supply areas in eastern New Mexico and the Texas panhandle, and increase the incentive to move reserve milk supplies out of New Mexico into Texas for Class I use when needed. The current relationship between eastern New Mexico and the Dallas-Fort Worth is $0.90, and is proposed to be increased to $1.30, providing a substantive increase in the incentive to move milk out of New Mexico to areas of Class I need in Texas.

The next phase in the process was to fill in recommended differentials for the counties in the zones that did not contain plants, thus creating a consistent and traditional Class I price surface map. This we did, and what was developed is proposed as the Order 5, 6, 7 and 126 portions of Proposal number 19.

Although throughout the Class I differential proposal development process we used the price surface Model results as a guide, the final step in the process was to circle back and make a direct comparison of the proposed differentials to the Model results, and undertake an examination of why differences exist, particularly when such differences were of notable size. In this case, our definition of notable would be differences in excess of a few dimes per hundredweight.

For Order 5, there were 17 city locations analyzed that included a pool distributing plant, or a partially regulated distributing plant of notable size. Overall, the proposed Class I differentials were not remarkably different from the Model results. Over the entire 17 locations, the proposed Class I differentials averaged roughly $0.15 per hundredweight less than the Model results. As testified earlier, the bulk of these differences were the result of the Southeast-Southwest regional Working Group's determination that milk can be supplied to plants located in the southern portion of Virginia, and the Carolinas at costs somewhat less than suggested by the Model results. Primarily, in reviewing the major sources of supply, particularly in-marketing-area supplies, this portion of the southeastern U.S. is better-supplied than other parts of Orders 5, 6, and 7. Milk produced in Virginia and the Carolinas is not generally attracted very much farther south, in that there remains, unlike some parts of the southeast, robust local-plant demand for this milk. In addition, milk cannot practically move westward out of Virginia and North Carolina to the western portions of Order 5 due to the Appalachian mountain chain. Data for the Appalachian Order presented at a recent Order 5, 6 and 7 hearing shows a substantially higher portion of Order 5's milk supply originating within the Order marketing area than its companion Order, Number 7.

As for supplemental milk, that is milk originating from outside the marketing area, the costs of supplying the Virginia and the Carolinas plants are lower proportionally than other portions of the southeast, owing to the shorter distance to reserve milk supplies residing in the middle-Atlantic region. We determined that the Model results were warranted to follow pretty much as shown for the middle portion of Virginia, but the ability to stair-step or domino-down Virginia milk supplies into North Carolina and North Carolina supplies into South Carolina, back filling Virginia from the middle Atlantic region helps mitigate some of the supplemental milk cost.

Additionally, as mentioned, there remains substantial milk processing capacity in the southern portion of Virginia, and in North Carolina. The greater the number processing plants, the more opportunity to balance milk supplies within weeks by shifting supplies between plants as plant needs vary. Greater options for milk delivery reduces balancing costs.

Taken together, the eastern portion of the Order 5 marketing area, that portion east of the Appalachian Mountains, presents as an easier and less costly area to supply, and to balance, than the remainder of the Order 5 marketing area, and also the Order 7 area. The Southeast-

Southwest regional Working Group determined that the Model's suggested price relationships in the western portion of Order 5, that portion west of the Appalachians, was quite fairly depicted, and we followed the Model's results quite closely. There are four plant locations in Order 5 west of the Appalachian mountains, and the Southeast-Southwest regional Working Group proposed Class I differentials at those plants average only roughly $0.11 per hundredweight more than the Model suggested differentials.

For the Florida Order marketing area, there was very little variation in the regional Working Group's proposed differentials and the differentials suggested by the Model. Over the nine city locations in Order 6 that contain a pool distributing plant, the average difference between the Model results and the Working Group's proposal is $0.03 per hundredweight, with the Working Group's proposed differentials being higher. Only one plant location's difference Model to proposal exceeded a dime per hundredweight, and that was Orange City, Florida, the most northern of the Florida plant locations. While theoretically, for milk supplying Orange City from the north, those supplies would be marginally less costly than to supply the other plants in the Orlando-Tampa corridor, the regional Working Group determined that retaining the commonality of pricing across all the Orlando-Tampa corridor was preferable to setting Orange City in a new, single plant zone. Thus, the minor difference between the Model results and the Working Group's proposal at Orange City was determined to be reasonable.

For Order 7, there were some deviations in the proposed differentials and the Model suggested differentials, and like Order 6, those arose mostly from the desire to respect commonality in pricing for current like-zoned plants, or actually to expand the number of plants like-priced.

There are 16 cities in Order 7 with a pool distributing plant or a notable partially regulated plant. Nine of the plant locations have proposed differentials that exceed the Model recommendation, one city where the proposed differential equals the Model recommendation, and six locations where proposed differentials are less than the Model recommendations. On average, for all of Order 7, the proposed differentials exceed the Model results by about $0.13 per hundredweight.

Predominantly, the cities where the proposed differentials exceed the Model results are in southwest Missouri and in Arkansas. As testified earlier, these five plants currently are spread over three pricing zones, ranging from $2.40 to $2.90 per hundredweight, and the Southeast-Southwest regional Working Group determined that it would be more appropriate to reduce the number of pricing zones for these plants to two zones. Something of the midpoint of these plants geographically is Fort Smith, Arkansas, with a Model-recommended differential of $3.80. This compares to a current differential of $2.70 per hundredweight. Based on the cost to supply these plants with milk from outside the marketing area, which is consequential since very little milk production remains in Arkansas and southern Missouri, a differential of $4.00 was determined to be appropriate for the four plants other than Little Rock. By far the most efficient and reliable source of out-of-marketing area supply for the five plants in this area is either the Texas Panhandle or the Southwest portion of Kansas, and of these two sources, Southwest Kansas is preferred because of the fewer number of miles the milk must travel versus from the Texas Panhandle.

In reality, little milk located inside Missouri but north of the Order 7 portion of the state is practically available for southwest Missouri. First, the central Missouri milk is needed to supply plants to the north, ranging from eastern Kansas, through the central Missouri area, and as far east as western Illinois. Second, the central Missouri milk supply is effectively or at least economically thwarted from moving south to the southwest Missouri and Arkansas plants by the Ozark mountains or by the sheer distance to the plants. Put another way, there is milk produced within the state of Missouri but outside the Order 7 marketing area, but that milk supply is not practically available to the Order 7 portion of Missouri because it is needed elsewhere, and the cost of traversing the distance makes this milk an uneconomical supply. Milk from southwest Kansas is sufficiently available and can move more economically to the southwest Missouri and northwest Arkansas plants, than can milk located to the north which as-the-crow-flies would appear nearer.

The southwest Kansas milk works equally well into all of the southwest Missouri and northwest Arkansas plants. For comparison, the distance from Garden City, Kansas to Springfield, Missouri is approximately 450 miles, to Fordland, Missouri is 475 miles, to Fayetteville, Arkansas is 480 miles, to Fort Smith, Arkansas is 485 miles, and to Little Rock, Arkansas is 640 miles.

In terms of costs of supplying milk to these Order 7 Missouri and Arkansas plants from the southwestern U.S., it is obvious that the four northern plants, the two in southwest Missouri and the two in far northwest Arkansas, have very similar procurement costs. Having such similar distances from a substantial and adequate reserve milk supply supports the appropriateness of a common Class I differential for all four of the southwest Missouri and northwest Arkansas cities.

Reviewing the Model results, it was determined that the significant distances milk must travel to meet the needs of these plants was much more like the Model-suggested differential for the southern-most of the four plants than for the northern-most, or even the four-plant average. In fact, the Southeast-Southwest regional Working Group determined that the $3.80 Model-suggested differential at Fort Smith was not adequate, and the continued decline in Missouri and Arkansas milk production is a compelling factor. Hence the Working Group added $0.20 per hundredweight to the suggested differential at Fort Smith to establish the differential at all four of the southwest Missouri and northwest Arkansas cities.

USDA NASS reported 2022 annual milk production for the state of Arkansas as 45 million pounds, which is an average of about 3.75 million pounds of milk per month. Arkansas milk production for the year 2016 was 79 million pounds. The change from 2016 to 2022 represents a decline of 43 percent. Milk production in all of Missouri, including the portion of the state outside the Order 7 marketing area fell 31 percent over the same period. As if a 31 percent decline is not bad enough, if isolated to just the Order 7 portion of Missouri, the percentage loss of milk production would look much more like the Arkansas history. To say that the decline in milk production in Arkansas and Missouri is a compelling factor in the determination of the proposed Class I differentials for that portion of Order 7 is a gross understatement.

The commonality of milk supply costs for the four the southwest Missouri and northwest Arkansas cities will provide equity in returns for suppliers of raw milk to these plants, no matter which plant needs milk on any given day. Additionally, none of these plants will be placed in a disadvantaged procurement price position when seeking these distant supplies, which as noted, generally are sourced from the same place.

The Model suggested differential a Little Rock, Arkansas is $4.45 per hundredweight, and the regional Working Group, after considering that the Fort Smith, Arkansas Model-suggested differential was insufficient by $0.20, added $0.15 to the Model-suggested Little Rock differential to arrive at the proposed $4.60 differential at Little Rock. This same logic extended to Murray, Kentucky, where the proposed differential exceeds the Model-recommended differential by $0.10 per hundredweight.

The other place within Order 7 where the proposed differential notably exceeded the Model-suggested differential is Lafayette, Louisiana. The average of the two-month Model suggested differentials for Lafayette is $5.30, $0.40 per hundredweight less than the proposed differential of $5.70. As previously testified, the coastal Louisiana plants located in Lafayette, Baton Rouge, and Hammond all currently share a common Class I differential, and the regional Working Group determined this price relationship between the plants should continue. The Model suggested differentials at Baton Rouge is $5.50, and $5.80 at Hammond. These plants along the Louisiana coast are geographically situated Lafayette farthest west, Baton Rouge in the middle, and Hammond farthest east.

All three plants pull their local milk supplies from the same Louisiana-southern Mississippi milk shed, and all three plants share common supplemental milk sources, the Texas panhandle or southwest Kansas. Having the same common local and supplemental milk procurement areas supports retaining these plants in a common pricing zone.

The predominance of milk supply local to the three coastal Louisiana plants is located in the eastern Louisiana and the contiguous southern Mississippi area. The Market Administrator data for Order 7 shows reportable milk production nearby the Louisiana coastal plants in the three

Louisiana parishes of St. Helena, Tangipahoa, and Washington, which are part of an eight-parish region commonly referred to as the Florida Parishes. The Market Administrator's reportable data for the Mississippi-produced milk supply in this area is located in four counties along the Mississippi-Louisiana southern and far eastern border. These are the counties of Marion, Pearl River, Pike and Walthall. Geographically, these counties and parishes are north of New Orleans, northeast of Baton Rouge, and east-northeast of Lafayette. Hammond, Louisiana is located in Tangipahoa parish.

All seven counties and parishes produce milk that can be supplied to the three coastal Louisiana plants. In addition, proponents are aware of additional milk production existing in the neighboring counties and parishes, but the data cannot be released by the market administrator due to confidentiality restrictions. Of the reportable counties and parishes, St. Helena parish is the farthest west, and is located within the Baton Rouge metropolitan area, and actually adjoins East Baton Rouge Parish. From the St. Helena Parish seat of Greensburg, the distance to Lafayette, Louisiana is roughly one hundred miles, a local haul.

In the case of Lafayette, although it is well within the local haul distance from the nearby milk supply area, it is an east to west haul. Applying the Model-suggested differential relationship between these three plants would put Lafayette's Class I differential as the lowest of the three plants. So, in this case, to follow the Model's suggestion, and vary the differential rising west to east, producers located in the Louisiana-Mississippi local milk supply region would receive the lowest price for delivering to a local plant with the longest distance haul from their farms.

Providing a like differential across the three Louisiana coastal plants makes sense, and actually aids the plant on the western end of the three-plant complex to retain and compete for a local milk supply.

The simple average of the three Model-suggested differentials, using both the months of May and October 2021 for these coastal Louisiana plants is \$5.53. The simple average of the three Model-suggested differentials, using only the month of October, when these plants rely the most on the distant supplemental milk, is \$5.63. Consequently, based in the need for procurement cost equity, producer return equity, and the orderliness which comes from retaining the current price relationship between the plants, the determination of a \$5.70 differential for the three plants is reasonable, even if one of the plant's differential may seem a little to be on the high side of the Model results.

There are plant locations within the Order 126 marketing area that varied substantively from the Model results. In the main, the cause of these differences across Order 126 was the same as for Order 7, respecting the commonality of zone pricing across plants when possible.

According to published Order 126 data, there are 14 cities that include a pool distributing plant. All pool distributing plant locations in the Order 126 area are proposed to have a Class I differential which exceeds the Model-suggested differential. The simple average the proposed differentials across Order 126 exceed the Model-suggested differentials is about $0.34 per hundredweight.

It is no secret that milk production in Texas has increased over the last several years, but it is also true that milk production in New Mexico has been on the decline. The growth of milk production in Texas has been, by almost any objective measure, substantial. What has also seen substantial growth though is the population of Texas. As phenomenal has been the growth of Texas milk production, Texas is still a state that does not produce enough milk to satisfy its full needs for milk and dairy products.

Texas milk production during 2021, according to data included in the Order 126 Market Administrator's Bulletin, was 15.56 billion pounds, and the U.S. Census Bureau estimated Texas population for that year at 29.558 million people. By simple division, Texas produced in 2021 526 pounds of raw milk per resident person. The Marketing Service Bulletin for the Central Federal Order, from October 2022 states that the estimate of 2021 annual per capita consumption of dairy products in the U.S. was 667 pounds. Texas milk production fell short of its milk total needs by 141 pounds per person, or the equivalent of 4.16 billion pounds of milk per year.

While this statistic is startling,  or the more startling statistic is where the population of the state resides.

In Texas, the population is concentrated in the eastern and southern halves of the state, far distant from the predominant milk production center of the Texas panhandle. As can be seen by Exhibit NMPF – 37G, page 1 of 1, based on the regional populations as defined by the Texas State Comptroller, about eighty-eight percent of the state's population resides in one of twenty-three Metropolitan Statistical Areas. Of these twenty-three Texas MSA's, only two are located within the panhandle, and those two MSA's, the Amarillo and Lubbock MSA's, only represent about two percent of the state's total population.

As mentioned, the predominance of milk production in Texas is in the panhandle region. According to the Order 126 market administrator's website, in the Production Database section, in the region identified as the High Plains, a total of 1.116 billion pounds of milk was produced in the nine listed High Plains counties that can be reported in the month of January 2023. The remaining High Plains counties, numbering 6, are Restricted as having fewer than three producers per county. The market administrator only lists counties that had milk production, so we can presume that the six named, but data restricted, counties, each had milk production totals that exceeded zero. Using a conservative estimate of the milk produced in the six

Restricted counties of 5 loads per day of milk production yields a total of an additional roughly forty-five million pounds of milk production for the month. So, we estimate that the fourteen High Plains counties produced about 1.16 billion pounds of milk, more than 77 percent of the state's total milk produced of 1.5 billion pounds. Let's make this clear, for the panhandle, that's 77 percent of Texas' total the milk production set against two percent of its people. Obviously, milk must move out of the panhandle region to get to the people.

As every Texan will remind us, perhaps more than once if you talk to them for a while, Texas is geographically the largest of the 48 contiguous states. The distances across the state are massive. Hereford, Texas, located in Deaf Smith county, is often considered something of the center point of the panhandle's milk production. From Hereford to Houston, the state's most populous city, and the location of two pool distributing plants, it is approximately 635 miles. This is roughly the same distance as Eau Claire, Wisconsin to Springfield, Ohio; the distance from Lancaster, Pennsylvania to Columbia, South Carolina; the distance from Portland, Oregon to San Francisco, California; and is almost two-and-a half times farther than from Cayuga, New York to Philadelphia, Pennsylvania. The typical vacationer can get from Indianapolis to a Florida beach before a load of milk can get from the Texas panhandle to a Class I processing plant in Houston.

From Hereford to Dallas, in the state's most populous MSA, it is 400 miles.

These long distances milk must move within the state create logistical challenges rivalling the delivery of milk into the milk deficit southeast, and Texas provides a lot of that milk too.

Today's national truck driving regulations require that a driver limit their actual behind-the-wheel time to eleven hours before a mandatory seven hour break. A fresh driver, starting their eleven-hour clock by getting into the cab of a loaded truck at Hereford, must average almost 58 miles per hour to get to Houston within the eleven-hour window. The preferred route from Hereford to Houston takes a truck through the DFW metroplex, where traffic snarls and delays are all-too common. Failure to make it to a Houston plant, or to a drop yard near a Houston plant, means a night on the road, in transit. If that happens, after the seven hour rest break, the driver completes the loaded trip, hooks to an empty trailer, and starts back toward Hereford. If the driver couldn't get to Houston in eleven hours on the loaded side of the trip without a mandatory break, she or he won't be able to get back to Hereford on the second day, because the last leg uncompleted on day one counts as time behind the wheel starting day two. Hence, there is a second seven hour break required for the unloaded return trip. If everything goes perfectly, which it rarely does, it is a two day round trip to deliver one load of milk to Houston. In the real world, it's almost three days. To deliver one load of milk per day to Houston requires three trucks on the road at all times. Houston, with its more than 7,000,000 people, needs a lot of tankers of milk. By the way, there is also an Order 126 pool distributing plant located in

Conroe, Texas, in Montgomery County, the county immediately north of Harris County, where Houston is located. It is almost 600 miles from Hereford to Conroe. Same song, second verse.

To sum up, Texas is big – really big, it has lots of milk production, but it has a lot of people living there, the vast majority of which probably never see a dairy cow in their typical daily life. That is because cows and people just don't cohabit the same space very well.

The costs of moving milk, and particularly moving milk across large distances are staggering, and the current Federal Order Class I differentials across the southeast and southwest are woefully insufficient to incentivize the delivery of milk to the Class I plants, which are near the people.

We've gone a long way around to preface our discussions on why our proposed Class I differential surface varied somewhat on the high side from the Model suggested differentials across the Order 126 area. There are multiple reasons. Over the entire marketing area there are inter-Order price alignment considerations; there are plant to plant price relationships to consider intra-Order; the relationship the southwest has with the southeast as a major supplemental milk supplier to the western side of Order 7 is an important factor; as is the overarching need to provide necessary incentives to move milk to supply Class I plants within Order 126. Order 126 presents a significant math problem, lots of equations, lots of variables.

More or less in sequence, beginning with the location where we varied the most in comparison to the Model suggested results, we'll address each locale using the objectives we just listed, and how we used the data and the facts to arrive at our conclusions.

There is no argument that when comparing the Model-suggested differentials to the Proposal number 19 differential, Amarillo stands out. Beyond a doubt, the principle concern in determining a differential for Amarillo was retaining the current price relationship between Lubbock and Amarillo, that is, keep them in the same pricing zone. Today both plant plants are in the $2.40 per hundredweight Class I differential zone.

The Model suggested differential at Lubbock is $2.85, $0.60 higher than the suggested differential of $2.25 at Amarillo. Looked at another way, the Model suggests lowering the Amarillo differential by $0.15, while raising the differential $0.45 at Lubbock.

Both the Lubbock and Amarillo plants compete for the similarly distanced raw milk supplies, and both serve Class I customers in both metro areas. Local raw milk from the panhandle supplies both plants, and packaged fluid milk from Lubbock goes to Amarillo, and Amarillo packaged milk moves Lubbock. Smaller towns in the region are likewise served with packaged Class I milk processed in both plants. In every practical sense, these two plants comprise a single sub-market for milk within that portion of Texas.

While we regularly refer to Hereford as the hypothetical center of Panhandle milk production, Deaf Smith is not the only county in the area with milk. Potter county, where Amarillo is located, according the data on the Order 126 website, has no milk production within the county, but the bordering counties to Potter: Deaf Smith, Randall, Moore, Hartley and Hutchinson counties, all show milk production, some counties with substantial supplies. Just the two counties of Deaf Smith and Hartley show a combined supply of more than 370 million pounds of milk for the month of March 2023.

Lubbock county, home to the city of Lubbock, using the same Order 126 published data, has at least one dairy farm operating within the county, and the contiguous counties to Lubbock county of Lamb and Hale show milk production totaling about 150 million pounds for these two data-unrestricted counties in the month of March.

In short, both the Lubbock and Amarillo plants sit atop milk supplies that are more than sufficient to meet the needs of each of the two plants. Clearly, the farm to plant procurement costs for the two plants would be almost identical, in that they both have plenty of milk right next door. That fact, combined with the common packaged milk distribution area of the two plants justifies retaining the common Class I differential at these two plants.

We have previously described the step-wise progression of pricing going south to north from Houston we utilized to establish the recommended prices in the DFW metroplex, and at the Lubbock-Amarillo zone which yielded the $3.00 differential at Lubbock – Amarillo. This $3.00 differential value at Lubbock – Amarillo creates a reasonable price relationship with the metroplex, yet recognizes the need for additional incentives to move milk out of the panhandle into the metropolitan areas in south and east Texas. When considering Lubbock – Amarillo as a single sub-market, the two-month average Model results at the two cities is $2.55, and $2.60 for the milk-tight month of October. The difference between the Model results and the two-city submarket proposed differential drops to $0.40 to $0.45, similar to the difference between the Model results and the proposed differential at the DFW metroplex. Additionally, the $3.00 differential at Lubbock – Amarillo aligns well with the Proposal number 19 proposed differential of $3.85 at Chandler, Oklahoma, and the proposed differential of $2.70 at Albuquerque.

The next locale in the Order 126 marketing area with a notable difference between the Model-suggested differentials and the proposed differentials are the two locations in east Texas, Sulphur Springs, located in Hopkins County and Tyler, located in Smith County. Today both these counties carry the same differential as the DFW metroplex, $3.00 per hundredweight.

In the quarter century since data on the location of milk production was evaluated under Order Reform, there has been a seismic shift in Texas milk production. Again, using the Order 126 milk production database, in January 2000 there was 126.1 million pounds of milk produced in reportable counties in Region 5N, Northeast, which represented approximately 24 percent of total Texas milk production for that month. Colloquially known as the Sulphur Springs milk shed, the 5N Region's milk production has decreased by more than half in 23 years. During that same month, roughly four percent of Texas' milk was produced in Region 1, High Plains, what we have regularly referred to as the Texas panhandle. In January 2023, the milk production in the Northeast region had shrunk to 56.6 million pounds, which is about four percent of total Texas milk production, while production in the High Plains represented 74 percent of all Texas-produced milk.

In the year 2000 about one-quarter of the milk produced in Texas was located in the Sulphur Springs milk shed, and four percent located in the panhandle. Where was the rest? The predominance of the remainder of the Texas milk in 2000 was produced in the Windthorst-Stephenville milk shed, identified as the Crosstimbers region, Number 3, in the Order 126 milk production database. While the Order 126 production database includes both the Windthorst and Stephenville areas in a single Region, industry generally considers them as separate milk sheds. In January 2000 this Region 3 produced roughly 251 million pounds of milk in that month, 48 percent of the Texas milk supply. In January 2023 Region 3 production had fallen to 214 million pounds, about 15 percent of the Texas total. Milk scattered throughout the state would have made up the remainder of the supply, with no other notable concentrated pockets of milk.

The Crosstimbers-produced supply of milk, in the early part of the millennium, was an important source of milk for the Class I needs of the state of Texas, with much of that milk dedicated to supplying the metroplex. However, owing to declines in production in the regions south of the DFW metroplex, the Stephenville milk is now drawn away from DFW, to the Order 126 plants located in Austin, San Antonio, El Paso, and the Houston metro area. Much of the milk in the Windthorst milk shed continues to move to DFW, largely because most of the farms located there produce less than tanker loads per day, thus requiring multiple stops to build a load. Logistically, this makes the Windthorst less desirable to move the long distances to the plants located south of the metroplex. In January 2023 milk produced in Archer county was slightly more than 13 million pounds, not enough to serve one typical sized Class I plant for the month.

The Stephenville milk shed, with it's larger quantity producers, can serve plants at longer distances away. As milk production south of the metroplex has faded, Stephenville milk has been drawn south, and the metroplex is now served with milk from the panhandle, back-filling milk from Stephenville that might prefer to go the Dallas-Fort Worth due to the relatively short haul, but which is needed to the south. Economically, taking Stephenville milk south, and back-filling DFW from the panhandle makes sense, and that is the supply system that has developed.

These substantial, even gargantuan, shifts in the structure of, and location of milk supply, coupled with rapid growth in population in the Texas cities in the eastern and southern portion of the state has created substantial, maybe even gargantuan, changes in how milk moves within the State. Additionally, the substantial declines in milk production in the southeast have created a hole that Texas partially fills. The Texas milk market of today ain't the Texas milk market of 25 years ago. Not even close.

Back to the topic of east Texas.

Much the same circumstance occurring in the Stephenville milk shed, and its semi-companion, the Windthorst milk shed, is seen in east Texas. The smaller quantity farms in Region 5N, the Sulphur Springs milk shed, which require multiple stops to make a load stay home serving Tyler and Sulphur Springs, while load per pickup farms move out the area, either eastward to the southeast Orders are straight south to the Houston – Conroe plants. Just like Dallas and Fort Worth, the resulting hole in milk supply in east Texas from moving milk from the large quantity farms located there to the Class I plants east and south, must be backfilled from the panhandle. When the Order Reform differentials were being formulated, there would have been sufficient milk available for the east Texas plants from farms located nearby. No longer. That east-Texas milk either has left production totally, or what remains is mostly leaving the region on trucks.

The east Texas plant locations in Tyler and Sulphur Springs compete directly for their milk supply with the plants in the DFW metroplex. The milk for both areas predominantly comes from the same place, the Texas panhandle. In the last century Dallas and Fort Worth would have been principally supplied with milk originating fairly closely, either Stephenville, and/or Windthorst, both milk sheds being within a two or three hour drive to the get to any of the several plants in the metroplex. Similarly, the east Texas plants in Sulphur Springs and Tyler would have been served from local milk produced in the Sulphur Springs milk shed, an hour or two's drive to serve either plant.

Today these two plant complexes, the metroplex multi-plant complex, and the east Texas two plant complex compete for the same supplies.

As testified to earlier, it is about 400 miles from Hereford to the center of the metroplex, you can add another 100 miles or so to get to the plants in east Texas. Longer hauls mean higher costs to serve. The east Texas plants need to have a higher differential than the metroplex plants to attract that supply travelling past the metroplex to the plants farther east.

We have proposed that the DFW differential be set at $4.00 per hundredweight, $1.00 higher than the panhandle. At four hundred miles, the cost of delivering milk from the panhandle to DFW is about $4.00 per hundredweight, thus we are proposing a differential difference that covers about 25 percent of the cost of haul from the panhandle to DFW. Certainly not an over-reaching proposal.

We are also proposing a differential at the east Texas plants of $4.35 per hundredweight, $0.35 greater than DFW. It is roughly 125 miles from the DFW airport, which sits between Fort Worth and Dallas, to the east Texas plants. Using the same roughly 25 percent of hauling cost relationship justifies the additional $0.35 per hundredweight difference in Class I prices between east Texas and DFW.

Additionally, the $4.35 differential at east Texas aligns well with the Order 7 plants in western Arkansas, which are proposed to carry a differential of $4.00, and the coastal Louisiana plants with a proposed differential of $5.70. From Sulphur Springs, Texas to Baton Rouge, Louisiana it is roughly 380 miles. Consequently, the $1.35 differential difference is between the east Texas plants and the coastal Louisiana plants is further justified on this distance relationship.

The additional 250 miles from the panhandle to Houston versus the 400 miles to DFW should carry a higher differential-to-hauling cost relationship than the panhandle to Dallas relationship. As we have described, that extra 250 miles from DFW to Houston likely adds at least one additional driver rest period, each way, adding significant extra cost when hauling milk to up to the legal threshold of a driver's allowable between-breaks driving hours. Hauling costs may appear linear, but they are not. This dynamic is a fixed cost versus variable cost influence. The moving cost of a truck and trailer is pretty much the same no matter how far you travel, but the extra labor time, meal breaks, meal costs, and the sheer extra costs of needing two or three trucks instead of one truck as distances increase all creates an effective curvilinear hauling cost basis. The flat-ground variable costs of a truck and trailer moving across a mile is roughly the same for mile one as it for mile 1,000. There is a however a substantial difference in fixed costs that come into play as more rolling stock is needed to deliver loads beyond 600 miles due to the required driver rest stops. At 600 miles one way, this represents at least a one-rest stop round trip, likely two rest stops. The same equation is true for hauls for five hours one way versus six and a half hours, as we discussed in the New Mexico to the metroplex hauling decision.

We have proposed a $2.00 difference in the differentials between Houston and the panhandle, over distance of 634 miles, a rate which covers less than one-third of the cost of hauling. This slightly higher percentage of the cost of hauling versus the rate for the panhandle to DFW is justified based on the increased need for rolling stock and the associated impact of higher fixed costs have on the very long distance hauls.

The proposed differential at San Antonio is $4.70 per hundredweight, $0.70 higher than DFW, and $0.30 less than Houston. The evolution of the raw milk supply for this area of Texas is even worse than what we have described for the Stephenville milk shed in relation to DFW.

In January 2000 there were 13 counties that the Market Administrator reported as having some milk production in Region 8, Central Texas. Seven of these counties had milk production that was reportable as having three or more dairy farms, and the reportable total was a little more than 11.6 million pounds for the month of January 2000. Two hundred seventy six months later, the Market Administrator statistics show three counties in Region 8 with milk production, none of them with three or more farms. The local milk supply for this part of Texas has virtually dried up, and milk produced in the Stephenville shed milk is drawn away from DFW to help partially fill the milk-barren area of south-Texas. Just like Houston, the milk supply into south central Texas comes from a combination of Stephenville-sourced and panhandle sourced milk, with Stephenville being predominant since it is closer to San Antonio than the panhandle. In order to attract a supply, in competition with handlers in DFW and Houston, San Antonio must have a price that compensates the producers for their haul costs coming out of Stephenville.

The distance from Stephenville to San Antonio is roughly 210 miles, so using our ratio of roughly one third of the cost of hauling as differential difference, yields a $0.70 higher differential in San Antonio than DFW, as proposed.

The same dynamics in pricing and milk supply would apply for Austin, Texas, which we proposed to carry a differential of $4.35, which is $0.35 less than San Antonio, and $0.35 more than DFW. Rather than burden the record further with the associated miles and milk, we will simply report that the Austin pricing issue is of lesser importance now than at the first of this year, since the lone pool distributing plant located in Austin closed in late May 2023.

This exhaustive, and admittedly perhaps exhausting, exercise describing the Texas milk supply dynamics, and the change in those dynamics which have occurred across the last 23 years, while perhaps pedantic and ponderous, is a data analysis absolutely necessary to support the Southeast-Southwest regional Working Group's Class I differential recommendations. What we see from the data is the transformation of the eastern and southern parts of Texas, once with a good supply of milk, but now not as areas of sufficient milk supply, but rather a milk-deficit region having much more in common with the southeast than the reserve milk supply region of the Texas panhandle. The eastern and southern parts of Texas rely on the panhandle region for milk, or relies on it to back-fill the milk that the southern and eastern Texas plants suck away from the supply area nearest the DFW metroplex, the Stephenville milk shed. Even some of the distances milk must move within Texas rival the distances needed to supply the southeastern Orders. The more similar it looks to the southeast, the more it needs to be priced like the southeast. Hence the differences between the Model-suggested differentials and the ones proposed in Proposal Number 19 across Order 126 are completely justified and supported by evidence.

As we wrap up this section of testimony, we offer  something of an aside. In testimony here today, and mentioned in our request for this hearing, and in testimony yet to come, is the statement that cows and people don't mix at least geographically. The Secretary need look no further than to Texas as a quintessential example of this axiom. We also have noted that as a result and consequence of this trend of cows moving away from the people is longer distance hauls of milk to supply those people. Quod erat demonstrandum.

We have presented a beyond-compelling, virtually undisputable case for the differential surface system NMPF has proposed for the Order 5, 6, 7, and 126 marketing areas. We urge the Secretary to adopt Proposal Number19.

This concludes the primary direct testimony presented on behalf of the Southeast-Southwest regional Working Group.

Thank you.