2. BASIC FORMULA PRICE REPLACEMENT AND OTHER CLASS PRICE ISSUES.

This rule closely follows the pricing plan described in the proposed rule by replacing the current basic formula price (BFP) with a multiple component pricing system that derives component values from surveyed prices of manufactured dairy products. The adopted pricing system determines butterfat prices for milk used in Class II, Class III and Class IV products from a butter price; protein and other solids prices for milk used in Class III products from cheese and whey prices; and nonfat solids prices for milk used in Class II and Class IV products from nonfat dry milk product prices.

The calculation of the Class I skim milk and butterfat prices for each order, determined in the proposed rule by computing a six month declining average of the higher of the Class III or Class IV skim milk prices for the second preceding month and adding a fixed Class I differential to the result, has been changed to reflect more closely the value of milk used in manufacturing. The Class I skim price for a month will be determined by adding the fixed Class I differential for each order to the higher of a Class III or IV skim value, calculated from product prices reported by NASS for the most recent two-week period for which prices are available on the 23rd day of the previous month. Similarly, the Class I butterfat price will be calculated by adding the fixed Class I differential divided by 100 to a butterfat value computed by using product prices for the same two-week period.

The price of Class II skim milk for a month will be computed by the sum of a Class IV skim price per hundredweight, calculated from product prices reported by NASS for the most recent two-week period for which prices are available on the 23rd day of the previous month, and the 70-cent Class II differential. The Class II butterfat price will be determined from the NASS-reported butter price, as in Classes III and IV, plus .7 cents per pound to incorporate the Class II differential. This price will be announced on the 5th day of the month and apply to butterfat in Class II during the previous month.

A table showing current and re-calculated prices for the period 1994 through 1997 appears at the end of this discussion of the BFP replacement. The basis for re-calculating the prices is described later in this discussion.

Provisions for Federal milk orders regulating the handling of milk in areas for which a multiple component pricing system has not been adopted will maintain a hundredweight skim/butterfat pricing system instead of the component pricing plan. The hundredweight prices will be determined by using the component price formulas contained in this decision to compute corresponding hundredweight prices using standard component levels.

Background.

The proposed rule described in some detail the development in the early 1960's of the Minnesota-Wisconsin manufacturing grade milk price series (M-W) as a means of identifying a price determined by supply and demand for milk used in manufactured dairy products. Also described were the developments that have made the M-W less representative of the value of milk used in manufactured products. The two primary trends making the M-W less representative over the last four decades are the declining volume of Grade B (manufacturing grade) milk and the declining numbers of plants from which payments could be reported to update the base month price.

The problem of the declining number of plants from which payments could be reported to update the base month M-W survey of two months previous was addressed in 1995 by using an updating formula that uses changes from the base month to the next month in prices paid for butter, nonfat dry milk, and cheese. However, the problem of using a declining volume of Grade B milk to accurately represent the value of milk used for manufacturing was not solved with the implementation of the current BFP. The decision based on the basic formula price hearing recognized that "the adoption of the base month M-W price, or any Grade B milk series, is only a short term solution, since the amount of Grade B milk production is expected to continue declining."

Process.

The Basic Formula Price Replacement Committee was one of several committees formed to deal with specific issues involved in restructuring the Federal milk order system pursuant to the 1996 Farm Bill. The Committee established goals and criteria for a new BFP, hosted a July 1996 public forum on dairy price discovery techniques in Madison, Wisconsin, and considered over 1,600 comments submitted by interested persons relative to the basic formula price in response to the May 1996 invitation to comment on Federal Order restructuring. The Committee conducted extensive study and analysis, worked with a University Study Committee (USC) commissioned to conduct objective analysis of the performance of numerous alternatives to the current basic formula price, and issued a preliminary report on BFP replacement in April 1997. The Committee studied the comments responding to the preliminary report, as well as those received earlier, in the development of the BFP replacement portion of the proposed rule, which was published in January 1998.

The goals and criteria to be met by a replacement for the basic formula price were discussed in detail in the proposed rule. Briefly, the goals are: (a) meet the supply and demand criteria set forth in the Agricultural Marketing Agreement Act of 1937 (the Act), (b) not deviate greatly from the general level of the current BFP, and (c) demonstrate the ability to change in reaction

to changes in supply and demand.

The criteria established to evaluate the various alternatives were: (a) stability and predictability; (b) simplicity, uniformity, and transparency; (c) sound economics--e.g., consistency with market conditions; and (d) reduced regulation.

Comments.

Of the more than 1,600 comments received relative to the basic formula price in response to the May 1996 invitation to comment on Federal Order restructuring, most favored one or more of five categories of alternatives to the current BFP. These five alternatives were: economic formulas, futures markets, cost of production, competitive pay price, and product price and component formulas. In addition, numerous comments were received relative to the use of National Cheese Exchange prices in particular and exchange prices in general in the determination of a basic formula price.

After publication of the proposed rule in January 1998, nearly 600 comments were received relating to some aspect of the basic formula price replacement. Approximately 450 of these comments were form letters or very general in nature. For the most part, comments that related specifically to the proposal supported the use of product price formulas and the use of surveyed product prices to calculate component prices in determining the value of milk. Many of the comments, however, suggested modifications to the proposed rule. These comments are addressed in the discussion of each of the individual topics involved in these pricing issues.

The only alternative previously considered that retained considerable support from producer organizations was a competitive pay price. In addition, many individual producer comments continued to advocate cost of production or a floor for the BFP ranging from $14.50 to $18.00. Some producers also suggested letting the market determine prices, and a few suggested supply management to ensure that farmers receive fair milk prices. One processor opposed product price formulas, suggesting that futures are the preferred tool used by markets to manage risk. Several producers supported basing producer prices on retail prices, while a state senator from Wisconsin suggested paying producers on the quality and quantity of their milk.

As noted in the proposed rule, the reason the USC dropped cost of production from consideration was that cost of production represents only the supply side of the market, ignoring factors underlying demand or changes in demand for milk and milk products.

Competitive Pay Price.

Although some producer groups submitted comments on the proposed rule that continued to support use of a competitive pay price for determining the BFP replacement, a number of these comments stated that the pricing proposal contained in the proposed rule was one they could support. Other commenters continued to express the view that a competitive pay price is the best indicator of the national supply and demand for milk and that continuing to use such a price would provide a simple,

economically defensible method of calculating the true value of milk used in manufactured dairy products.

Several proponents suggested including a competitive pay price for Grade A milk, with some adjustments, as a way to improve the size and representativeness of the competitive pay price.

As described in the proposed rule, a competitive pay price to be used as a BFP must represent the result of open market negotiation between dairy farmers (or their cooperatives) and milk processors. Competition requires sufficient numbers of buyers and sellers so that no one participant or group of participants can unduly influence the price. In addition, the price cannot be a Federal- or State-regulated price, such as the price for Grade A milk currently priced under Federal milk orders.

Identification of a competitive pay price in today's dairy industry, where 70 percent of the milk is currently covered under Federal milk marketing orders, appears to be an unsurmountable challenge. After accounting for state regulations, only about two percent of Grade A milk is unregulated, and it is unlikely that even this small amount of milk is not affected by regulated prices. Only about five percent of the total milk marketed in the U.S. is Grade B or unregulated, and 42 percent of that milk is located in Minnesota and Wisconsin. The remainder is scattered among 23 states in amounts too small and delivered to too few processing plants to generate a competitive pay price. In areas where alternative markets exist, the price for unregulated milk likely is not below the price paid for regulated milk, since producers would prefer to sell their milk to regulated handlers to receive the higher regulated price. Thus, unregulated handlers are compelled to meet the regulated price in order to attract sufficient supplies of milk. The circular result is that the regulated price ultimately becomes the competitive price. This process does not lead to a representative competitive pay price for milk.

The concept of a competitive pay price has appeal from the standpoint of sound economics. However, serious concerns must be raised about the degree of competition reflected in a price based on the declining volume of Grade B milk produced and purchased, or the introduction of Grade A milk that, even if unregulated, is significantly influenced by minimum order prices and therefore suspect as a "competitive" price.

The proposed rule contained a description of a BFP Replacement Committee attempt to determine a competitive pay price series that included nine states’ pay prices for Grade A milk used in manufacturing, with the prices adjusted for protein content, performance premiums, over-order premiums, and hauling subsidies. The nine states accounted for approximately 75% of the Grade A milk used for manufacturing in the U.S.

The reduced price level that resulted from the study was explained in terms of currently effective pay prices in the states included in the survey and the heavier weighting of milk used in butter/powder production than in the current BFP. In addition to the negative aspects of the reduced price level and the uncertainty of being able to identify prices paid to producers that are not influenced by regulated prices, the USC analysis found that two competitive pay price series that passed the USC's level one criteria were questionable in their ability to reflect the manufactured milk market. Neither performed well when tested using the level two criteria and therefore were dropped from further consideration.

Product Price Formulas and Component Pricing.

Most comments filed in response to the proposed rule supported adoption of the use of product price formulas to derive multiple component prices for most markets as a viable market-oriented alternative to the current basic formula price. Favorable comments expressed the opinion that a price determined from the national finished product markets more accurately reflects the value of milk for manufacturing than other methods of determining a milk price. The price handlers can afford to pay for milk is determined by the price for which the finished product can be sold. Therefore, a pricing system that translates finished product prices to a price for raw milk results in a representative raw milk price for both producers and handlers. Component pricing, with prices determined for butterfat, protein, nonfat solids, and "other solids" (solids other than protein), can best be accomplished through product price formulas, to reflect the value of each component in finished product prices. The product price formulas adopted in this rule are relatively easy to use and understand, and the value of milk may be computed on an on-going basis by everyone in the dairy industry by following commodity markets.

Because milk used in manufactured products obtains its value from the components of milk, it is the components that should be priced; particularly butterfat and protein, and to a lesser extent the other solids contained in the milk.

Opposition to product price formulas was directed primarily at the need for establishing product yields and make allowances in determining a milk price or component prices. Opponents expressed the view that yields and make allowances would not reflect actual processing yields and costs in manufacturing plants, and therefore would not yield an accurate price for milk. Opponents further explained that when yields and make allowances are determined, they would be difficult to adjust and would not react to changes in manufacturing conditions. Opponents also argued that when an incorrect make allowance is established, plants are guaranteed a

return, or profit, to the detriment of dairy farmers. Some comments even described the make allowance as an unfair charge paid by dairy farmers to processors to have their milk made into products. Other opponents explained that an incorrect yield or make allowance may force payment for milk at a level that would not allow a return to the manufacturing plant.

The USC tested several product price formulas, including a one-class multiple component pricing formula and a set of formulas similar to the formulas recommended in this decision. Based on the results of the USC analysis measured against several criteria, the multiple component pricing formulas had the best overall performance of any of the alternatives considered.

Commodity Prices.

As recommended in the proposed rule and contained in this final decision, commodity prices determined by surveys conducted by the USDA's National Agricultural Statistics Service (NASS) will be used in the formulas that replace the BFP. A considerable number of comments were received concerning the use of commodity prices in determining prices for milk used in manufactured dairy products. Most of those commenting supported use of a price survey, but many commenters urged that participation be mandatory and reported prices audited, with the survey enlarged to include plants representing the entire nation so that the prices are truly representative.

Proponents of the NASS surveys explained that the NASS data is unbiased and would yield accurate representative prices of the products that are being marketed. Several comments contained specific recommendations for product categories to be surveyed to obtain the most accurate representative result.

NASS data traditionally have been collected via a survey with voluntary participation. The price information in the current cheese price survey, like most NASS data, is not audited. NASS applies various statistical techniques and cross-checking with other sources to provide the most reliable information available.

At the present time there appears to be no need for the suggested changes to the proposed surveys. The scope of the surveys that have been undertaken by NASS, and their geographic representation, appears to be comprehensive. Unless there is some indication that the prices gathered by the survey process are not representative, the very significant increase in regulation required to audit those prices and the steps that would need to be taken to make participation mandatory would be excessive and are not anticipated to be undertaken at this time.

Several alternatives to a NASS price survey were considered. There is a weekly cash butter contract trading on the Chicago Mercantile Exchange (CME). This contract is currently used to establish the butterfat differential and butterfat price in all

federal milk orders. This price series has been criticized due to the "thinness" of trading. Dairy Market News (DMN) publishes regional wholesale butter prices. However, since DMN price series cover cash or short-term contract transactions, they may not be representative of the predominant long-term contracts. Criticism of cheese exchange trading, including inaccurate representation of cheese prices and accusations of market manipulation, reached the point that the National Cheese Exchange (NCE) discontinued trading, and cash trading of cheese moved to the CME. The CME also has received some criticism for thinness of trading.

There is very limited exchange trading of nonfat dry milk. Other alternatives to a NASS survey for nonfat dry milk and dry whey are limited to prices published by Dairy Market News (DMN). The prices reported by DMN are generally considered to be representative of the dry product markets. However, the prices are reported as a range. A simple average of the prices is used to compute a monthly price and may not reflect the weighted average price at which the product moved. The DMN prices are not intended to establish prices but are provided for market information.

The NASS “Dairy Products Prices” reports wholesale cheese prices which are used to compute the current BFP. The NASS survey requests prices for cheddar cheese. The instructions for the survey specify what should and should not be included in the reported prices. The instructions state that a sale occurs when a transaction is completed, cheese is “shipped out”, or title transfer occurs. Prices for cheddar cheese only are to be reported f.o.b. the processing plant/storage center. Prices should be for “bare” or “naked” cheese with only the minimum packaging required for 40-pound blocks. Processors are asked to include all sales transactions of 40-pound blocks and barrel cheese 4-30 days old, the total volume sold, the total dollars received, or price per pound, and the moisture content of barrel cheese when it is sold. Intra-company sales, forward pricing sales, resales, transportation charges, clearing charges, and block cheese that will be aged should not be included.

At the time the proposed rule was published the NASS survey included prices for cheddar cheese only. Since publication of the proposed rule, NASS has begun surveys of Grade AA butter prices, dry whey prices, and nonfat dry milk prices. These surveys incorporate input from the dairy industry on appropriate types of products, packaging, and package sizes to be included for the purpose of obtaining unbiased representative prices. A sale is considered to occur when a transaction is completed, the product is shipped out or title transfer occurs. In addition, all prices are f.o.b. the processing plant/storage center, with the processor reporting total volume sold and total dollars received or price

per pound.

Butter prices are for USDA Grade AA butter with 80 percent butterfat, salted, fresh or “storage,” in 25-kilogram and 68-pound boxes. Processors are instructed not to include transportation charges, unsalted butter, Grade A butter, intra-company sales, forward pricing sales, and resales.

Nonfat dry milk prices are for USDA Extra Grade or USPH Grade A non-fortified dry milk in 25-kilogram bags, 50-pound bags, or “totes,” and tanker sales. Several commenters suggested excluding nonfat dry milk processed with high heat treatment since such product is a higher-cost specialty product, making its price unrepresentative of the nonfat dry milk market. As a result of the comments, it was determined that only low and medium heat process nonfat dry milk should be included in the price survey. The instructions inform processors to exclude transportation charges, sales of product more than 180 days old, instant nonfat dry milk, dry buttermilk, intra-company sales, forward pricing sales, and resales.

Dry whey prices are for USDA Extra Grade edible nonhygroscopic dry whey in 25-kilogram bags, 50-pound bags, “totes,” and tanker sales. As is the case with the other commodities, transportation charges, intra-company sales, forward pricing sales, and resales are to be excluded as well as sales of product more than 180 days old.

Several comments expressed concern about the “circularity” of survey pricing that could be caused by including sales whose price is based on previous survey information. According to this view, NASS-reported prices would cease to reflect market supply and demand, with market prices reflecting NASS-reported prices instead. These comments stated that the current pricing system relies on the market (in the form of the base month M-W survey) to correct survey results.

Under any method of discovering prices, whether those paid to producers or those paid for manufactured dairy products, prices currently known will be used as one of the determinants of prices for the following period. Under the current pricing system, it is inconceivable that handlers paying Grade B producers for their milk used in manufactured products do not consider the most recently announced prices as a starting point for determining what prices to pay their producers. When butter and cheese prices are determined at an exchange, both buyers and sellers use the exchange prices in arriving at the prices at which products will move. Ultimately, prices move in response to supply and demand conditions in the marketplace.

Basic Formula Price Replacement.

Application of the BFP and USC Committees' criteria for BFP replacement to the various BFP alternatives and consideration of

comments received in response to the proposed rule resulted in the determination that the component pricing product price formulas contained in this final rule best meet the stated goals and criteria for the replacement of the BFP.

A BFP based on commodity prices is subject to the same problems of stability as the underlying commodity prices. For the most part product price formulas do not reduce the volatility in producer milk prices.

Product price formulas are relatively simple to compute and understand, and may be applied uniformly, or on a regional basis, accommodating differences in yields or make allowances. Product prices established in a relatively free and open interaction between supply and demand directly translate the value of the finished products to the value of milk and its components. Therefore, they have a sound economic underpinning.

Product price formulas can require increased data collection, particularly if industry insists that data used in the formulas be audited.

The predictability of prices computed from product price formulas should be reasonably good, or at least no worse than predictability of the underlying commodity prices. Short run predictability may improve since all information needed to compute prices is reported on an ongoing basis. This contrasts with the present BFP computation in which the base month Minnesota-Wisconsin price is not reported until the actual basic formula price is announced.

Product price formulas are transparent, since the information to compute the price is available, and the effect of a change in commodity prices or one of the other factors may be observed and quantified.

This final rule replaces the current BFP with a multiple component pricing (MCP) system which will determine butterfat, protein, and other solids prices for milk used in Class III products and butterfat and nonfat solids prices for milk used in Class IV products.

Numerous comments were received, primarily before issuance of the proposed rule, concerning whether the revised orders should keep Class III-A (i.e. a four class market) or whether all hard manufactured products should be priced in Class III. The opposition to Class III-A centered around two issues: (1) the integrity of the classified pricing system, and (2) the perception that a butter/nonfat dry milk class would reduce producer pay prices. The supply/demand for butter and nonfat dry milk is sufficiently different from the supply/demand for cheese to justify separate classification and pricing. In addition, the decision to use the higher of the Class III or Class IV price for determining the Class I price, and base the Class II price on the

Class IV price, should more accurately reflect the value of these different categories of use.

Changes in the cheese market have a major impact on the dairy industry. The cheese industry has evolved from cheese production being a means of surplus milk storage and removal to a competitive consumer demand-driven industry. More milk is used in cheese production nationally than is used in Class I. The nonfat dry milk industry is now one which balances surplus milk storage and removals. This category is also evolving, with increasing commercial uses for nonfat dry milk, and dry milk products formulated for specific needs. Increasing quantities of nonfat dry milk are being produced for use in other dairy products and the food and pharmaceutical industries.

The separation of manufacturing milk into two classes will assure that shifts in demand for any one manufactured product will not lower the prices for milk used in all other classifications, including Class I prices. Recent milk price increases have been attributed to increased cheese values. Many people expect that per capita cheese consumption will continue to grow. However, some warn of impending market saturation as more cheese plant capacity materializes and consumer tastes and preferences change. Cheese consumption patterns are based on many factors outside the dairy industry's control. Health concerns relating to changing demographics, changes in pizza consumption and income growth, as well as retail and wholesale inventory decisions, etc., will impact consumption and prices. A recent report by the Food and Agricultural Policy Research Institute noted that "anything that results in demand weakness for cheese will likely result in a markedly different outlook for the entire dairy sector." The adopted pricing system will allow other manufactured products (i.e. Class IV) to move Class I prices, helping to reduce the volatility in milk prices.

Over the last six years cheese prices, and to a lesser extent butter prices, have shown considerable fluctuation while the nonfat dry milk price remained relatively stable. Price changes for these finished products are indicative of varying supply/demand situations over time. The stable nonfat dry milk prices and the butter prices prior to the fall of 1995 were a reflection of large stocks being carried in storage and flat demand. Prices for nonfat dry milk and butter became more volatile once government inventories were depleted and were no longer a factor in stabilizing prices. Butter prices increased during May and June of 1997 in response to demand for cream, while both cheese and nonfat dry milk prices remained relatively flat. These differences in price movements indicate separate supply and demand balances for different manufactured dairy products.

Research cited in the proposed rule supports the conclusion

that the different supply and demand characteristics for the cheese and butter/nonfat dry milk market segments warrant separate classification and prices. This pricing plan will allow the market-clearing price level of each of these manufactured products to be achieved independent of the other products. As a result, dairy farmers will be paid a price which is more representative of the level at which the market values their milk in its different uses.

The importance of using minimum prices that are market-clearing for milk used to make cheese and butter/nonfat dry milk cannot be overstated. The prices for milk used in these products must reflect supply and demand, and must not exceed a level that would require handlers to pay more for milk than needed to clear the market and make a profit.

The current BFP serves two functions: (1) a fixed differential is added to the current BFP to establish the Class I and Class II prices for the second succeeding month; and (2) the current BFP serves as the Class III price. In some Federal milk orders, a seasonal adjuster is added to the BFP to determine the Class III price. The BFP replacement will function in a similar fashion, using component prices. Class IV (butter and dry milk products) will be priced on a butterfat and nonfat solids basis. Class III (hard cheese) will be priced on a butterfat, protein, and other solids basis. The price of butterfat will be the same in Class III and Class IV. Class II will use the same butterfat price as Class III and Class IV with an adjustment to reflect the addition of the Class II differential. Payments to producers under MCP will be based on butterfat, protein, and other solids contained in the producers' milk, in addition to the producer price differential. Most Federal milk orders with MCP will also contain an adjustment to producer pay prices for the somatic cell counts of producers' milk.

The producer price differential reflects the collective value of participation in the marketwide pool. Primarily, it represents the producer's pro rata share of the additional value of Class I and Class II use in the market. The butterfat, protein, and other solids prices are component prices based on the value of the use of milk in manufacturing.

The Class I price will consist of a Class I butterfat price and a Class I skim milk price. As modified from the proposed rule, the Class I butterfat price will be determined by adding a fixed Class I differential divided by 100 to an advanced butterfat price computed using product prices for the most recent two-week period for which prices are available on the 23rd day of the month and will apply to the following month. The Class I skim milk price will be determined by adding the fixed Class I differential for each order to the higher of an advanced Class III or IV skim

milk price, calculated by using product prices for the same two-week period. The calculation of Class I prices will be the same for both MCP and non-MCP markets.

Announcement of Class I butterfat and skim milk prices in advance eliminates current problems caused by calculating the butterfat differential after the month for which it is effective. Handlers will have true advance Class I pricing. There will be three different butterfat prices each month (Class I, Class II, and other classes) but no butterfat differential. The separate Class I butterfat price should present no administrative or verification problems since Class I butterfat testing and reporting currently exists.

The prices for butterfat, protein, and other solids used in Class III will be computed as follows:

Butterfat price = ((NASS AA Butter survey price - 0.114)/0.82)

Protein price = ((NASS cheese survey price - 0.1702) x 1.405) + ((((NASS cheese survey price - 0.1702) x 1.582) – butterfat price) x 1.28)

Other solids price = ((NASS dry whey survey price - .137)/0.968).

For milk used in Class IV products the butterfat price is the same as the Class III butterfat price, while the nonfat solids price will be computed as follows:

Nonfat solids price = ((NASS nonfat dry milk survey price - 0.137)/1.02).

This system of pricing best fits the three established goals and criteria, discussed previously, for a replacement to the BFP.

The first goal, that a replacement for the basic formula price meet the supply/demand criteria set forth in the Act, may be the most difficult to evaluate definitively since the Act specifically mentions minimum prices to producers. The BFP, as part of a classified pricing system, does contribute to minimum prices to producers. However, the basic formula price does not need to be set at a level to "assure an adequate supply of wholesome milk" since the BFP makes up only a portion of the minimum price paid to farmers. The minimum price to farmers is a weighted average of the value of all of the milk in the market place, of which the BFP is a part. The BFP replacement meets the supply and demand criteria for milk used in butter/nonfat dry milk and cheese even though the component prices are established from finished product commodity prices. The commodity prices are based on a competitive marketplace and reflect the supply and demand for those products (Class III and Class IV) that utilize approximately 50% of the Grade A milk supply.

The supply and demand for Grade A milk is not limited to one category of products. The same milk may be used for fluid or soft

manufactured products as well as the Class III and Class IV products used to determine the BFP. As a result, the minimum prices established for Class III and Class IV reflect supply and demand for the milk used in all products.

In several comments received in response to the proposed rule, commenters expressed the view that the proposed product price formulas did not meet the requirements of the Act, and that an updated competitive pay price resembling the current BFP would be the appropriate replacement for the current BFP. For a price to be competitively established there must be a large number of willing buyers and sellers. The current base month price is established from a survey of pay prices for Grade B or manufacturing grade milk in Minnesota and Wisconsin. Whether prices paid for Grade B milk are representative of the value of Grade A milk is debatable. In addition, the volume of Grade B milk involved represents a declining production base from which to gather pay prices, and the number of plants buying manufacturing grade milk is continuing to decline, with many plants refusing to buy manufacturing grade milk even when they need milk and Grade A milk is more expensive. In other situations the manufacturing grade milk is procured because the seller of the milk is a member of the cooperative purchasing the milk and the cooperative will not deny market access to its member. Such a situation clearly is not competitive.

The Act stipulates that the price of feeds and the availability of feeds be taken into account in the determination of milk prices. This requirement currently is fulfilled by the BFP. If the price of feed increases the quantity of milk produced would be reduced due to lower profit margins. As the milk supply declines, plants buying manufacturing milk would pay a higher price to maintain an adequate supply of milk to meet their needs. As the resulting farm profit margins increase, so should the supply of milk. Likewise, the reverse would occur if the price of feed declines. The price of feed is not directly included in the determination of the price for milk, but rather causes a situation in which the price of milk may increase or decrease. A change in feed prices may not necessarily result in a change in milk prices. For instance, if the price of feed increases but the demand for cheese declines, the milk price may not increase since milk plants would need less milk and therefore would not bid the price up in response to lower milk supplies.

The pricing system contained in this decision will function in the same manner as the current pricing system by accounting for changes in feed costs and feed supplies indirectly. The product price formulas adopted in this rule should reflect accurately the market values of the products made from producer milk used in manufacturing. As feed costs increase with a resulting decline in

production, commodity prices would increase as a result of manufacturers attempting to secure enough milk to meet their needs. Such increases in commodity prices would mean higher prices for milk. The opposite would be true if feed costs were declining. Additionally, since Federal order prices are minimum prices, handlers may increase their pay prices in response to changing supply/demand conditions even when Federal order prices do not increase.

The second goal for a BFP replacement is that it should not deviate greatly from the price level of the current BFP. In effect, prices established by the current BFP formula in the past were used as a benchmark to compare how well the product price formulas adopted in this decision tracked the supply and demand conditions exhibited by the BFP. Several comparisons of the basic formula price replacement were made to the current BFP to determine whether the price computation formulas result in a price level for milk used in manufactured products that is reasonably close to the current BFP. It must be recognized that after the initial implementation of the revised prices, supply and demand factors will interact to adjust the actual price level to reflect the market for milk used in manufactured dairy products.

Protein, butterfat, and other solids values were combined to compute a Class III hundredweight price using standard factors of 3.1 for protein and 5.9 for other solids contained in skim milk, and 3.5 for butterfat. The resulting price averaged $0.47 or 3.7 percent below the current BFP for the 60-month period of January 1994 through December 1998. The Class IV hundredweight price, computed from the butterfat price times 3.5 and the nonfat solids price using a standard factor of 9 for nonfat solids contained in skim milk, averaged $0.50 or 3.9 percent below the current BFP during the same period. The replacement Class III and Class IV prices were both highly correlated with the current basic formula price. The Class III price had a .981 correlation coefficient while the Class IV price had a .744 correlation coefficient.

The above comparisons are based on applying the component pricing formulas to commodity prices that were in effect during the period examined. Therefore, price level comparisons can only provide an indication of how the BFP replacement prices may have behaved. The current BFP has been responding to changing market conditions, while the replacement formulas are applied to historic data which has exhibited changes over time in response to existing price levels, rather than marketing conditions that would have occurred under the BFP replacement. Additionally, the current BFP may have a greater tendency to reflect supply and demand conditions in Minnesota and Wisconsin rather than national supply/demand conditions. The formulas in this decision use national commodity price series, thereby reflecting the national

supply and demand for dairy products and the national demand for milk.

The basic formula price replacement also meets the third primary goal. The formulas have the ability to respond to supply/demand changes. The Class III and Class IV prices should respond appropriately since the formulas use NASS-surveyed commodity prices that reflect national supply and demand for these commodities.

Overall, the BFP replacement formulas (for Class III and Class IV) meet the established criteria necessary for a BFP replacement. The formulas are relatively simple to use and can be applied uniformly. The formulas are transparent and the Class III and Class IV formulas meet the sound economics criterion.

In the near term, the use of NASS survey prices may reduce the ability to predict Federal order class prices since there is a limited history of using NASS survey prices. Predictability should improve over time as the relationship between the survey prices and easily-tracked exchange prices becomes apparent to industry observers.

The formulas used in the basic formula price replacement likely will result in prices that are less stable than the current BFP. Unlike the current BFP, in which commodity updates are used to adjust the producer pay price survey, changes in product prices will be the sole determinants of changes in component prices. Past observation of competitive pay prices and commodity prices indicates that generally competitive pay prices do not move as quickly as commodity prices. Since the current BFP is based primarily on the base month survey price, the commodity-driven price series adopted in this rule will react more quickly to changes in the commodity markets than the current BFP reacts.

Make Allowances.

Use of an economic engineering approach to determine appropriate make allowances was investigated. Neither the time nor the resources are available to construct models for determining appropriate make allowances at this time. As an alternative, various sources were used to determine appropriate make allowances for the basic formula price replacement. Research by Stephenson and Novakovic of Cornell University indicates that results obtained by using an economic engineering approach can be comparable to a survey of plants. Resources may need to be devoted to developing an economic engineering model, a survey, or a combination of the two.

The make allowances contained in the proposed rule were developed primarily from make allowance studies conducted at and published by Cornell University and an analysis of manufacturing plant size in relationship to the data contained in the Cornell studies. Audited cost of production data published by the

California Department of Food and Agriculture was also used in determining a reasonable level of make allowances.

The proposed rule make allowances used in computing the component prices for Class III and Class IV resulted in per hundredweight prices which did not deviate greatly on average from the current BFP over the period analyzed, one of the criteria for a basic formula price replacement. During the September 1991 through May 1997 period on which the analysis in the proposed rule was based, the proposed Class III price level would have averaged $0.26 per hundredweight above the current BFP, with Class IV prices averaging $0.22 per hundredweight below.

Nearly all comments received relating to make allowances asserted that the proposed rule allowances were understated. Both handler and producer interests argued that failure to cover processors' costs of converting milk to finished products results in a disincentive to produce finished dairy products. They expressed concern that the disincentive would discourage investment in the manufacturing sector, leading to reduced manufacturing capacity and reduced outlets for producers' milk. A few commenters stated that make allowances should cover the costs of only the most efficient processors, and others objected to the inclusion of any make allowances, which they characterized as a charge against producers to pay processors for processing milk.

Producers objected to the inclusion of manufacturing allowances for milk processors while no allowance is made for producers to recognize any fixed recovery of the cost of producing milk. The current pricing system, using the BFP, also does not assure producers a fixed rate of return. However, because the BFP is based on a competitive pay price of what manufacturers pay dairy farmers for milk, the manufacturers' make allowance has, in effect, been deducted from prices received from the sale of manufactured products before the pay prices are reported. Therefore the differences between the current pricing system using the BFP and the pricing system contained in this decision with respect to make allowances deals with the level and stability of make allowances rather than their existence.

National Milk Producers Federation (NMPF) supported use of a survey of dairy product manufacturing costs that has been conducted by the Rural Cooperative Business Service (RCBS), with some modifications, to establish Federal order make allowances. Many other comments supported the NMPF position. NMPF suggested adding a marketing cost allowance of $0.015 per pound of product to the manufacturing costs. NMPF explained that the addition of the marketing allowance was necessary since the NASS price data that will be used in the formulas includes the marketing costs covered by the $0.015.

The RCBS survey contains data for six cheese plants, six

nonfat dry milk plants and five butter plants. In addition, the survey results include manufacturing data from three dry whey plants. The plants included in the survey represent a wide geographic representation of the United States. Given the limited number of plants involved in the study, however, regional information is unavailable. The survey results also represent a range of packaging types which can affect the final make allowance.

International Dairy Foods Association (IDFA) suggested that make allowances be determined by computing weighted averages of the results of the RCBS survey and the California audited make allowances. IDFA also included a $0.015 marketing cost adjustment as well as adjusting the RCBS make allowance to incorporate the same return on investment that is included in the California make allowance. IDFA and numerous other commenters explained that a return on investment is necessary for manufacturers to continue to invest in plants and equipment.

A number of comments were filed urging that make allowances be determined by auditing manufacturing plants in the same manner practiced by the State of California. Proponents explained that California has had long and successful experience with auditing make allowances and that a similar procedure could and should be implemented in Federal orders.

At this time the use of the RCBS study and the California data are deemed to be adequate for determining the initial make allowances contained in this decision. Several problems exist with auditing make allowances. First, the Federal milk order system currently is not equipped to handle the type of audits necessary for determining appropriate make allowances. An increase in market administrator administrative fees would be required to acquire and train auditors to conduct the make allowance audits, since these audits would have to be done in addition to the current audit program. Since most Class III and Class IV manufacturing is done in plants that currently are unregulated, authority to audit these plants to obtain make allowance data would need to be obtained. In addition, the industry may request a hearing on an expedited basis and present relevant data to justify changing make allowances. Therefore, there is no current plan to begin auditing manufacturing plants for the purpose of obtaining make allowance data.

The level of the make allowances included in this decision is based on input by all sectors of the dairy industry. If the make allowances are established at too low a level, manufacturers will fail to invest in plants and equipment, and reduced production capacity will result. If the make allowances are established at too high a level there will be unwarranted incentive to increase capacity above the needs of the industry, leading to overcapacity

and resulting losses to manufacturers. Either scenario would not be in the best interest of the dairy industry. Manufacturing plant operators who find the level of make allowances inadequate compared to their actual costs also have the alternative to not participate in a Federal order marketwide pool.

Most commenters agreed with NMPF and IDFA that the make allowances proposed to be used for the butterfat and nonfat solids prices were too low, and the resulting prices too high. NMPF suggested that a make allowance of $.1327 per pound of butter (plus the $.0015 marketing cost, or $.1342) would be appropriate for use in the butterfat price calculation, and IDFA favored a make allowance of $.114, compared to the proposed make allowance of $.079. Several commenters suggested use of California make allowances.

The formula for determining the butterfat price for butterfat used in Class III and Class IV products will be computed using the following formula:

Butterfat price = ((NASS AA Butter survey price - 0.114)/82). The make allowance of $0.114 per pound of butter is determined by adding to the RCBS survey make allowance a marketing cost of $0.015 and a return on investment of $.0068, which is the same return on investment included with the California butter processing cost. The RCBS make allowance included packaging costs for print butter; therefore, $0.0175 was deducted from the make allowance to adjust for the difference between print and bulk butter packaging. The California butter processing cost was also adjusted by the $0.015 marketing cost. A weighted average make allowance was then computed using the adjusted RCBS make allowance and pounds of butter contained in the RCBS survey and the adjusted California butter processing cost and the pounds of butter represented by the California butter plant audit. The resulting make allowance of $0.114 is $0.035 greater than the $0.079 make allowance contained in the proposed rule. An increase in the butter price formula make allowance will allow plants to recover a larger percentage of the costs of producing butter than under the proposed rule.

Comments on the computation of a nonfat solids price included suggestions by NMPF that the nonfat dry milk make allowance level should be $.1245 plus the $.0015 marketing cost, or $.126, and by IDFA that $.137 would be an appropriate level, compared to the $.125 used in the proposed rule. Several other commenters favored the California make allowance, suggesting something in the $.135-$.14 per pound range for nonfat dry milk.

The formula for computing the nonfat solids prices for milk used in Class IV will be as follows:

Nonfat solids price = ((NASS nonfat dry milk survey price - 0.137) / 1.02).

As in the case of computing the butterfat make allowance, the nonfat solids make allowance is a weighted average of the RCBS survey and the California processing costs. A marketing cost of $0.015 and a return on investment of $0.0159 was added to the RCBS survey while the $0.015 marketing cost was added to the California price. The resulting make allowance of $0.137 per pound of nonfat dry milk is $0.012 more than the proposed rule make allowance of $0.125. The resulting increase in the make allowance will allow plants to recover a larger percentage of the cost of producing nonfat dry milk than they would have using the make allowance included in the proposed rule.

In addition to revising the make allowance for computing the nonfat solids price, the yield factor is also adjusted. In the proposed rule a yield factor of .96 was used in the nonfat solids formula. The .96 was intended to represent the 96 pounds of solids in 100 pounds of nonfat dry milk. Most parties, including IDFA and NMPF, commented that the .96 was inappropriate and that a factor of 1.02 was more appropriate. Since buttermilk powder is also a product of manufacturing butter and nonfat dry milk, its value needs to be addressed. Because the proposed rule did not account for the yield of buttermilk, the .96 factor was appropriate. However, failing to account for buttermilk powder resulted in overstating the nonfat solids price since the pounds of nonfat solids were understated. Use of the 1.02 factor allows the nonfat solids contained in nonfat dry milk and buttermilk powder to be accounted for, and the value of all nonfat solids to be accurately reflected in the nonfat solids price.

The results of the revisions made to the butterfat and nonfat solids formulas yield a Class IV hundredweight price that would have averaged four cents below the current Class III-A price and fourteen cents above the California 4a price over the period of January 1994 through December 1998. These results address the major concern of many of the comments that the Class IV prices in the proposed rule were too far out of alignment with California 4a prices for Federal order plants to be competitive. The more important criteria of reflecting supply and demand is also met by the revised formulas. Research by Knutson, Anderson, Awokuse, and Siebert showed that the formulas contained in the proposed rule outperformed the current basic formula price in reflecting supply and demand. Under the revised formulas the level of prices will be changed, but not their relationship to supply and demand.

Nearly all comments on the cheese make allowance proposed for use in computation of the protein price described the proposed $ .127 make allowance as too low, resulting in a too-high protein price. NMPF supported use of the RCBS survey results ($ .1421), which were somewhat higher than the proposal. IDFA supported using an average of the RCBS survey and California make

allowances, which generally are higher still ($ .152). A number of other commenters argued that the proposed cheese make allowance would cover the cost of making none of the cheese made in California. The Dairy Institute of California advocated make allowances of at least $.17 for blocks and $.14 for barrels.

Many commenters insisted that barrel cheddar cheese prices should be included in a weighted average with block cheddar prices since much more barrel cheese is produced than block cheese. NMPF urged that the barrel price not be included because barrels don't have uniform composition, and because the use of such prices would have the effect of unnecessarily reducing prices to producers. Other commenters suggested that if barrel prices are included, they should be increased by 3 cents per pound to make up for the difference in packaging costs. Still other commenters argued that all varieties of cheese should be included in the NASS price survey to assure that all cheese value is captured.

The formula for computing the protein price for milk used in Class III is as follows:

Protein price = ((NASS cheese survey price - 0.1702) x 1.405) + ((((NASS cheese survey price - 0.1702) x 1.582) – butterfat price) x 1.28);

The NASS cheese survey price will be determined by adding three cents to the moisture-adjusted barrel price and then computing a weighted average price using the block cheese price and the adjusted barrel price times the pounds of each cheese type in the NASS survey and dividing by the total pounds of block and barrel cheese in the NASS survey. Including both block and barrel cheese in the price computation increases the sample size by about 150 percent, giving a better representation of the cheese market. Since the make allowance of $0.1702 is for block cheese, the barrel cheese price must be adjusted to account for the difference in cost for making block versus barrel cheese. The three cents that is added to the barrel cheese price is generally considered to be the industry standard cost difference between processing barrel cheese and processing block cheese.

The make allowance used in computing the protein price, $0.1702, was established by computing a weighted average make allowance using the RCBS survey and the California processing costs. The RCBS survey was adjusted by adding a marketing cost of $0.015 and a return on investment of $0.0104 for a total of $0.1540 while the California processing costs were increased by a marketing cost of $0.015 for a total of $0.1855. The weighted average was then computed by multiplying the pounds of cheese represented in each study by the respective prices. The resulting total was divided by the total pounds of cheese represented by the studies.

The factors used in the formulas for computing component

prices are determined by the quantity of the component in the commodity, except for protein, for which the Van Slyke yield formula is used. In the protein formula, the 1.405 and 1.582 are yield factors derived from the Van Slyke cheese yield formula. Both the 1.405 and 1.582 factors are determined by calculating the change in cheese yield if an additional tenth of a pound of protein or butterfat is contained in the milk, holding everything else constant.

The proposed rule used a 1.32 factor times the cheese price for use in computing the protein price. The change to a factor of 1.405 reflects the use of true protein as the basis for payments for protein rather than using a measurement of "total nitrogen" for the protein content of milk. The resulting protein price will be for a pound of "true protein."

Total nitrogen protein content and true protein content both result from chemical (Kjeldahl) testing methods approved for determining the protein content of dairy products by the Association of Official Analytical Chemists. When expressing protein based on total nitrogen, the protein percentage is over-stated by the amount of non-protein nitrogen (which has little or no effect on dairy product yields) present in the milk. Therefore, when milk is priced on the basis of its true protein content rather than its content of protein measured by total nitrogen, the price per pound of protein should be higher.

Currently, nearly all testing of milk for payment purposes is performed using infrared electronic testing equipment. At the wave-length filter at which protein is measured, only true protein is detectable. To calibrate for total nitrogen a bias factor has to be used to compensate for the non-protein nitrogen. It is also likely that the level of non-protein nitrogen will vary in every set of calibration samples, creating more problems in accurately calibrating electronic infrared instruments. Calibration for the true protein content of milk is more accurate than the calibration for total nitrogen protein. Because the accuracy of testing for true protein is higher than for total nitrogen protein, which has relatively little value, Federal milk orders should price milk on the basis of its true protein content rather than its total nitrogen protein content.

Comments on the proposed rule included discussion of the proposal to incorporate the difference in butterfat value between cheese and butter within the protein price. NMPF suggested that the .90 factor that results in a 1.582 multiplier should, instead, be .91 and result in a 1.60 multiplier because that factor more closely reflects the current retention of butterfat in cheddar cheese manufacturing. The IDFA comment argued that using the 1.60 multiplier would increase an already-high protein price. Another comment urged that the Grade A butter price be used instead of the

AA price, because the value of butterfat in cheese shouldn't be increased over its value in butter. Further, the comment argued that the additional value of butterfat in cheese is added by the cheesemakers, and shouldn't be used to increase prices to producers.

Since Class III includes other types of cheese, such as mozzarella that has a lower fat retention than cheddar cheese, increasing the value attributed to that retention is not appropriate. Increasing the protein price for all milk used in Class III based on only a portion of the products included in Class III would put the other Class III products at a competitive disadvantage. Calculation of a minimum price will enable handlers to adjust prices paid to producers to account for additional value above the minimum Federal order prices. Therefore, the 1.582 factor will be used in the protein price formula contained in this decision.

Since Class III and Class IV use the same butterfat price, accounting for the difference in value of butterfat in cheese versus the value of butterfat in butter is necessary. This difference in value is included with the protein price calculation as a means of quantifying the amount by which the value of butterfat in cheese varies from the value of butterfat in butter. Attributing the additional value to protein is possible because it is the casein in protein that forms the molecular matrix that retains the butterfat in cheese. Without enough protein in milk to retain the butterfat in cheese, the butterfat would have a lower value in whey butter in most months. The ratio of butterfat to protein, 1:1.28, is calculated from the protein and butterfat yield factors of 1.405 and 1.582.

An alternative to incorporating the butterfat value in cheese with the protein price is to compute a separate butterfat price for Class III. This would be a relatively simple formula to compute. However, having multiple butterfat prices would require full plant accountability of components in all manufacturing plants. The resulting increased accounting, reporting, and administrative costs were determined to not be warranted when viewed against the small gain from having an additional butterfat price.

Use of the protein price formula adopted in this decision will increase the protein price by approximately 15 cents per pound when compared with calculating the protein price on the basis of total nitrogen protein. However, the increase is almost entirely negated by the lower content of true protein than of total nitrogen protein in milk. On a hundredweight basis, the change to true protein results in an increase to the Class III price of an average of 2 cents when compared to the formula using total nitrogen protein.

Use of true protein instead of total nitrogen protein for determining payments to producers should have a minimal impact on producer revenues. Producers with relatively high levels of non-protein nitrogen in their milk could see a slight drop in their revenue derived from the protein content of their milk.

In addition to changing the coefficients in the protein price formula to adjust for the use of true protein, the fixed protein and other solids values used in computing a per hundredweight Class III price must be adjusted. Accordingly, the Class III price will be computed by multiplying the butterfat price by 3.5 and adding the result of multiplying .965 times the sum of 3.1 times the protein price and 5.9 times the other solids price.

In comments filed in response to the proposed rule, NMPF suggested a $.1575 whey make allowance plus the $.0015 marketing cost, for $.1590, rather than the $.10 proposed. IDFA argued that a $.171 make allowance would be more appropriate. Wisconsin Cheesemakers indicated that the Class III price should not include a value for whey, as it frequently represents a cost to manufacturers. The Dairy Institute of California agreed that a whey factor should not be included, but that if it is, the yield factor (divisor) should be .98 (instead of .968).

The formula used for computing the other solids price is:

Other solids price = ((NASS dry whey survey price - .137)/ 0.968).

The determination of the $0.137 make allowances was based on several factors. Whereas the other make allowances were based on a weighted average of the RCBS study and California make allowances, the other solids make allowance is based primarily on the Cornell study of dry whey and whey protein concentrate make allowances. The Cornell study was used since California does not audit dry whey manufacturing costs and the RCBS survey has very limited data on dry whey manufacturing costs. The data on dry whey in the RCBS study expresses the costs on a per pound of cheese basis rather than on a per pound of dry whey basis. The $0.137 figure is slightly above the average cost of the model plants in the Cornell study and the same as was used for nonfat solids.

A value for other solids is included in Class III to assure that the Class III price reflects most of the value of milk used in Class III products. In the Federal milk orders currently pricing three components, the other solids price is determined by subtracting the value of butterfat and protein from the BFP. In this final rule the other solids price is established independently of the butterfat and protein price. Even though there is not a market for other solids as such, the dry whey price was determined to be the best indicator of value for other solids and provides a method of accounting for and distributing the value

in Class III milk that is not accounted for in the protein and butterfat components. Other potential price series that could be used to determine the value of other solids were whey protein concentrate and lactose. Under present market conditions, dry whey offers more market activity with less specialization than either whey protein concentrate or lactose, and therefore constitutes a better price series for determining a minimum Federal order price. Comments filed by several parties supported the use of dry whey for the determination of the other solids price. The 0.968 factor in the formula represents the pounds of solids contained in a pound of dry whey.

Since the make allowances are applied on a component basis rather than on a hundredweight of milk basis comparisons to traditional make allowances may be difficult. Also, a make allowance that may seem reasonable when applied to a component may be seen as inappropriate when combined with the other components in the finished product. To evaluate the make allowances on a per hundredweight basis the Class III and Class IV milk prices were compared to the value of cheese and butter/powder using the CCC yield factors. These results were compared to the same calculation using the current BFP and the CCC yield factors. A comparison over time between the current level of class prices paid for producer milk and the value of the manufactured products made from that price class of milk shows a reasonably stable difference between the two levels. This difference is the *implied make allowance*.

The implied make allowance for butter/powder using the current BFP for the period January 1994 through July 1998 was $0.83 per hundredweight, while the implied make allowance for butter/powder versus the Class III-A price was $1.37 per hundredweight. The implied make allowance calculated for the Class IV price, based on historical prices, would have been $1.41 per hundredweight. With the implied make allowance for the Class IV price being only $0.04 from the actual implied Class III-A make allowance, the butter make allowance and the nonfat dry milk make allowance, in combination, appear to approximate the current implied make allowance.

Determination of the make allowance for Class III is more difficult than for Class IV, in which butterfat and skim solids make two unique finished products. In cheese manufacture, most of the butterfat remains in the cheese with most of the protein, and a portion of the protein, butterfat and remaining nonfat solids are contained in the whey, which can be made into various products. The combination of the butterfat, protein, and other solids make allowances resulted in an implied make allowance of $2.72 for Class III (cheese) compared to the implied make allowance of $2.21 for the current BFP. Even though the implied

make allowance using the Class III formulas in this decision is greater than the current implied make allowance it is appropriate since the CCC formula is basically a cheddar cheese yield formula whereas Class III contains multiple varieties of cheese and certain other products. A slightly larger make allowance in Class III will not place makers of products that have significantly different cost structures than cheddar cheese at a competitive disadvantage when participating in Federal orders relative to handlers who do not participate in the Federal orders.

Changes in make allowances will affect component prices and per hundredweight milk values. A one-cent per pound change in the butter make allowance will affect the butterfat price in the opposite direction by $0.0122 per pound. This would be $0.0427 per hundredweight for milk at 3.5 percent butterfat. The butterfat price also is used in the computation of the protein price. The protein price will change inversely to the butter make allowance by $0.0146 per pound or $0.046 per hundredweight for milk with 3.15 percent protein. A positive make allowance change for nonfat dry milk will result in a decline in the nonfat solids price. A one-cent change in the nonfat dry milk make allowance will result in a $0.0098 per pound or $0.0882 per hundredweight opposite change in the nonfat solids price. A one-cent change in the protein make allowance will cause an opposite change in the protein price by $0.0322 per pound or $0.1014 per hundredweight for milk with 3.15 percent protein. Finally, a one-cent change in the other solids (dry whey) make allowance will change the other solids price by $0.0103 per pound or $0.0567 per hundredweight in the opposite direction.

This pricing system eliminates the need for regional yields based on regional differences in milk composition. The value of milk will be adjusted automatically based on the level of components contained in the milk in each order even though the component prices are the same nationally. This automatic adjustment means that handlers will pay the same price per pound of component but may have differing per hundredweight values based on the milk component levels, creating equity in the minimum cost of milk used for manufacturing purposes.

Several comments were received suggesting that regional BFP replacement prices be used rather than a national BFP replacement. The commenters explained that cheese, butter, and nonfat dry milk have different values in different regions of the country, and that the Cornell study described a price surface for milk used in manufactured products across the United States. Therefore, they concluded, the replacement BFP also should be determined regionally.

This decision replaces the current BFP with a national Class III price and a national Class IV price. Although there may

be some justification for regional pricing, there are two principal reasons for using national pricing. First, pricing milk on the basis of the pounds of components contained in the milk eliminates some of the regional differences in milk prices. Second, regional commodity price data, and for that matter regional competitive pay price data, are unavailable. Resulting attempts to estimate regional differences, with the ensuing regional differences of opinion, would yield minimal benefits.

An analysis of the basic formula price replacement requires several assumptions. Historical commodity price surveys are not available for all of the commodities. Prices used as substitutes for historical price survey data in this analysis include a cheese price computed by comparing the current NASS cheese price series to the comparable NCE/CME price series for the purpose of determining a historical protein price. The NCE/CME series was then adjusted by means of a regression analysis to reflect the differences between the NASS prices and the exchanges. The resulting price series simulates the use of the NASS series for the time period studied. For the butter price, the data from the "BFP Committee Commodity Price Study" was compared to the CME Grade AA cash butter price series. The CME Grade AA price series was then adjusted accordingly to make it more comparable with the Committee Price Study. Available survey prices used were nonfat dry milk prices and dry whey prices, both of which are published monthly by NASS in "Dairy Products". While a nonfat dry milk price and dry whey price are published in "Dairy Products" at the beginning of each month for the second previous month, the new weekly NASS survey discussed earlier is necessary to determine prices on a more current basis.

One of the initial requirements of a basic formula price replacement, based on the assumption that the national supply and demand for manufacturing milk as reflected in the current BFP is in relatively good balance, is that the price level not deviate greatly from the current basic formula price. The examples contained in the proposed rule resulted in the Class III portion of the BFP replacement averaging $0.45 per hundredweight above the current Class III price, and the Class IV portion of the BFP replacement averaging $0.13 per hundredweight above the current Class III price, both for the 48-month period January 1994 through December 1997.

In addition to comparing the Class III and Class IV price series to the current BFP, the Class III price was also compared to the California 4b price, while the Class IV price was compared to the Class III-A price and to the California 4a price. Comparisons to the California prices are included because many commenters expressed the view that the proposed rule resulted in prices that put plants regulated by Federal orders at a

competitive disadvantage to California plants and that alignment with California pricing was essential. Most commenters did not express the view that Federal order prices should equal California prices, but that Federal order prices should be in alignment, i.e. “reasonably close”. For comparison purposes all prices are expressed on a per hundredweight basis with 3.5 percent butterfat. The Class III price was determined by using 3.1 pounds of protein and 5.9 pounds of other solids in 100 pounds of skim milk. To compute a 3.5 percent hundredweight price the skim milk value was multiplied by .965 and added to the butterfat price that was multiplied by 3.5. The same procedure was used for the Class IV price, with 9 pounds of nonfat solids in a hundred pounds of skim milk.

For the period January 1994 through December 1998, the Class III price averaged $0.47 below the current BFP and $0.20 above the California 4b price, while the Class IV price averaged $0.50 cents below the current BFP, $.04 cents below the current Class III-A price, and $0.15 above the California 4a price.

In addition to comparing the value differences between the Class III and Class IV prices and the current BFP, it is important to compare the relationship in price movements between the Class III and Class IV prices and the current basic formula price. Correlation coefficients were computed to statistically test the relationships between the Class III and Class IV prices, the current basic formula price, and the California prices. The correlation coefficient between the Class III price and the current basic formula price is above .98 while the correlation coefficient between the Class IV price and the current basic formula price is approximately .74. The correlation between the Class IV price and the current Class III-A price is .99. The correlations between the Class III and Class IV prices and California prices are also quite high, with the Class III price and the California 4b price having a correlation coefficient of .97 while the Class IV price and the California 4a price show a correlation coefficient of .99. These relationships are expected since the current basic formula price is weighted more heavily on milk used for the manufacture of cheese than on the value of milk used in the manufacture of butter and nonfat dry milk.

The Class III and Class IV formulas are computed from product prices representing the use of milk in each class. That is, the Class III price is derived from the value of cheese while the Class IV price is derived from the value of butter and nonfat dry milk. Therefore the Class III and Class IV prices can be expected to vary significantly from the current BFP in individual months, reflecting the economic (supply and demand) conditions for cheese, butter, and nonfat dry milk. This situation is particularly true of the Class IV price. For example, during 1993 and 1994 the

price of butter and nonfat dry milk was relatively low and stable compared to the price of cheese. The degree of variability of individual months' prices from the average for the year is expressed by a standard deviation. A lower standard deviation indicates that individual observations (in this case, monthly product prices) vary less from the mean than would be indicated by higher standard deviations. These statistical descriptions indicate the difference in variability of prices between butter/powder and cheese in 1993 and 1994.

During 1994 the Class IV price would have averaged $10.26 with a standard deviation of $0.11, compared to the 1994 BFP average of $12.00 with a standard deviation of $0.57, and the average Class III price of $11.47 with a standard deviation of $0.69. For 1998, when the economic conditions for butter and nonfat dry milk had changed and prices became more volatile, the Class IV price would have averaged $14.79 with a standard deviation of $2.13 versus the 1998 BFP average of $14.20 with a standard deviation of $1.97, and the Class III average price calculation of $13.84 with a standard deviation of $2.14.

The Class III and Class IV prices clearly reflect the value of the milk used in the respective manufactured products, whereas the current basic formula price reflects primarily the value of milk used to manufacture cheese in a particular region of the U.S.(Minnesota and Wisconsin).

Class I.

As in the proposed rule and currently, the basic formula price replacement will act as a mover for the Class I price in addition to establishing prices for milk used in Class III and Class IV. Also as proposed, the Class I value will be separated into two parts: skim milk and butterfat. However, instead of the proposed six-month declining average of the higher of each month’s Class III and Class IV skim and butterfat prices, the Class I price mover will be determined by the most recent manufacturing product prices available. The advanced price aspect of the Class I price mover will also be shortened from the current and proposed timing of the Class I price announcement. Both the Class I skim and butterfat components will be announced on the 23rd day of the preceding month using advance pricing factors based on product prices for the most recent two weeks. The Class II skim milk price will be announced similarly. This change from the proposed rule is being made to respond to numerous handler comments on the proposed rule and to address class price inversion that occurred during the second half of 1998.

Comments relating to replacement of the BFP as a Class I price mover that were filed before issuance of the proposed rule ranged from favoring continuation of the current system to establishment of the Class I price independently of the basic

formula price(s) for milk used in manufactured products. One comment suggested eliminating the basic formula price and pooling only the Class I and Class II differentials. These comments were fully considered in the proposed rule.

Numerous comments received in response to the proposed rule favored advance pricing of Class I skim and butterfat separately. However, a number of commenters expressed concern that use of the higher of the Class III or Class IV prices in the calculation of the Class I price mover would result in undue enhancement of Class I prices. The most controversial aspect of the Class I price mover proposal was the use of a 6-month declining average. Many of the comments received concerning the Class I mover expressed the view that the Class I price must be closely and directly linked to the manufacturing price in the same manner that occurs currently. Commenters expressed the view that the current system, two-month advance pricing, closely links the manufacturing value of milk to Class I and therefore gives appropriate price signals to producers. They opposed the six-month declining average on the basis that the delay in linkage with the Class I price would be too long and that Class I pricing would be counter cyclical. Some who opposed the time lag built into the 6-month declining average suggested that a 3-month average would do as well at attaining some stability without as much "de-linking."

Several commenters opposed building less volatility into Class I prices than into manufacturing class prices. Among the reasons given were that added stability for Class I would mean greater volatility in prices for manufactured products, and that added stability would favor producers in high Class I markets.

Other comments on the proposed rule supported variations of a 12-month rolling average Class I price mover, some with seasonal adjustments. A number of comments favored the stability of the longer-term basis for Class I prices. One graph submitted shows a very close relationship between the 6-month declining average mover and the current BFP.

There are several conflicting issues that must be balanced when establishing the Class I price mover. First, the retail demand for Class I milk is independent of the demand for manufactured dairy products. Second, the raw material used in both Class I products and manufactured dairy products is the same and therefore the separate uses must compete for the given supply of milk. Third, the elasticity of demand for the various dairy products is significantly different, creating different consumer responses to the changing prices for various dairy products. The Federal milk orders have attempted to address these issues through classified pricing. This system allows a higher price to be applied to milk used for Class I uses due to inelastic demand for Class I products. This higher price also allows Class I uses of

milk to compete for the raw milk supply against manufactured dairy products. At the same time, marketers of Class I products support some degree of forward pricing, requiring processors of Class I products to know the Class I price in advance.

Most of those commenting on the proposed rule and the Department perceive the need to reflect changes in the prices for milk used in manufactured products in the price of milk used in fluid products. Since Class I handlers must compete with manufacturing plants for a supply of milk, the Class I price must be related to the price of milk used for manufacturing.

It is apparent from the price patterns of a large part of 1998 that the current two-month lag between manufacturing and fluid pricing does not establish as close a relationship between the two price levels as is desirable. Indeed, from an analysis of the differences between prices generated by a six-month declining average and the current pricing system, it is clear that the current two-month lag does not accomplish any closer relationship between manufacturing and fluid prices than would the six-month declining average.

When manufactured dairy product prices are relatively stable the advance pricing of Class I milk works quite well. However, since 1988 the volatility in the manufactured dairy product market has caused problems with the advance pricing of Class I milk. The first problem is readily evident in class price relationships during the latter part of 1998. The frequent occurrence of price inversions during that period indicates that some alteration to both the proposed and current methods of computing and announcing Class I prices may be necessary. Class price inversion occurs when a markets's regulated price for milk used in manufacturing exceeds the Class I (fluid) milk price in a given month, and causes serious competitive inequities among dairy farmers and regulated handlers. Advanced pricing of Class I milk actually causes this situation when manufactured product prices are increasing rapidly.

Since the Class I price is announced in advance, in a rapidly changing market the Class I price may not reflect the value needed to compete for the necessary raw milk supply or the Class I price may be overvalued relative to the raw milk price. Undervaluing Class I milk is a particular problem since it reduces producers' pay prices at a time when the producers should be receiving a positive price signal. As an example, in July 1998 the Class I price in every Federal order market except one was below the Class III price. Although July is not a period of very high Class I demand, it is a time when Class I demand is starting to increase in some regions relative to total milk production. At this same time producers in these regions received lower pay prices. Many Federal milk orders also experienced a Class I price

below the Class III price in August as a result of two-month advance pricing of Class I. Demand for Class I milk increases substantially in August. While producer prices rose in August, the increase would have been larger had Class I prices been based on more current Class III prices. Under these pricing relationships, the Class I handler may have a more difficult time acquiring milk as the minimum Federal order Class I price puts the handler at a disadvantage to handlers demanding milk for manufacturing purposes. Since Class I handlers must compete with manufacturing plants for a supply of milk, the Class I price must be related to the price of milk for manufacturing.

Another problem inherent in the current method of announcing Class I prices in advance is that the price for milk established in advance is for milk containing 3.5 percent butterfat. The current system does not determine the price of butterfat in advance, therefore the Class I handler does not know the value of milk at butterfat contents other than 3.5, until the butterfat differential is announced in the month following sale of the processed product. Under this final decision, Class I handlers will have advanced price information for both the skim and butterfat portions of the Class I price.

The purpose of the minimum Class I differential is to generate enough revenue to assure that the fluid market is adequately supplied. As a result of advance pricing, the effective Class I differential -- that is, the actual difference between the Class I and manufacturing use prices in a month -- is not the same as the Class I differential stated in an order. While the effective Class I differential varies monthly, it generally has remained positive. Recent increased volatility in the manufactured product markets has resulted in more instances in which the effective Class I differential has been negative, especially in markets with low minimum Class I differentials.

In the past when price inversions have occurred, the industry has contended with them by taking a loss on the milk that had to be pooled because of commitments to the Class I market, and by choosing not to pool large volumes of milk that normally would have been associated with Federal milk order pools. When the effective Class I differential is negative, it places fluid milk processors and dairy farmers or cooperatives who service the Class I market at a competitive disadvantage relative to those who service the manufacturing milk market.

Milk used in Class I in Federal order markets must be pooled, but milk for manufacturing is pooled voluntarily and will not be pooled if the returns from manufacturing exceed the blend price of the marketwide pool. Thus, an inequitable situation has developed where milk for manufacturing is pooled only when associating it with a marketwide pool increases returns.

Illustrative of the worsening class price inversion problem are the growing volumes of milk that, while normally associated with Federal milk orders, are not being pooled due to price inversion problems. When the Class II, III, and/or III-A prices are higher than a handler's blend price adjusted for location, it becomes disadvantageous for handlers processing soft and hard manufactured products to pool milk. That is, instead of drawing money out of the pool, they have to pay money into the pool. In 1995, the volume of milk not pooled due to class price inversion was 5.3 billion pounds. In 1997, nearly 7.8 billion pounds were not pooled for this reason. In 1998, 14.1 billion pounds were not pooled due to class price inversions. During each of five of the seven months of June through December 1998, the volume of milk not pooled exceeded 2 billion pounds. In July 1998, class price inversion occurred in all Federal order markets except Southeastern Florida, and in 19 markets some milk was not pooled due to class price inversion.

Since volatility in the manufactured product markets is expected to continue, the Class I price mover developed as part of this Federal milk order reform process should address this disorderly marketing situation.

The advanced pricing procedure provided in this final decision results in a Class I price that is based on a more recent manufacturing use price, thus reducing (but not eliminating) the time lag that contributes to class price inversion. For example, the January 1999 Class I price for each market would be announced on December 23, 1998 and would be based on product prices reported on December 10 and 17. (The prices reported on these dates are for the weeks ending December 4 and 11). Under the current procedure, the January Class I price was announced on December 3, 1998 and was based on product prices reported for weeks ending November 6, 13, 20, and 27.

While the advance pricing procedure in this decision reduces the time period of advance notice by about 18 days, the reduction in advance notice of Class I and II prices should not add significant risk or burden to handlers. The pricing formulas are based solely on product prices which are announced weekly; therefore, handlers can update formulas on a weekly basis to estimate what the Class I price will be before the price is announced. Also, as more NASS product price survey observations become available, basis differences from earlier traded/issued product price surveys such as those from the Chicago Mercantile Exchange or Dairy Market News will be more predictable and, therefore, should provide for more accurate predictions of future price levels. In addition, futures markets have been established for the four dairy products in the NASS price surveys. While trading to date in these contracts has not been large, interest in

these markets may increase as the industry learns to use them as effective hedges to the component values determined under this final decision. These markets also will assist handlers in estimating the Class I price.

Using the current two-month advance pricing system, but substituting for the current BFP the higher of the Class III or IV prices as defined under this rule, markets with a Class I differential of $1.60 per hundredweight or less would have faced a price inversion in four of the last seven months of 1998. The range of the price inversion would have been $.21 to $1.49. In a fifth month, price inversion would have occurred at a Class I differential of $1.49 or lower. In September 1998, price inversion would have occurred in all Federal order markets except Florida. However, using the shortened advance period adopted in this decision, for markets with a Class I differential of $1.60 per cwt., price inversion would have occurred in only two of the last seven months of 1998. The range of the price inversion would have been $.02 to $.86. The shortened period of advance pricing reduces both the occurrences and level of price inversion.

To further illustrate that the advance pricing procedure in this final decision provides a Class I price level that is less likely to be below the manufacturing use price, the following analysis was done. Averages of the 1998 NASS product prices for the current month, the second preceding month, and the two-week period available on the 23rd of the preceding month were computed and compared. For all four products, the preceding month two-week average provided a better estimate of the current month average than did the average for the second preceding month. Looking at the Cheddar cheese price series, the two-week preceding month price was $.03 closer to the current month on a simple average basis, and $.04 closer on an absolute average basis. This means that using preceding month two-week average Cheddar cheese price would result in a Class III skim milk price that would be about $.40 per cwt. closer to the following month's Class III skim milk price than if the second preceding month's price is used.

As stated earlier, advance pricing affects the function of the minimum Class I differential. The advance pricing procedure in this decision reduces the difference between the manufacturing use price used to establish the Class I price and the manufacturing use price in the current month. This procedure will result in an effective Class I differential that would be closer to the Class I differential stated in each order. Thus, reducing the time lag of the Class I pricing advance improves the functionality of the minimum Class I differential.

Comments filed by some southern interests indicated that stability in pricing in the southeast U.S. should incorporate seasonal price incentive programs as a necessary part of

adequately supplying the fluid markets of the southeast. According to the commenters, such a program would encourage balancing production with fluid milk demand. The comments state that because such a pricing plan would be revenue neutral, it would allow for more price stability and more reliable price signals than is currently available for producers in high Class I utilization areas.

Addition of seasonal adjustments for marketing areas would disrupt the uniformity in pricing between marketing areas that is a goal of this pricing plan. The seasonal patterns of milk production and consumption are not the same between regions, and it would be difficult, if not impossible, to attempt to work out seasonal pricing as a part of the BFP replacement.

As discussed previously, the price link between Class I use and Grade A milk used to manufacture Class III and Class IV products should be maintained since Grade A milk can be used for fluid uses as well as for manufacturing uses. Because handlers compete for the same milk for different uses, Class I prices should exceed Class III and Class IV prices to assure an adequate supply of milk for fluid use. Federal milk orders traditionally have viewed fluid use as having a higher value than manufacturing use. The replacement Class I price mover reflects this philosophy by using the higher of the Class III or Class IV price for computing the Class I price.

In some markets the use of a simple or even weighted average of the various manufacturing values may inhibit the ability of Class I handlers to procure milk supplies in competition with those plants that make the higher-valued of the manufactured products. Use of the higher of the Class III or Class IV price will make it more difficult to draw milk away from Class I uses for manufacturing. For example, if the Class IV price were used as the Class I price mover there would be months in which the Class III price would be more than two dollars above the Class IV price. As a result, the Class I differential would have to be well over two dollars for the Class I price to remain above the Class III price. If the Class III price is used as the Class I price mover, the reverse situation of having the Class IV price well above the Class III price would result in the same problem. The potential of having a Class III or IV price in excess of the Class I price is not entirely eliminated by using the higher of the Class III or Class IV price because of the advance Class I pricing feature. However, reducing the time period for which Class I pricing is advanced should reduce the potential considerably, allowing Class I handlers to compete more effectively with manufacturing plants for fluid milk.

Class II.

Under this final decision, the value of Class II skim milk

will be computed by multiplying the hundredweight of producer skim milk allocated to Class II by the sum of an advanced Class IV skim price, calculated from nonfat dry milk product prices reported by NASS for the most recent two-week period for which prices are available on the 23rd day of the preceding month, and the 70-cent Class II differential. The price used for valuing Class II butterfat will be the current month's butterfat price determined from the NASS-reported butter price, as in Classes III and IV, plus .7 cents per pound to incorporate the Class II differential.

Generally, the source of inputs alternative to producer milk for the manufacture of Class II products is dry milk products and butterfat that otherwise would be used in butter. Basing the price of milk used to make Class II products on these alternative ingredients should help considerably to remedy a situation in which it is perceived that a separate product class for dry milk (Class III-A) has resulted in a competitive advantage over producer milk used to produce Class II products. The 70-cent differential between the Class IV and Class II skim milk prices is an estimate of the cost of drying condensed milk and re-wetting the solids to be used in Class II products. One commenter suggested that there should be a $1.00 difference between Class IV and Class II.

Comments filed in response to the proposed rule generally supported basing the Class II price on the Class IV price. However, many commenters, including operators of plants manufacturing food products, argued that the proposed $0.70 differential is too high. In many cases they stated that the cost for rehydration is substantially lower than $0.70, if the nonfat dry milk is rehydrated at all.

Only a small portion of the $0.70 differential is intended to represent the cost of rehydration. The majority of the $0.70, $0.57, represents the cost of drying condensed milk. Comments filed by Kraft, Inc., stated that the cost of using nonfat dry milk (NFDM) in Class II is 0-3 cents per pound. At a rate of 9 pounds of NFDM per hundredweight of skim milk, this cost could represent as much as 27 cents per hundredweight. When added to the 57-cent cost of drying condensed milk, the 70-cent differential appears to be justified. It should be noted that the cost to purchase or manufacture NFDM for use in Class II products would include not only the cost of milk at the Class IV price, but the cost of making NFDM (in excess of $1.20 per hundredweight of skim milk when the make allowance for a pound of NFDM is multiplied by the yield).

Many of the commenters suggested that a rate of $0.30 is appropriate since that is what is used currently in the Federal orders. The current Class II differential, $0.30, was established by a national hearing conducted in 1991. At that hearing

proponents of a $0.30 Class II differential explained that the average difference between Class II prices and Class III prices over a recent time period had averaged $0.30. The $0.30 difference was not based on the actual cost differences between existing classes of milk.

The Class II price level determined under this final rule should not, on average, be higher than its predecessor. The concern of commenters that the level of the proposed Class II price would be excessive should be mitigated somewhat by the reduction in the level of the Class IV formula adopted in this rule. For the period January 1994 through December 1998, the Class II price as determined in this final rule averaged $0.01 higher than the current Class II price. There is a very large variation from year to year in the differences between the current and adopted Class II prices. In 1994, the current Class II price averaged $1.50 more than the Class II price calculated according to this decision. For 1998, however, with butter prices at record levels, the Class II price computed from butter and powder prices averaged $1.58 higher than the current Class II price. These price differences illustrate the result of pricing Class II milk on the basis of manufactured ingredients instead of on the basis of cheese.

Many of the comments received concerning the Class II price opposed the proposal to price Class II on a current basis rather than on an advance basis as is currently the case. The commenters argued that since Class II products are sold on an advance basis similar to Class I products the continuation of advance pricing of Class II is essential. Other commenters expressed the view that the skim portion of Class II could be forward priced but butterfat should be priced on a current basis since competing uses for butterfat such as cheese and butter would be priced on a current basis. Class II products high in butterfat, such as ice cream, could be placed at a competitive disadvantage in procuring butterfat if the current month’s butterfat prices are substantially different than the advanced priced butterfat price.

The Class II price adopted under this rule will result in forward pricing the skim milk portion of Class II while pricing butterfat on a current basis. Butterfat used in Class II products competes on a current-month basis with butterfat for used in cheese and butter, and its price should be determined on the basis of the same month’s values. Forward pricing of skim milk will, of course, eliminate some of the desired direct linkage between the nonfat solids price in Class II and the nonfat solids price in Class IV. However, especially with the shortened period of advanced pricing, in most cases the linkage should remain close enough so that the Class II differential does not encourage the drying of milk for Class II uses just to receive a price

advantage. This alignment also should reduce perceived problems in the use of nonfat dry milk to make Class II products. Tying the Class II price to the Class IV price by this fixed differential, even with advanced pricing for Class II skim, should reduce the incentive to produce nonfat dry milk for use in Class II products.

Quality Adjustments.

This final decision provides for the adjustment of producer payments for the somatic cell count of producers' milk under most orders using multiple component pricing. Payments made by handlers for milk used in Class II, Class III, and Class IV also will be adjusted on the basis of the somatic cell count of the milk.

A somatic cell count (SCC) adjustment is appropriate for several reasons. First, SCCs are not only an indicator of general milk quality, but also are an indicator of the potential yield of milk in cheese and other products that require casein for their structure and body. Research has shown a direct link between increased SCCs and decreased cheese yields.

Second, many producers currently are subject to some type of multiple component pricing plan or quality premium program that adjusts their pay prices for somatic cell levels even if the order in which their milk is pooled does not incorporate such adjustments. Although many producers' returns are affected by the SCC of the milk, there is little, if any, oversight of the testing for somatic cells if the order does not include pricing adjustments. Fair and accurate testing can be assured by incorporating multiple component pricing and somatic cell adjustments into Federal orders.

The somatic cell adjustment will apply on a hundredweight basis and be computed by subtracting the SCC (in thousands) from 350 and multiplying the result by the product of .0005 times the monthly average cheese price used to compute the protein price. This level of adjustment has worked well in orders currently containing somatic cell adjustments, and is supported by data and research contained in Federal milk order hearing records.

There was not a great deal of agreement on how to determine which orders should provide for SCC adjustments. Some commenters favored their inclusion in all markets and some favored a SCC adjustment on all milk priced under multiple component pricing. NMPF favored SCC adjustments for regions that want them. A Northeast producer group argued that the limited effect of SCCs on Class II and Class IV uses makes them unsuitable for use as an adjustment factor for milk in the Northeast. One fluid milk handler opposed their application to Class I use, while several others opposed excluding Class I milk from using somatic cell count as a cost component because such an adjustment could result

in fluid handlers receiving lower-quality milk.

The application of somatic cell adjustments will be limited to orders providing for multiple component pricing, since the detrimental economic effect of somatic cells has been shown to occur principally with respect to the protein component of milk. SCCs unquestionably do have detrimental effects on the flavor and keeping quality of fluid milk products, and undoubtedly on other dairy products as well, but the economic quantification of those effects is not part of the information available for this decision. There are three order areas in which producer sentiment is opposed to the inclusion of SCC adjustments, and these adjustments are not adopted for the three orders. In the case of the Pacific Northwest and Western consolidated orders, most producers already are covered under very effective SCC payment programs, and the average SCC in these markets is less than 250,000 (below the neutral level for SCC value adjustments). There would seem to be little reason to require additional SCC programs for these orders. In addition, the Northeast order does not contain a SCC adjustment. Comments filed by Northeast interested persons argued that the predominant use of milk for manufacturing in that area is nonfat dry milk and butter, and that yields of these products are not affected by SCCs. A somatic cell value adjustment is not, therefore, included in the Northeast order.

As in the proposed rule, for the orders containing a somatic cell adjustment provision the adjustment will be applied to milk used in Classes II, III and IV for handler billings, and to all producer milk for payment to producers. This application of a SCC adjustment has worked well in the orders currently providing for it, and should result in no additional marketing, testing or accounting requirements in those orders. At least some portions of most of the consolidated orders for which the SCC adjustment is provided already contain such provisions.

Several comments suggested including a maximum count of 25,000 psychrotrophic bacteria as a criterion for payment of positive SCC adjustments. Even though there may be a valid reason for including psychrotrophic bacteria for payment purposes, bacteria counts will not be included with this decision. Somatic cell counts are the only quality adjustments in this final decision. The issue of whether to include psychrotropic bacteria as a payment criteria is better left to a Federal order hearing that specifically addresses the issue. In contrast to a somatic cell adjustment, which already is contained in many of the orders with multiple component pricing, none of the orders currently provide for adjustments for bacteria counts.

Application of the Replacement Basic Formula Price(s).

Under this final rule, producers in most Federal order

markets will be paid on a multiple component basis since the basic formula price replacement is based on individual milk component prices. Producers will be paid for the pounds of butterfat, pounds of protein, pounds of other solids, a per hundredweight price known as the producer price differential, and a per hundredweight somatic cell adjustment. The producer price differential returns to producers their pro rata share of the proceeds of the classified pricing system. The butterfat, protein, and other solids prices paid to producers will be the same as the prices for those components announced for Class III use regardless of the utilization of the milk. Handler obligations and producer payments under the Federal orders that do not provide for component pricing will be based on hundredweight prices computed from these component prices.

Although several comments supported the proposal that multiple component pricing (MCP) be applied only to milk used in Classes II, III and IV, several comments from the Southwest area argued that it should be applied to all milk or not adopted at all. National Farmers Organization (NFO) also favored the adoption of component pricing for all classes of milk, and other comments favored the adoption of MCP for all Federal milk orders.

Several New York comments stated that MCP would not benefit producers, would serve only to impose higher costs on handlers, and shouldn't be adopted for the Northeast. Michigan Milk Producers expressed concern that the adjustment of protein value to reflect the effect of additional butterfat in cheese would increase costs in the Mideast because of the high percentage of milk used in (lowfat) Italian and Swiss cheese in that market, and requested that the Mideast market provide for the same kind of MCP pricing currently used in the Southern Michigan market.

All Federal orders outside of the three southeast orders with relatively high Class I use (Appalachian, Florida and Southeast) and Arizona-Las Vegas should contain the same component pricing plan. The affected orders have a large portion of their milk used in manufactured products, and the components in that milk that determine the yield of product available for handlers to sell are the most appropriate basis for determining its value. At the same time, there is no indication that MCP should apply to Class I milk, and it is difficult to justify pricing fluid milk on an MCP basis in terms of the economic value of components in those products.

Although the proposed rule included provisions for the Mideast order that would continue elements of the current Southern Michigan MCP plan, further study supports the conclusion that there is no benefit to establishing a component pricing plan under one order that differs significantly from the rest of the consolidated orders. This issue is discussed more thoroughly in

the Mideast section of this decision.

All of the Federal milk orders will require changes to accommodate replacement of the current BFP with the multiple component pricing plan or with its hundredweight price equivalent. There will no longer be a butterfat differential under any order, but butterfat prices. The same butterfat price will be used for butterfat in Class II (with an addition of .7 cents per pound to reflect the Class II differential), Class III, and Class IV, while a separate butterfat price, announced in advance, will apply to butterfat used in Class I.

For purposes of allocation of producer receipts the assumption will be made that the total nonfat solids, protein and other (nonfat) solids cannot be separated easily from skim milk. These nonfat solids will therefore be allocated proportionately with the skim milk based on the percentage of protein and other solids in the skim milk received from producers.

For the Market Administrator to compute the producer price differential, handlers will need to supply additional information on their monthly reports of receipts and utilization. Handlers that are filing reports in orders that currently have multiple component pricing and a somatic cell adjustment will see little or no change in their reporting requirements. Under orders that are adopting component pricing for the first time, the pounds of protein, the pounds of other solids, and somatic cell information will be needed in addition to the product pounds and the butterfat currently reported. This data will be required from each handler for all producer receipts, including milk diverted by the handler, receipts from cooperatives as 9(c) handlers and, in some cases, receipts of bulk milk received by transfer or diversion.

Payments by handlers to cooperative associations for Class I milk will be calculated on the basis of the hundredweight of Class I skim milk times the Class I skim price plus the pounds of Class I butterfat times the Class I butterfat price. Payment for Class II milk will be determined on the basis of the Class II pounds of nonfat solids times the Class II nonfat solids price (or, in non-MCP orders, the Class II skim milk price times the hundredweight of Class II skim milk), and the pounds of butterfat in Class II times the Class II butterfat price. The Class II nonfat solids price is computed by dividing the Class II skim milk price by 9. Class III milk will be paid for based on the pounds of protein in Class III times the protein price, the pounds of other solids in Class III times the other solids price, and the pounds of butterfat in Class III times the butterfat price. The pounds of nonfat solids in Class IV times the nonfat solids price, and the pounds of butterfat in Class IV times the butterfat price will be used to calculate obligations for Class IV milk. Milk used in Classes III and IV in orders that do not include MCP will

be paid for on the basis of the butterfat price per pound and the applicable skim milk price per hundredweight. The appropriate somatic cell adjustment will apply to milk in Class II, Class III, and Class IV.

The Class I value of milk to handlers will be calculated by multiplying the hundredweight of producer skim milk in Class I times the Class I skim price plus the pounds of Class I butterfat times the Class I butterfat price. Class II milk value will be computed on the basis of the Class II nonfat solids price times the pounds of total nonfat solids in skim milk allocated to Class II and the pounds of butterfat in Class II times the Class II butterfat price. Class III milk value will be computed based on the pounds of protein in Class III times the protein price, the pounds of other solids in Class III times the other solids price, and the pounds of butterfat in Class III times the butterfat price. The pounds of nonfat solids in Class IV times the nonfat solids price, and the pounds of butterfat in Class IV times the butterfat price will comprise the value of Class IV producer milk. Milk used in Classes III and IV in orders that do not include MCP will be paid for on the basis of the butterfat price per pound and the applicable skim milk price per hundredweight. Also included will be the appropriate somatic cell adjustment applied to milk in Class II, Class III, and Class IV, the value of overage, the value of inventory reclassification, the value of other source receipts and receipts from unregulated supply plants allocated to Class I, and the value of handler location adjustments.

For each marketwide pool using MCP, a producer price differential price per hundredweight will be computed that will represent producers’ shares of the value of the pool. The total value of milk to handlers in excess of the value of producer protein, other nonfat solids and butterfat at the applicable component prices will be determined by dividing that value by the hundredweight of milk in the pool. For orders without MCP, the value of milk to handlers will be divided by the hundredweight of producer milk to compute a uniform price per hundredweight to producers.

The handler's obligation to the producer settlement fund under MCP orders will be determined by subtracting from the handler's value of milk the following values: a) the total pounds of producer milk times the producer price differential adjusted for location, b) the total pounds of butterfat times the butterfat price, c) the total pounds of protein times the protein price, d) the total pounds of other solids times the other solids price, e) the total value of the somatic cell adjustments to producers’ milk, and f) the value of other source milk in Class I at the producer price differential with any applicable location adjustment at the plant from which the milk was shipped deducted

from the handler's value of milk. In orders without MCP, handler obligations will be computed by subtracting the value of producer milk at the uniform price per hundredweight from the value of milk to the handler.

Payments to producers traditionally have been made in two payments, a partial payment based, in most cases, on the prior month's Class III price and a final payment at the uniform price to producers. This traditional payment system will continue, with any exceptions for local marketing practices noted in the regional discussions. The partial payment will be paid on a per hundredweight basis with the price equaling the combined value of the skim and butterfat prices for the lowest-priced class in the previous month. By computing the partial payment on a hundredweight basis, confusion about the use of partial month component test averages will be eliminated and handler's partial payroll processing costs should not be affected. Final payments to producers and for 9(c) milk will be based on: a) the hundredweight of milk times the producer price differential adjusted for location, b) the pounds of protein times the protein price, c) the pounds of other solids times the other solids price, d) the pounds of butterfat times the butterfat price, and e) the somatic cell adjustment rate times the hundredweight of milk.

Since producers will be receiving payments based on the component levels of their milk, the payroll reports that handlers supply to producers and to the Market Administrator must reflect the basis for such payment. Therefore the handler will be required to supply the producer not only with the information currently supplied, but also: a) the pounds of butterfat, protein, and other solids in the producer's milk, as well as the average somatic cell count of the producer's milk, and b) the minimum rates that are required for payment for each pricing factor and, if a different rate is paid, the effective rate also. The requirement that payment factors be reported to producers when producers are paid currently exists in all of the orders. Addition of the component information is purely a conforming change. Administration of these provisions should not be changed from current practices.

With advance pricing of Class I and the inherent instability of the commodity markets there may be occasions when the computation of the producer price differential results in a value of zero or below. The orders should contain no provision to prevent the producer price differential from being a negative value.

The following tables contain the prices computed based on the formulas and data series described in this final decision for the period of January 1994 through December 1998. The prices are shown for information purposes only. These prices result from the

strict application of the formulas to prior marketing situations. These prices should not be interpreted as prices that would have actually occurred throughout the data period because industry participants likely would have reacted differently to the price levels that would have resulted from the revised pricing plan than they reacted to the actual price levels.

Actual Class Prices and Final Decision Class Prices and Class I Price Mover*, by Month, January 1994 through December 1998

Year and Month	Basic Formula Price	Final Class I Price Mover*	Final Class III Price	Class III-A Price	Final Class IV Price	Class II Price	Final Class II Price
1994	Dollars per cwt.						
January	$12.41	$11.72	$11.49	$10.22	$10.22	$13.25	$11.05
February	$12.41	$11.73	$11.64	$10.23	$10.19	$12.26	$10.90
March	$12.77	$12.02	$12.33	$10.32	$10.33	$12.61	$11.01
April	$12.99	$12.90	$12.89	$10.34	$10.41	$13.19	$11.10
May	$11.51	$12.15	$11.05	$10.24	$10.17	$13.88	$11.06
June	$11.25	$10.56	$10.37	$10.09	$10.10	$12.18	$10.72
July	$11.41	$11.10	$10.90	$10.13	$10.18	$10.35	$10.80
August	$11.73	$11.63	$11.06	$10.38	$10.42	$11.84	$11.03
September	$12.04	$11.84	$11.76	$10.35	$10.32	$12.95	$10.93
October	$12.29	$11.92	$11.74	$10.36	$10.31	$12.15	$10.90
November	$11.86	$11.80	$11.49	$10.40	$10.36	$12.53	$11.01
December	$11.38	$10.91	$10.88	$10.17	$10.16	$12.24	$10.87
Average	$12.00	$11.69	$11.47	$10.27	$10.26	$12.45	$10.95

*Developed for informational purposes only. Advanced skim milk and butterfat prices will be used to calculate Class I price for succeeding month.

Actual Class Prices and Final Decision Class Prices and Class I Price Mover*, by Month, January 1994 through December 1998

Year and Month	Basic Formula Price	Final Class I Price Mover*	Final Class III Price	Class III-A Price	Final Class IV Price	Class II Price	Final Class II Price
1995	Dollars per cwt.						
January	$11.35	$10.64	$10.66	$10.06	$10.07	$11.02	$10.71
February	$11.79	$11.19	$11.33	$10.12	$10.23	$11.35	$10.85
March	$11.89	$11.59	$11.49	$10.22	$10.25	$12.20	$10.85
April	$11.16	$11.07	$11.08	$10.27	$10.28	$12.09	$10.89
May	$11.12	$10.74	$10.55	$10.21	$10.29	$12.19	$10.89
June	$11.42	$10.78	$10.56	$10.37	$10.36	$11.46	$11.04
July	$11.23	$11.10	$10.64	$10.61	$10.60	$11.42	$11.23
August	$11.55	$11.00	$10.88	$10.82	$10.94	$11.72	$11.52
September	$12.08	$12.51	$12.37	$10.90	$10.89	$11.53	$11.52
October	$12.61	$12.93	$12.69	$11.66	$11.46	$11.85	$12.09
November	$12.87	$13.19	$12.96	$12.40	$11.95	$12.38	$12.52
December	$12.91	$13.34	$12.84	$11.24	$11.13	$12.91	$11.61
Average	$11.83	$11.67	$11.50	$10.74	$10.70	$11.84	$11.31

*Developed for informational purposes only. Advanced skim milk and butterfat prices will be used to calculate Class I price for succeeding month.

Actual Class Prices and Final Decision Class Prices and Class I Price Mover*, by Month, January 1994 through December 1998

Year and Month	Basic Formula Price	Final Class I Price Mover*	Final Class III Price	Class III-A Price	Final Class IV Price	Class II Price	Final Class II Price
1996	Dollars per cwt.						
January	$12.73	$12.82	$12.32	$11.16	$11.15	$13.17	$11.84
February	$12.59	$12.62	$12.37	$10.39	$10.70	$13.21	$11.63
March	$12.70	$12.66	$12.52	$10.32	$10.49	$13.03	$11.17
April	$13.09	$12.84	$13.15	$10.52	$10.65	$12.89	$11.29
May	$13.77	$13.68	$13.12	$11.90	$11.74	$13.00	$12.12
June	$13.92	$14.28	$13.31	$15.12	$14.25	$13.39	$14.07
July	$14.49	$15.41	$13.41	$16.01	$15.32	$14.07	$15.95
August	$14.94	$15.32	$14.02	$15.82	$15.44	$14.22	$16.35
September	$15.37	$15.74	$15.17	$15.85	$16.09	$14.79	$15.89
October	$14.13	$15.28	$13.54	$14.94	$14.82	$15.24	$15.62
November	$11.61	$12.33	$11.33	$12.18	$12.10	$15.67	$13.03
December	$11.34	$11.06	$10.68	$11.75	$11.76	$14.43	$12.67
Average	$13.39	$13.67	$12.91	$13.00	$12.88	$13.93	$13.47

*Developed for informational purposes only. Advanced skim milk and butterfat prices will be used to calculate Class I price for succeeding month.

Actual Class Prices and Final Decision Class Prices and Class I Price Mover*, by Month, January 1994 through December 1998

Year and Month	Basic Formula Price	Final Class I Price Mover*	Final Class III Price	Class III-A Price	Final Class IV Price	Class II Price	Final Class II Price
1997	Dollars per cwt.						
January	$11.94	$11.62	$11.05	$11.50	$11.68	$11.91	$12.52
February	$12.46	$11.95	$11.56	$12.36	$12.34	$11.64	$13.02
March	$12.49	$12.74	$11.55	$12.78	$12.80	$12.24	$13.33
April	$11.44	$12.65	$11.23	$12.10	$12.13	$12.76	$12.87
May	$10.70	$11.20	$10.23	$11.56	$11.58	$12.79	$12.53
June	$10.74	$11.95	$9.96	$12.22	$12.06	$11.74	$12.77
July	$10.86	$11.98	$10.13	$12.06	$11.93	$11.00	$12.54
August	$12.07	$11.97	$11.50	$11.88	$11.91	$11.04	$12.63
September	$12.79	$12.42	$12.32	$11.87	$11.83	$11.16	$12.55
October	$12.83	$12.76	$12.54	$13.50	$13.29	$12.37	$13.98
November	$12.96	$13.80	$12.59	$14.01	$13.86	$13.09	$14.56
December	$13.29	$13.81	$12.55	$12.46	$12.72	$13.13	$13.43
Average	$12.05	$12.40	$11.43	$12.36	$12.34	$12.07	$13.06

*Developed for informational purposes only. Advanced skim milk and butterfat prices will be used to calculate Class I price for succeeding month.

Actual Class Prices and Final Decision Class Prices and Class I Price Mover*, by Month, January 1994 through December 1998

Year and Month	Basic Formula Price	Final Class I Price Mover*	Final Class III Price	Class III-A Price	Final Class IV Price	Class II Price	Final Class II Price
1998	Dollars per cwt.						
January	$13.25	$12.76	$12.51	$12.04	$12.29	$13.26	$13.02
February	$13.32	$13.03	$12.87	$12.89	$13.07	$13.59	$13.78
March	$12.81	$12.75	$12.50	$12.67	$12.79	$13.55	$13.49
April	$12.01	$12.69	$11.50	$12.88	$12.90	$13.62	$13.59
May	$10.88	$13.27	$10.65	$13.96	$13.54	$13.11	$14.24
June	$13.10	$14.20	$12.65	$15.38	$14.89	$12.31	$15.54
July	$14.77	$15.35	$14.12	$15.59	$15.62	$11.18	$16.15
August	$14.99	$16.25	$14.21	$16.52	$16.38	$13.40	$16.96
September	$15.10	$18.32	$14.66	$19.81	$18.71	$15.07	$19.28
October	$16.04	$18.06	$16.05	$18.13	$18.19	$15.29	$18.67
November	$16.84	$16.82	$16.90	$14.87	$15.71	$15.40	$16.39
December	$17.34	$17.44	$17.51	$13.48	$13.39	$16.34	$13.98
Average	$14.20	$15.08	$13.84	$14.85	$14.79	$13.84	$15.42
60-Month Avg	$12.70	$12.90	$12.23	$12.24	$12.20	$12.83	$12.84

*Developed for informational purposes only. Advanced skim milk and butterfat prices will be used to calculate Class I price for succeeding month.