— HEARING PANEL REPORT —

ADDRESSING PRICING FORMULAS FOR CLASSES 2, 3, 4a AND 4b
BASED UPON A PUBLIC HEARING HELD ON JANUARY 29TH AND 30TH, 2003

This Report of the Hearing Panel regarding proposed amendments to the Stabilization and Marketing Plans for Northern California and Southern California (Plans) is based on evidence received into the Department of Food and Agriculture's hearing folder. The folder includes the Departmental exhibits, written statements and comments received from interested parties, written and oral testimony received at a public hearing held January 29th and 30th and written post–hearing briefs.

Table of Contents

Introduction

The Department held a public hearing on Wednesday, January 29th and Thursday, January 30th in Sacramento, to consider amendments to the pricing formulas for Classes 2, 3, 4a and 4b as provided in the Milk Stabilization and Marketing Plans for Market Milk (Plans). The Department called the hearing after receiving a petition from Western United Dairymen, a dairy producer trade association. The petition received addressed only the yield factors in the Class 4a and 4b formulas; on his own motion, the Secretary broadened the hearing to consider amendments to all aspects of the Class 2, 3, 4a and 4b pricing formulas.

California Food and Agricultural Code Section 61801, *et sec*., provides the authority, procedures and standards for establishing minimum farm prices by the California Department of Food and Agriculture (Department) for the various classes of milk that handlers must pay for milk purchased from producers. These statutes provide for the formulation and adoption of the Plans.

Summary of Petition and Alternative Proposals:

Western United Dairymen

- Decrease the butter freight adjustment in the Class 4a formula to –$0.0332
- Increase the cheese freight adjustment in the Class 4b formula to –$0.0321
- Increase the butter yield to 1.211
- Increase the powder yield to 1.004
- Increase the cheese yield to 10.2
- Increase the butter manufacturing cost allowance to $0.1134
- Decrease the powder manufacturing cost allowance to $0.1427
- Decrease the cheese manufacturing cost allowance to $0.1592
- Add a whey pricing component to the Class 4b formula

California Dairy Women Association

- Establish price floors for butter, powder and cheese such that the Class 4a and 4b formulas use the higher of the commercial market prices or the announced Commodity Credit Corporation support purchase prices.

The Alliance of Western Milk Producers

- Amend definition of milk in the Stabilization Plans to include “true protein and other solids”
- Increase the cheese freight adjustment in the Class 4b formula to –$0.0321
- Decrease the cheese manufacturing cost allowance to $0.1746
- Increase the butter manufacturing cost allowance to $0.1211
- Establish a true protein and an other solids price in the Class 4b formula
- Add a whey pricing component to the Class 4b formula

California Dairy Campaign

- Establish price floors for butter, powder and cheese such that the Class 4a and 4b formulas use the higher of the commercial market prices or the announced Commodity Credit Corporation support purchase prices.
- Decrease the butter freight adjustment in the Class 4a formula to –$0.0242
- Decrease the cheese freight adjustment in the Class 4b formula to $0.0
- Establish variable manufacturing cost allowances for butter, powder and cheese. The variable multiplier for each is the Commodity Reference Price divided by the Cost of Production Index.
  - The nominal butter base allowance would be $0.1200 and averages $0.1354 over the five–year period, 1998 to 2002
  - The nominal powder base allowance would be $0.1500 and averages $0.1693 over the five–year period, 1998 to 2002
  - The nominal cheese base allowance would be $0.1735 and averages $0.1846 over the five–year period, 1998 to 2002
- Increase the powder yield to 1.0
- Increase the cheese yield to 10.2
- Add a whey pricing component to the Class 4b formula

Dairy Institute of California

- Replace the term "freight adjustment" in the Class 4a formula with "marketing adjustment"
- Decrease the butter marketing adjustment in the Class 4a formula to –$0.0332
- Increase the butter manufacturing cost allowance to $0.1211
- Decrease the powder manufacturing cost allowance to $0.1512
- Decrease the cheese freight adjustment in the Class 4b formula to –$0.008
- Decrease the cheese yield to 9.98
- Change the vat tests in the Class 4b formula to 3.68% for fat and 8.76% for SNF
- Decrease the cheese manufacturing cost allowance to $0.1746

Hearing Witnesses:

A total of twenty–nine witnesses testified including the Department's witnesses.

1. Candace Gates — CDFA
2. Cheryl Gilbertson — CDFA
3. Michael Marsh — Western United Dairymen
4. Tiffany LaMendola — Western United Dairymen
5. Linda Lopes — California Dairy Women Association
6. Jim Tillison — Alliance of Western Milk Producers
7. Xavier Avila — California Dairy Campaign
8. Scott Magnuson — California Dairy Campaign
9. William Schiek — Dairy Institute of California
10. Michael Reinke — Kraft Foods
11. Richard Cotta — California Dairies, Inc.

12. Joe Heffington — California Dairies, Inc.
13. Kevin McLaughlin — Security Milk Producers
14. John Jeter — Hilmar Cheese Company
15. Rich Ghilarducci — Humboldt Creamery Association
16. Dennis Leonardi — Humboldt Creamery Association
17. Robert Naerebout — Idaho Dairymen's Association
18. Joaquin Contente — California Farmers Union
19. Brenda Knutson — Dairy producer
20. Carl Van Vliet — California Dairy Campaign member and Western United Dairymen member
21. David Inman — California Dairy Campaign member
22. Joe Perreira — Consumer
23. Michael Brown — National All–Jersey, Inc.
24. William Van Dam — Northwest Dairy Association
25. Scott Hofferber — Farmdale Creamery
26. Sharon Hale — Crystal Cream & Butter
27. James Gruebele — Land O' Lakes
28. Sue Taylor — Leprino Foods
29. Geoffrey Vanden Heuvel — Milk Producers Council

In addition, a written submission was received from one person who did not give oral testimony:

25. Frank DuBois — New Mexico Department of Agriculture

Appendix 1 summarizes the testimony, written statements and post–hearing briefs. Appendix 2 summarizes the Panel's recommendation with arguments for and against its position.

Background: The Situation in the Dairy Industry

The following economic data and statistics were considered when examining and evaluating the proposals and testimony submitted at the hearing.

California Milk Production

- Annual milk production has increased every year since 1978.
- Milk production has increased at an average rate of 4.4% from 1991 to 2001; nationwide, the figure is slightly more than 1%.
- In 2002, annual milk production reached 34.8 billion pounds.
- In 2002, cow numbers increased by an average of 4,000 per month.
- Cow numbers have increased by an annual average rate of 3.1% from 1991 to 2001; nationwide cow numbers have decreased at a rate of –0.7%.

California Cheese Production

- In 2002, 44% of California's total milk production was used to make cheese.
- California is ranked second in the U.S. for cheese production, with an 20.4% share of the market.
- California cheese production has more than doubled over the last ten years to 1.7 billion pounds.
- During 2002, cheese production increased by 4.9% over 2001 totals.
- Cheese production in California has grown by an average of 10% per year over the last ten years, while the rest of the U.S. averaged 3.0%.

California Butter and Nonfat Powder Production

- In 2002, 30% of California's total milk production was used to make butter and nonfat powder.
- California is ranked first in the U.S. for butter and nonfat powder production with U.S. market shares of 28% and 50%, respectively.
- Butter and nonfat powder production in 2002 increased by 11.2% and 9.3%, respectively, over 2001 totals.
- California butter production has increased by 24% in the last ten years to 380 million pounds. Butter production in the U.S. increased by 0.5% during the same time period.
- California nonfat powder production has increased by 112% in the last ten years to 759 million pounds. Nonfat powder production in the U.S. increased by 73% during the same time period.

Commodity Prices, Class Prices and Pool Prices

- From January 2001 to December 2002, average wholesale prices per pound were:
  - $1.3843 for butter (range: $0.9588 to $2.1532)
  - $1.3101 for Cheddar cheese (range: $1.0764 to $1.7261)
  - $0.9347 for nonfat powder (range: $0.8584 to $1.0108)
- For 2002, wholesale butter prices averaged $1.1090, nonfat powder prices averaged $0.8990 and Cheddar cheese prices averaged $1.1844
- In 2002, producer prices reached their lowest levels since 1978 (see Table 1).
- The low annual average minimum class price in 2002 was a reflection of a surplus production of butter, nonfat powder and cheese nationwide.

Table 1. California Pool Prices; Annual Averages, 1992 to 2002

	Quota	Overbase		Quota	Overbase
1992	$12.26	$10.87	1998	$15.84	$14.14
1993	$12.07	$10.72	1999	$14.40	$12.70
1994	$12.48	$10.78	2000	$12.46	$10.76
1995	$12.66	$10.96	2001	$14.81	$13.11
1996	$14.57	$12.87	2002	$11.94	$10.24
1997	$13.54	$11.84	*Average*	*$13.37*	*$11.72*

Government Purchases and Commodity Holdings

- From 1998 to 2002, the Commodity Credit Corporation increased purchases of nonfat powder by 400%
- From 2001 to 2002, Cheddar cheese purchases increased by 65%
- From January 2001 to December 2002,
  - Commercial holdings of butter increased to 157 million pounds (+131%).
  - Commercial holdings of nonfat powder increased to 1,237 million pounds (+75%)
  - Commercial holdings of Cheddar cheese decreased to 496 million pounds (–2%).

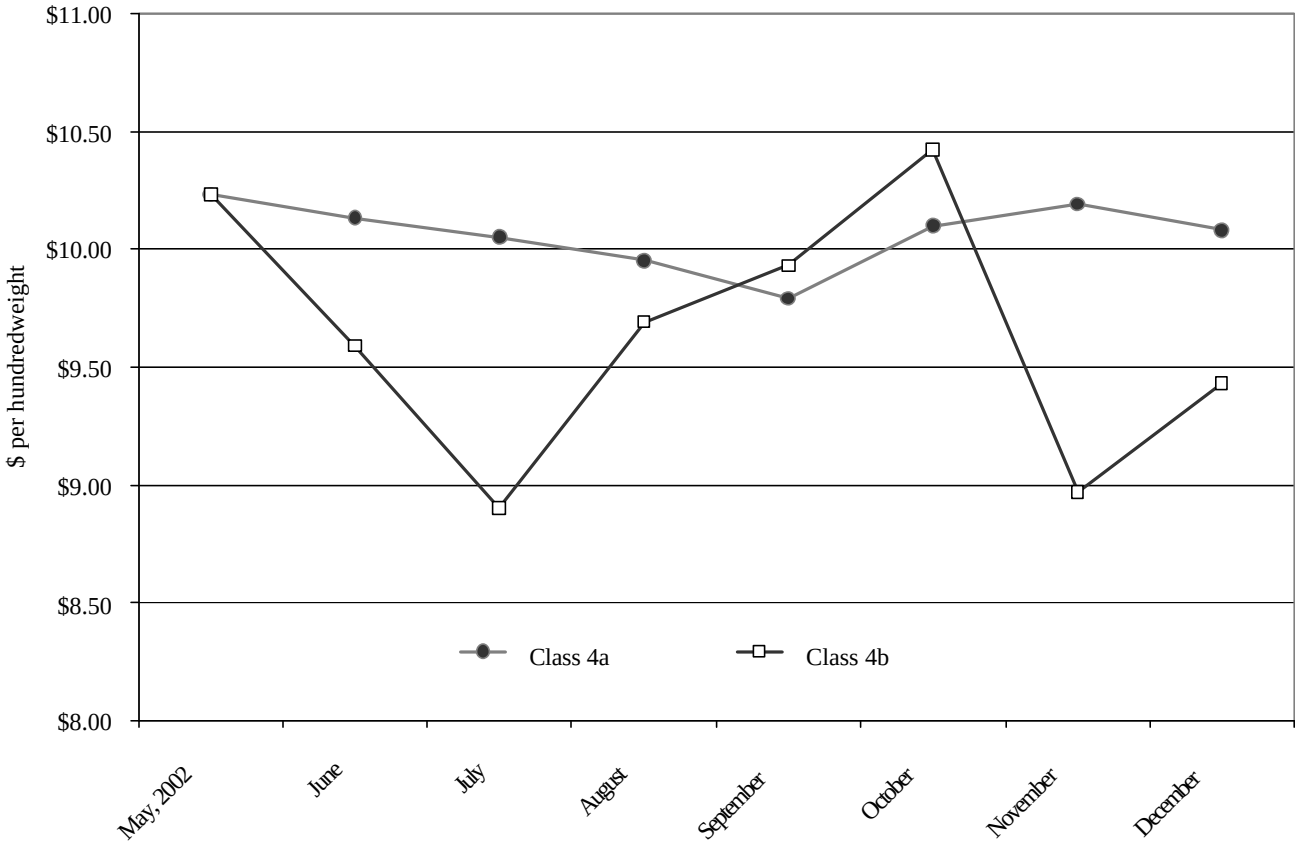
We provide, in this report, analyses that were used to develop the Panel's recommendation. As with any analysis using historical data, we issue a caveat that the past is not necessarily a good predictor of the future.

Overview: Low Farm Milk Prices Relative to Milk Production Costs

The general sentiment voiced by dairy producers at the hearing is that the farm milk prices are too low to cover their milk production costs. The departmental production cost index demonstrates that the statewide production costs index has been in the high $12 and low $13 range for most of 2002. (Hearing Exhibits 15 & 16). Several factors have contributed to higher milk production costs, namely higher costs for feed, herd replacement and labor.

Unfortunately, low farm milk prices are being experienced at the same time that milk production costs are high. The low farm prices reflect the current imbalance between the milk supply and commercial demand for milk and dairy products nationwide. Class 4a prices have been hovering near the high $9 to low $10 range while the Class 4b prices have been fluctuating between the high $8 and low $10 range (Graph 1).

Graph 1. Class 4a and 4b Minimum Prices, May 2002 to December, 2002



Manufacturing cost allowances, which are credits to processors for converting bulk milk into finished butter, nonfat powder, and Cheddar cheese, are necessary components of end–product pricing formulas. The allowances have the ability to generate discussion consistently, the hearing record is replete with proposals for changes to the allowances. After reviewing the testimony received, there seems to be some misunderstanding as to how large the allowances are relative to milk prices. The Panel estimates that the total of the manufacturing cost allowances provided for

in the Class 4a and 4b pricing formulas amounts to $1.82 and $1.79 per hundredweight, respectively. We bring these figures to light to make a point. Given the current wholesale prices for butter, nonfat powder and Cheddar cheese and setting all manufacturing cost allowances to zero, the resulting farm milk price would only be in the mid– to high $11 per hundredweight range (Table 2). In other words, even if the dairy processing plants received no compensation for converting raw milk into finished products, the resulting farm milk prices would not attain the $12 to $13 production cost level to which was testified. This is a further indication that today's low farm milk prices are caused by the inadequacies of the basic dairy commodity prices for cheese, butter, and nonfat powder and not because of technical problems with the Class 4a and 4b pricing formulas.

Table 2. Price Matrices for Classes 4a and 4b With Manufacturing Cost Allowances Set to Zero

Class 4a Price	*Butter*					
Nonfat Powder	$1.00	$1.05	$1.10	$1.15	$1.20	$1.25
$0.76	$10.56	$10.77	$10.98	$11.19	$11.40	$11.61
$0.78	$10.73	$10.94	$11.15	$11.36	$11.57	$11.78
$0.80	$10.90	$11.11	$11.32	$11.53	$11.74	$11.95
$0.82	$11.07	$11.28	$11.49	$11.70	$11.91	$12.12

Class 4b Price	*Butter*					
Block Cheddar	$1.00	$1.05	$1.10	$1.15	$1.20	$1.25
$1.00	$9.90	$9.90	$9.91	$9.92	$9.92	$9.93
$1.05	$10.39	$10.40	$10.41	$10.41	$10.42	$10.42
$1.10	$10.89	$10.89	$10.90	$10.91	$10.91	$10.92
$1.15	$11.38	$11.39	$11.40	$11.40	$11.41	$11.42
$1.20	$11.88	$11.89	$11.89	$11.90	$11.90	$11.91

The available commercial dairy product sales data suggest the imbalance of milk supply with dairy product demand is not improving. Furthermore, the increasing purchase of surplus dairy products by the federal government's Commodity Credit Corporation (CCC) is another example of the national market imbalance. Sales of nonfat powder to the CCC have been commonplace for many years, but the recent purchases of Cheddar cheese is a harbinger that attaining a desirable equilibrium in wholesale markets may still be months away (Hearing Exhibit 35).

Low farm milk prices across the U.S. have been offset somewhat by the federal payments to dairy farmers through the Milk Income Loss Contract program (MILC) and various disaster relief packages. These programs have an ambivalent quality about them. While dairy producers welcome the additional income, the payments tend to blunt the market signals that suggest that milk production must fall in order for milk prices to rise. Consequently, the programs tend to prolong the imbalance in milk markets.

Finally, none of the proposals would have given the magnitude of increases necessary in order to move pool prices up to the $12 to $13 range. The California Dairy Campaign proposed the largest increase for Class 4b price at $0.58 per hundredweight (Hearing Exhibit 6a). Western United

Dairymen proposed the largest increase for Classes 2, 3, and 4a at $0.31 per hundredweight. The complete proposal submitted by Western United Dairymen would have given the largest increases in quota and overbase prices at $0.32 per hundredweight.

Changes to the Freight Adjustment in the Class 4a formula and the Marketing Adjustment in the Class 4b formula

Issue

California pricing formulas reference national wholesale prices for butter and Cheddar cheese. To be reflective of prices received by California processors, the pricing formulas adjust the Chicago Mercantile Exchange (CME) prices by including a freight or marketing adjustment. In the case of the Class 4a pricing formula, a "freight adjustment" of $0.045 per pound is subtracted from the CME butter price. Likewise, the Class 4b pricing formula includes a "marketing adjustment"; $0.012 per pound is subtracted from the CME Cheddar cheese price. By their very nature, the freight and marketing adjusters are not constant over time, and as such, the Department has a responsibility to assess periodically the level of the adjustment that needs to be included in the respective pricing formulas.

In November 2002, the Department released a document that detailed the current price relationship between CME prices and those received by California butter and Cheddar cheese processors (Hearing Exhibit 19b).

Review of Proposals

Three proposals recommended changing the butter freight adjustment from its current level of $0.045 per pound, and four proposals recommended changing the cheese marketing adjustment from its current level of –$0.012 per pound (Table 3). Several witnesses did not address the issue of changing the adjustment factors, and others testified in opposition to changing the factors from their current levels.

Table 3. Summary of Current and Proposed Changes to the Freight and Marketing Adjustment Factors

	Freight Adjustment	Marketing Adjustment
Current	*–$0.0450*	*–$0.0120*
Department Exhibit (Nov., '02)	–$0.0332	–$0.0321
Western United Dairymen	–$0.0332	–$0.0321
Alliance of Western Milk Prod's	—	–$0.0321
California Dairy Campaign	–$0.0242	$0.0000
Dairy Institute of California	–$0.0332	–$0.0080

Analysis

Table 4 shows that the potential impact of the proposals on minimum class prices and on pool prices, with all other factors in the pricing formulas remaining unchanged. The analysis assumes that the proposals were in effect from January 1998 to December 2002. The average annual impact on the Class 4a price ranges from $0.00 to $0.09 per hundredweight; for Class 4b, the impact ranges from –$0.20 per hundredweight to $0.12 per hundredweight. Changes to annual average pool prices range from –$0.07 to $0.10 per hundredweight over the five–year period.

Table 4. Impact of Proposals for Freight and Marketing Adjustments on Class and Pool Prices Relative to Current Pricing Formulas, 1998 to 2002

Proposals	Classes 2, 3 & 4a	Class 4b	Pool Prices
Western United Dairymen	$0.05	–$0.20	–$0.05
Alliance of Western Milk Prod's	$0.00	–$0.20	–$0.07
California Dairy Campaign	$0.09	$0.12	$0.10
Dairy Institute of California	$0.05	$0.04	$0.05

Discussion

As stated earlier, California pricing formulas reference commodity prices for butter and Cheddar cheese generated by trading activity on the Chicago Mercantile Exchange (CME). However, it is unlikely that California processors consistently receive the CME price for the butter and Cheddar cheese sold. Consequently, the pricing formulas adjust the CME prices for butter and Cheddar cheese to be reflective of actual prices received by California processors. A corresponding adjustment to nonfat powder prices is not necessary because they are actual prices received by California nonfat powder processors or brokers for nonfat powder. The Department audits these prices for accuracy.

Three witnesses proposed using adjustment factors that were significantly different from the weighted averages compiled by the Department. The Dairy Institute proposed that an adjustment of –$0.008 be used for the Class 4b formula. They arrived at the adjustment factor by making technical adjustments to the Class 4b pricing and then changing the adjustment factor until a revenue neutral result was achieved. The California Dairy Campaign proposed that the adjustment factor in the Class 4b pricing formula be set to zero. They project that the gap between the California Cheddar cheese price and the CME Cheddar cheese price will continue to narrow until no adjustment is necessary. The California Dairy Campaign proposed that an adjustment factor of –$0.0242 be used in the Class 4a, which was the price difference in September 2002, the most recent month from the Department's analysis.

The Panel understands how the positions were developed, but does not agree with the proposed changes. The Dairy Institute treats the adjuster in the Class 4b formula as a residual factor, and as such, it is confounded with and undistinguishable from other factors that may be affecting the price level. The Panel prefers that the adjustment factors be clearly identifiable in the Class 4a and 4b pricing formulas. The California Dairy Campaign's adjustment factor in the Class 4b pricing

formula is based on a projection that is not supported by the data collected by the Department. Their adjustment factor in the Class 4a pricing formula was derived from data collected by the Department. However, it represents the price difference for only a single month. The Panel does not have confidence that a single month's worth of price data is representative of the difference between CME prices and actual prices received by California butter manufacturers.

Issues Regarding the Department's Methods

Reasons for changing or not changing the adjustment factors varied considerably. For the most part, those witnesses who recommended changing the factors to mirror weighted averages released by the Department indicated that the updated information on the price differences was the best reflection of current conditions. The witnesses who recommended no changes or recommended factors that did not coincide with the Department's weighted averages raised four concerns. First, the data collected were too simplistic and not representative of California butter and Cheddar cheese markets. Opponents asserted that the Department collected data during a short time period and collected data from a small subset of California manufacturing plants. Furthermore, with the method used by the Department, opponents suggested that the pricing policies of plants that sell a larger volume of product would have too much influence in the outcome of average price received. Second, the methods used to assess the price differences were inappropriate. The analysis presumed that the price data submitted by the plants, which corresponded to calendar months, could be compared to CME price data released from the 26th of the prior month to the 25th of the current month. Third, the data collected from the plants were not audited for accuracy. Last, the butter price data collected by the Department were inappropriate for the task at hand. The Class 4a pricing formula specifies a "freight adjustment". Because the price data do not isolate the cost of transporting butter to the Chicago area, the results cannot be used to alter the freight adjustment.

The Department concedes that the methods used to assess differences in the prices received by California butter and Cheddar cheese *vis-à-vis* CME commodity prices are not ideal. Two points made by those opposed to changing the factors appear to be valid, i.e., the data were not audited and the simplistic nature of the data submitted does not reflect the complexity of individual plant pricing policies. However, the approach used by the Department mirrored that used on two previous occasions — July 1994 to September 1995 and July 1996 to June 1997. Prior to initiating the study in 2002, no party suggested a different approach to assess price differences. Furthermore, no hearing participant submitted a different approach into the hearing record.

With regard to the potential dominance of one large seller and the corresponding influence on the results of the price survey, we suggest that the situation with California nonfat dry milk sales is no different. Moreover, while there may be some appeal to having a more balanced distribution of bulk butter and Cheddar cheese sales among California processors, the bulk butter and Cheddar cheese industries are, in fact, dominated by a small number of firms. As such, the results of the price survey reflect that reality.

A final point raised by witnesses remains to be addressed — whether or not the adjustment factor in the Class 4a pricing formula is intended to represent a cost of freight or something else. California Dairies, Inc. (CDI) stated that the adjustment in the Class 4a formula represents, unequivocally, a cost of freight adjustment. CDI questioned the methods used by the Department

because the cost of freight cannot be isolated or disentangled from other factors that may contribute to the difference between the prices received by California manufacturers and prices on the CME. CDI provided proprietary data to show that, for their operations that ship butter out of state, butter freight costs averaged $0.048 per pound. We appreciate the forthrightness of CDI in submitting their cost data and do not dispute their figures. However, we disagree with the interpretation of the adjustment factor in the Class 4a formula. At one time, the factor was more clearly an allowance for transportation of butter. In the view of the Panel, the meaning of the allowance has evolved and no longer represents a transportation factor strictly; it represents the total difference between what California manufacturers receive relative to the CME. We expect that freight costs are a contributing factor of that price difference, but certainly not the only contributing factor. When the adjustment factor in the Class 4a formula was set at $0.045 per pound in 1995, the Department compared prices received by California butter processors to prices released by the CME. The Department did not attempt to isolate freight costs when collecting the data. As suggested by CDI, actual audited freight costs could have been obtained at the time when the plant cost studies were conducted.

While the level of the adjustment factor has not changed significantly since it was set at $0.045 per pound, the Department has continued to monitor the price difference. Until the study was completed by the Department in November 2002, there was no evidence to suggest that the adjustment factor ought to be something other than $0.045 per pound. On the other hand, the "marketing adjustment" in the Class 4b formula has been a moving target since it was introduced. The adjustment factor was set at CME plus $0.01 per pound in 1995, then moved to CME less $0.012 per pound in 1997. The most recent data collected and summarized by the Department shows that California cheese processors received the CME price less $0.0321 per pound in 2002. Clearly, the price relationships of California manufacturers and the CME must continue to be monitored.

We recognize that the appropriateness of the methods used by the Department to assess the price differences has not been fully addressed. However, no party has suggested a viable alternative that the Department should consider. Use of the prices received by California plants for butter and 40 pound Cheddar cheese is consistent with the approach used to determine the butter and powder yields, the cheese yield, and the manufacturing cost allowances. Simply put, where possible, California–based data is preferred to other sources of data. Until a more accepted method can be developed, the Department will continue to use its current methods

Barrel Cheese vs. Block Cheese

While there was no proposal suggesting that the wholesale price of barrel cheese should be included in the Class 4b pricing formula, some hearing participant mentioned the price disparity among block and barrel Cheddar cheese prices. At the time that this report was written, the block price was actually lower than the barrel price. While such price differences among block and barrel prices are not intuitive and add unanticipated instability to milk markets, they do not address the question whether or not barrel cheese prices should be referenced in the Class 4b pricing formula. It is clear from the hearing record and the Department's own internal analysis that the 40 pound Cheddar cheese price continues to be predominant index used to set prices in cheese transactions. As such, adding the barrel Cheddar cheese pricing series may actually introduce circularity to the wholesale cheese price referenced in the formula. Unless a trend toward using the 500 pound barrel Cheddar cheese price as an index develops, we see no valid reason for including barrel cheese prices in the Class 4b formula.

Panel Recommendation

To avoid future confusion, the Panel recommends changing wording in the Class 4a pricing formula from "freight adjustment" to "f.o.b. California Price Adjuster". Similarly, we recommend changing the wording in the Class 4b pricing formula from "marketing adjustment" to "f.o.b. California Price Adjuster". We further recommend that the f.o.b. California Price Adjusters be set at –$0.0332 for butter and –$0.0321 for Cheddar cheese.

Using the Federal Support Purchase Prices as Price Floors in the Class 4a and Class 4b Pricing Formulas

Issue

The federal government has established an indirect safety net for milk prices by maintaining a price support system. The Commodity Credit Corporation stands ready to purchase butter, nonfat powder and Cheddar cheese at prices that should allow processors to pay producers a pre–determined target milk price. The U.S. Congress has set this target price at $9.90 per hundredweight of milk testing 3.67% fat. Because the mechanics of the price support allow for only a "soft" floor, milk prices can and do fall below the designated target price.

All of California's pricing formulas use wholesale prices for block Cheddar cheese, butter and nonfat powder, either directly or indirectly. No mechanism, such as a snubber or a hard floor, exists in any of these minimum pricing formulas.

Review of Proposals and Analysis

Proposals advanced by the California Dairy Women Association and the California Dairy Campaign recommended using the federal support purchase prices (SPP's) for block Cheddar cheese, butter and nonfat powder as price floors for their respective commercial prices. Several hearing witnesses supported the concept of establishing hard floors for the three commodity prices.

If the support purchase price had been used as a floor from 1998 to 2002, the Class prices for Classes 2, 3 and 4a would have been increased by $0.01 per hundredweight over the current formulas. The Class 4b price would have been increased by $0.05 per hundredweight; pool prices would have increased by $0.02 per hundredweight. For the 60–month period, the price floor would have been triggered sixteen times for nonfat powder and eight times for Cheddar cheese. The butter price floor would not have been triggered from 1998 to 2002.

Discussion

From 1973 to 1995, the commercial prices for butter and nonfat powder were floored by their respective SPP's in California's pricing formulas. However, since it was first used in 1989, the pricing formula for cheese was never floored by the cheese SPP. The practice of having a price floor for butter and nonfat powder was eliminated from the formulas in 1995 because the dairy support program was scheduled to terminate. However, the dairy price support program was not terminated as scheduled and has been extended until December 31, 2007.

Even with the SPP's as floors, neither the California Class 4a and 4b prices nor the federal Class III and IV prices are guaranteed to be at or above the $9.90 per hundredweight target support price. Table 5 shows various class prices when butter, nonfat powder and cheese are at their SPP's of, respectively, $1.05, $0.80, and $1.13, with skim whey powder at $0.18 per pound. For comparison at a standardized milk test and not the 3.67% fat at which the support price is announced, the $9.90 per hundredweight target price has been prorated to 3.5% fat. Small differences are evident when reviewing the California pricing formulas vis-à-vis the formulas used by USDA to set the commodity purchase prices. As such, California Class 4a and 4b prices do not attain $9.90 per hundredweight when the announced SPP's are used for the commodity price.

Table 5. Comparison of Minimum Prices When Commodity Prices Are Set to Support Purchase Prices, $ per Hundredweight

	Support	Federal		California	
	Price	Class III	Class IV	Class 4b	Class 4a
Current formula	$9.80	$9.79	$9.73	$9.45	$9.30
Announced formula	$9.80	$9.85	$9.61	—	—

Apparently, the two proposals for floors are responses to the low milk prices being experienced. In 2002, robust milk production across the U.S., sluggish dairy commodity markets, stagnate demand for dairy products, and possibly increased imports of dairy ingredients all contributed to lower milk prices. In some respects, the current market outlook shares similarities with what the industry faced toward the end of 2000. For the five months from October 2000 to February 2001, the Class 4b price was below the federal target support price of $9.90 per hundredweight. At the same time, while the nonfat powder and cheese markets were soft, the strength of the butter market helped the Class 4a prices, and consequently, the overbase price, to stay well above the $9.90 per hundredweight target support price.

The current market situation is different because of the softness of not only the nonfat powder and cheese markets, but the butter market as well. In the seven months from June to December 2002, the Class 4b price has been at or below the target support price six times. The Class 4a price has been at or below only twice, but it has been within $0.30 of the target support price all seven months. As a result, the overbase price has been at or below the target support price six times. At the time of the hearing, USDA's Economic Research Service predicted that this situation could continue for another six months (Hearing Exhibit 38). If this prediction is correct, overbase prices would be below the target support price for a longer time period than any time period since the 1980's.

In January 2001, a public hearing was held to consider amending California's minimum pricing formulas to use the SPP's as floors. The proposals recommended by the California Dairy Women Association and the California Dairy Campaign differ from that at the January 2001 hearing in that they subtract the f.o.b. California price adjusters from the SPP's. However, this nuance was not clearly understood by the industry. Much of the opposition appeared to be based on a misinterpretation of the proposals.

In its deliberations, the Panel had to balance the request to protect California's dairy producers by providing a hard floor on prices against the ability of processors in California to sell product in national markets. In its findings from the 2001 hearing, the Department noted that the federal order pricing formulas do not include the SPP's. Any inclusion in California's pricing formulas of the SPP's may put California dairy processors at a competitive disadvantage. Furthermore, the downside risk of incorporating the SPP's in California's pricing formulas would likely outweigh the potential added revenues dairy farmers may receive. Classes 4a and 4b are critical for clearing the supply of farm milk. If processors are prevented from competing for markets with processors located in other states, some California plants may decide to curtail production of manufactured products in California. Without adequate processing capacity, farm milk will either have to be dumped or shipped out–of–state to be processed.

Panel Recommendation

The support purchase prices should not be incorporated as floors to the commercial commodity prices in the Class 4a and 4b pricing formulas.

Changing Butter and Powder Yields in the Class 4a Pricing Formula

Issue

The current Class 4a pricing formula includes two yield factors — a butter yield of 1.2 pounds of butter per pound of fat and a powder yield of 0.99 pounds of powder per pound of solids-not-fat (SNF). The powder yield might be better termed an "adjusted" or "compound" yield because it results from the combined production of nonfat powder and buttermilk powder (BMP). It also includes an adjustment to reflect that, on average, the value of BMP is less than that of nonfat powder. Since 1977, the BMP price adjuster has been set at 0.99. More recent analysis of butter and powder yields suggests that the current yield factors may no longer be appropriate.

In October 2002, the Department released its updated study of butter and powder yields (Hearing Exhibit 19a). Receipts and usage figures from ten powder plants and six butter plants were used to estimate product yields. Plant losses were assigned to the various products based on the fat and SNF content of the finished product. A subsequent document, released in December 2002, summarized butter and powder yields under the presumption that all plant losses were assigned to butter and powder products only, regardless of what other products were processed in the plants.

Review of Proposals

Two proposals recommended changes to butter and powder yields. Western United Dairymen recommended increasing the butter yield to 1.211 and increasing the powder yield to 1.004. The California Dairy Campaign recommended increasing the powder yield to 1.0. The Dairy Institute and California Dairies opposed any changes to butter and powder yields, stating that the methods used were inadequate to give accurate yields.

Impacts of Proposals

Table 6 shows that the potential impact of the proposals on minimum class prices and on pool prices, with all other factors in the pricing formulas remaining unchanged. The analysis assumes that the yields proposed were in effect from January 1998 to December 2002. The average annual impact on the Class 4a price ranges from $0.07 to $0.15 per hundredweight. Changes to annual average pool prices range from $0.04 to $0.07 per hundredweight over the five–year period.

Table 6. Impact of Proposals for Butter and Powder Yields on Class and Pool Prices Relative to Current Pricing Formulas, 1998 to 2002

Proposals	Classes 2, 3 & 4a	Pool Prices
Western United Dairymen	$0.15	$0.07
California Dairy Campaign	$0.07	$0.04

Discussion

Witnesses raised three issues at the hearing regarding the methods and data used by the Department to estimate butter yields and powder yields. First, testimony claimed that while the BMP price adjuster corrects for price difference of BMP prices and nonfat powder prices, it does not adjust for the added raw product cost of the additional fat in BMP. To investigate this suggestion, the yield data were reworked to correct for both the price of BMP and the added fat content of BMP. The corrected analysis showed that the BMP price adjuster changed from 0.9921 to 0.9916, which does not differ significantly from the 0.992 BMP price adjuster released in October 2002. Second, testimony advanced the notion that the manufacturing cost allowance for nonfat powder do not reflect the fact that the manufacturing costs for BMP are higher. Following the hearing, the manufacturing cost studies for powder plants were reviewed to extract processing costs for BMP. Four cost studies contained estimated unit costs both nonfat powder and BMP; the weighted average costs were $0.1486 and $0.1439, respectively. Given the relative small share of all

powder that is BMP, the cost differences are not significant enough to consider adjusting either the powder yield or the nonfat powder manufacturing cost allowance.

The most noteworthy issue brought forth at the hearing was in regard to the appropriateness and accuracy of the data used to develop the yield estimates published by the Department. Witnesses argued that the receipts and usage data were developed for cost accounting purposes, and thus, they are not appropriate to use this information to estimate yields. Furthermore, they asserted that the receipts and usage data are not accurate.

The Panel recognizes that accurate in–line meters that measure both milk volumes and component tests as milk flows to different processing sectors in the plant would give the best profiles of how milk components are distributed in plants. However, practical and widespread use of such meters does not exist in the dairy industry. At present, the best alternative that the Department has available to it is to collect volume and test data on incoming milk and on finished products. Milk receipts and usage information is well–suited for this approach. The data may not have been generated or collected for the purpose of estimating yields, but in the absence of more appropriate data set, the Panel finds the receipts and usage data is the best data available to estimate yields. While the assignment of plant loss remains unresolved, that alone should not be a deterrent for estimating butter and powder yields.

The question of the accuracy of the milk receipts and usage data has implications for the yield studies. Once the Department developed yields based on cost study data, the results were shared with participating plants. When data that appeared to be inaccurate were discovered, as was the case with some of the tests reported for finished products, corrected values were substituted prior to continuing the analysis. In follow–up visits with the participating plants, the Department emphasized that finished product tests needed to be as accurate as possible for the purposes of both cost allocation and yield estimation. Finally, use of the butter and powder yield data from California plants is consistent with the approach used to determine the f.o.b. California price adjusters, the cheese yield, and the manufacturing cost allowances. Simply put, where possible, California–based data is preferred to other sources of data.

Panel Recommendation

The Panel recommends increasing the powder yield from 0.99 to 1.0 pounds of powder per pound of SNF and no change to the butter yield, which should remain at 1.2 pounds of butter per pound of fat. The Panel does finds that the data are not exact or clear–cut enough to recommend more precision in the butter and nonfat powder yields.

Changing Cheese Yield in the Class 4b Pricing Formula

Issue

Cheese yield and vat tests for fat and solids–not–fat (SNF) are vital components in the structure of the Class 4b pricing formula. These parameters are reviewed periodically to assess how accurately they reflect cheese industry conditions. In November 2002, the Department released its

updated cost study exhibit that included summarized data for cheese yields and cheese vat tests in nine California Cheddar cheese plants (Hearing Exhibit 19b). The Department released a follow–up document in December 2002 that provided more details on cheese yields and cheese vat tests per a request from the industry.

Review of Proposals

The Class 4b pricing formula includes three principal components. A cheese yield, currently set to 10.0 pounds of cheese per one hundred pounds of milk, a cheese vat fat test, currently set to 3.65% and a SNF vat test, currently set to 8.78%. Three proposals recommended changes to the yield and associated vat tests. In addition, one proposal recommended restructuring the Class 4b pricing formula such that it resembles the federal milk marketing order Class III pricing formula (Hearing Exhibits 4b & 37c).

All but one of the proposals were based on results achieved by using the Van Slyke cheese yield formula. The formula was developed in the mid– 1890s and was based on observations of Cheddar cheese making practices in factories in central New York over a two-year period. Cheese plants and master cheese makers have relied on the Van Slyke formula since its introduction as a measure of cheesemaking efficicency. Ideally, the resulting yield from a cheese vat should not differ significantly from that which is predicted by the Van Slyke formula. The use of the Van Slyke in determining parameters in regulated milk pricing formulas has a short history. Federal milk marketing orders used the Van Slyke formula as the basis for developing the parameters in their Class III pricing formula prior to its implementation in January 2000.

As typically used, the Van Slyke formula has five parameters, two inputs, and one output in the following functional form:

Yield = [(a **x** Fat + b **x** Protein - c) **x** d] / [1 - e]

a = percent fat recovery
b = percent of protein that is casein
c = percent casein lost in whey stream
d = other solids in cheese
e = desired finished cheese moisture

Fat = fat content of vat milk
Protein = protein content of vat milk

Yield = pounds of cheese per hundred pounds of vat milk

Among those witnesses who addressed the Van Slyke formula and based on other information in the hearing record, there was general agreement on appropriate values for two parameters. The percent of casein lost in the whey stream should be 0.1, and the other solids in cheese is 1.09. However, these were the only two points of general agreement. All other values varied among the witnesses (Table 7). The low and high values do not represent the total proposal from any one witness.

Table 7. Summary of Proposed Parameters Relevant to the Van Slyke Cheese Yield Formula

Range	*Parameters*			*Inputs*		*Output*
	a	b	e	Fat	Protein	Yield
Low	90.00%	77.05%	36.92%	3.48%	2.98%	9.64
High	92.50%	82.04%	38.00%	3.95%	3.29%	10.72

a = percent fat recovery; b = percent of protein that is casein; e = desired finished cheese moisture.

By determining appropriate California values for three of the parameters and the two inputs, the Panel could use the Van Slyke formula to establish a cheese yield. Alternatively, the Panel can continue to base the yield and vat tests on information collected as part of the manufacturing cost studies.

In regard to the first option, we suggest that there are too many alternative values for the parameters and inputs for the Panel to make a conclusive determination. The Panel does not have enough experience with the Van Slyke formula to identify inappropriate data when it is presented, although one proposal was identified as such with additional analysis following the hearing. In this case, the proposal assumed a test of 5.49% for other solids in establishing a cheese yield and a test of 4.80% for other solids in establishing a skim whey powder yield.

Admittedly, the federal order Class III pricing formula has ties to the Van Slyke formula. However unlike California, USDA does not have representative plant studies to use as a basis for

structuring or adjusting their pricing formulas. The California plant cost studies are concise — there is only one weighted average yield, one weighted average fat test, and one weighted average SNF test. Use of the cheese yield data from California plants is also consistent with the method used elsewhere to determine the f.o.b. California price adjusters, the butter and powder yields, and the manufacturing cost allowances. The most recent data released by the Department indicates that the weighted averages are 10.71 for the yield, 3.95% for the fat test and 8.93% for the SNF test (Hearing Exhibit 19b).

Use of the weighted average data presents some potential problems for the Panel. First, using the most recent data means basing the weighted averages on a single set of cost studies. The weighted averages do not vary greatly from year to year, but there is enough variability to consider using several cost studies to obtain a composite weighted average. Second, the weighted averages include yields and tests for both barrel and block plants. Both these issues can be addressed by taking simple averages of the last three cost studies and using only block plants. The result is a yield of 10.69 at 3.90% fat and 8.84% SNF.

Two larger issues that need to be addressed are the treatment of fortified versus unfortified vats and product losses. Several cheese processors and other witnesses testified against using fat and SNF tests from vats that have been fortified for increased product yield and uniformity.

> *"At a minimum, if fortified vat yields were to be used in the formula, then all costs associated with the fortification ingredients, including all protein premiums paid, should be included in the manufacturing allowance."* (Hearing Transcript, January 29, 2003, p. 148.)

The current manufacturing cost studies include most of the relevant costs in cheese making, but they do not include any protein premiums paid by plants. Protein premiums were included in the cost studies conducted in 1995 and 1996; the additional costs of protein premiums averaged $0.0226 per pound of cheese. Since that time the Department has not followed–up with additional data collection or studies. If the Panel were to recommend the weighted average yield and vat tests, the concerns of witnesses could be addressed by adding 2.3¢ to any recommended cheese manufacturing cost allowance. Using the weighted averages and increasing the manufacturing cost allowance is the most straightforward approach. However, it assumes that the 2.3¢ is still appropriate after five years. Furthermore, the Panel would be recommending an allowance that is significantly higher than both the costs reported in the current studies and the allowances proposed by the witnesses.

Rather than delve into the controversial issue of including protein premiums and using older premium data that may not be applicable, the Panel believes that prorating down the yield and vat tests to unfortified levels is a better approach. Prorating the yield and vat tests down would result in a yield more consistent with the majority of testimony — most witnesses testified to yields in the range of 10.0 to 10.2. The procedure for prorating the cheese yield and vat tests uses the current data (10.0 at 3.65% fat and 8.78% SNF) and the data from the "blocks only" three year average. The result is a yield of 10.2 at 3.72% fat and 8.80% SNF.

The final issue is whether or not to account for product loss when calculating yields. The methods used to develop the cheese yields only include inherent losses from the cheese vat to the finished product. In contrast, the methods used to develop butter and powder yields include losses all the way from farm to finished product. Thus, the butter and powder yields include what is sometimes referred to as "ranch to plant" loss, while the cheese yields do not. With the pricing formulas published in the Federal Register in November 2002, federal milk marketing orders account for "ranch to plant" loss explicitly (Hearing Exhibit 37). At the hearing, some witnesses testified in favor of such an explicit accounting of plant loss, and others testified against such a change. For the most part, testimony given regarding "ranch to plant" loss was not substantiated. The witness from Leprino Foods testified that she thought "ranch to plant" loss was less in California than in federal orders (Hearing Exhibit 64). Absent more specific testimony on this subject, the Panel has no basis for reducing the cheese yield or vat tests to account for "ranch to plant" loss.

Panel Recommendation

The Panel recommends that the cheese yield and associated fat and SNF vat tests in the Class 4b pricing formula be increased to 10.2, 3.72% vat fat, and 8.80% vat SNF, respectively.

Incorporation of Protein Pricing in the Class 4b Pricing Formula

Issue

The current Class 4b pricing formula establishes minimum prices for fat and SNF. The Class III formula, which prices milk used in the production of cheese in federal milk marketing orders, includes prices protein and other solids as substitutes for SNF. The difference in the components priced by the two formulas may be contributing to minimum price differences as well as unsynchronized price movements.

Review of Proposal

The Alliance of Western Milk producers proposed a Class 4b pricing formula that establishes minimum prices for fat, protein and other-solids (Hearing Exhibit 4b). The recommended restructuring of the Class 4b pricing formula is such that it resembles the federal milk marketing order Class III pricing formula. The Van Slyke formula was used extensively in generating parameters for the proposed protein–based Class 4b pricing formula.

Discussion

As stated in the section that reviewed cheese yield, witnesses proposed a wide range of alternatives for the parameters and inputs in the Van Slyke formula. With so many different viewpoints, the Panel found that it could not make any appropriate determination regarding cheese yield through use of the Van Slyke formula. For the same reasons, the Panel finds that it can not make any appropriate assessment of the parameters recommended for the protein–based Class 4b pricing formula.

However, the Panel finds that there are additional reasons for not adopting protein pricing at this time. First, the Milk Pooling Program Rewrite is not complete. The Panel sees no reason to implement protein pricing in the Class 4b pricing formula without making a corresponding change to how pool prices are generated. Without the rewritten pooling program, producers cannot be paid based on their protein production. Furthermore, without the milk pooling program rewrite, there is no protein and other solids data to assess the impact of any protein pricing proposal. Second, the proposal gave no information as to how pool protein prices and pool other solids prices would be established. Some basic questions are left unanswered:

- Would there be a protein pool and other solids pool similar to the current fat pool and SNF pool?
- Would the pool protein price be set equal to the Class 4b protein price, as is done in federal orders?
- How would the revenue from the Class 1 fluid price be distributed?

Third, it is clear to the Panel that the proposal was not understood fully by all industry representatives. Most of the testimony given in opposition to the protein pricing proposal indicated that the intents and mechanics of the proposal were being misinterpreted. It is not clear how the industry would have responded if they had understood clearly all aspects of the proposal, including the price impacts.

Finally, the Panel has administrative and legal concerns regarding the implementation of protein pricing. Because of the widespread effects of such a change, protein pricing would likely require a pool referendum, and its passage is not certain. Furthermore, protein pricing may not be compatible with how the Food and Agricultural Code establishes the $1.70 quota differential.

Panel Recommendation

At this time, the Class 4b pricing formula should continue to establish component prices only for fat and SNF.

Inclusion of a Whey Component in the Class 4b Pricing Formula

Issue

Milk pricing formulas continue to evolve as advancements in technology assist researchers in developing new products and as outlets for these products grow. Specifically, whey products have undergone a stark transition in a short amount of time, starting first as a waste material formed during the cheese making process. Over time, many types of whey products have been developed and marketed by cheese processors. More and more cheese plants are turning toward further processing of whey as a means not only of handling whey disposal within the guidelines set forth by environmental agencies but also as a means for generating additional revenues for the operations. Dairy producers have requested regularly that some of the revenues generated by sales

of whey products be passed back to dairy producers by including as explicit pricing component for whey in the Class 4b formula.

Review of Proposals

Western United Dairymen, the Alliance of Western Milk Producers and the California Dairy Campaign proposed that the Class 4b pricing formula include a whey factor based on the wholesale price of dry skim whey. All proposals were in a simple format, in which a manufacturing cost allowance was deducted from the dry skim whey commodity price and then multiplying the difference by a yield factor (Hearing Exhibit 4). The parameters for the formula are listed in Table 8.

Table 8. Parameters for Proposals for Dry Skim Whey Component in the Class 4b Pricing Formula.

Proposals	Manufacturing Cost Allowance	Yield
Western United Dairymen	$0.159	5.75
Alliance of Western Milk Prod's	$0.159	6.1
California Dairy Campaign	$0.159	5.0

Analysis

Table 9 shows that the potential impact of the proposals on Class 4b and on pool prices, with all other factors in the pricing formulas remaining unchanged. The analysis assumes that the proposals were in effect from January 1998 to December 2002. The average annual impact on the Class 4b price ranges from $0.26 to $0.31 per hundredweight. Annual average pool prices increased by about $0.10 per hundredweight for all three proposals.

Table 9. Impact of Proposals for Dry Skim Whey Component on Class 4b and Pool Prices Relative to Current Pricing Formulas, 1998 to 2002

Proposals	Class 4b	Pool Prices
Western United Dairymen	$0.30	$0.10
Alliance of Western Milk Prod's	$0.31	$0.11
California Dairy Campaign	$0.26	$0.10

Discussion

For years, the Department has made policy decisions not to include an explicit pricing component for whey in the Class 4b formula. Based on the testimony and relevant data, this position has been reaffirmed at each of the hearings that have been open to recommendations for including a whey pricing component. The whey processing sector continues to be dynamic — whey by–products

and whey processing technology continue to evolve over time. As such, the Department has a responsibility to evaluate and to assess the merits of all proposals that incorporate a whey pricing component into the Class 4b pricing formula.

Historical View of the Cheese and Whey Industries in California

In the 1970s California's cheese production was virtually nonexistent relative to the national cheese market. Cheese production represented less than 1 percent of California's total milk production. As California became a larger and larger milk production region, growing by an average of over four percent per year, the cheese industry represented one the best opportunities for the burgeoning milk supply. Few dairy products offered the potential for positive sales growth that cheese was experiencing; most dairy product sales were either flat or decreasing on a per capita consumption basis.

California cheese industry was in its infancy stage of development during the 1980s (Table 10). During this period, it was appropriate and essential for the Department to adopt manufacturing cost allowances that encouraged and fostered investment in facilities for all processing sectors, particularly cheese. It was common for both producer and processor interests to support liberal manufacturing cost allowances because they encouraged manufacturing plant expansions necessary to accommodate California's increasing milk supply.

Table 10. Historical Production of Cheese in California relative to U.S. Total, 1970 to 2002

Year	California	U.S.	California as a Percent of U.S.
1970	17.6 million	2.201 billion	0.8%
1990	701.9 million	6.061 billion	11.6%
2002	1.723 billion	8.440 billion	20.4%

As California cheese production continued to grow into the 1990's, the U.S. cheese market became an increasingly important outlet for cheese products. California processors could no longer depend upon sales into the local or western regional markets, but had to compete with processors throughout the nation for sales.

As cheese production gathered momentum in the 1980s and the early 1990s, whey production also increased. Generally, it was considered effluent or a waste byproduct of the cheese making process. Most manufacturing cheese plants routinely dumped the whey stream in the sewer. However, environmental concerns relating to water and waste treatment led to prohibitions and restrictions that greatly increased the whey disposal costs. Cheese plants were forced to seek alternative means of reducing or limiting whey disposal costs. One of the simplest and lowest investment alternatives was to transport raw whey to farmers for use as animal feed. During this time period, international food and drug companies became interested in obtaining sophisticated, further–processed whey products, such as whey protein concentrates. Because the market for these products was new, most plants did not have the highly specialized equipment necessary to produce

the types of products for which markets existed. Plants had to determine whether or not they wanted to make the significant investment and take on the enormous risk to become suppliers of specialized whey products. While the technology of whey processing was available, the size of investment needed was intimidating. Making a major investment in a whey facility with the expectation that the enterprise will cover the investment and return a profit was, and is still is, extremely speculative.

At least initially, most cheese plants choose not to take to go this route, and investments in whey processing facilities was directed toward compliance with the environmental mandates and controlling disposal costs. However, a few cheese companies that process large volumes of cheese decided to make significant investments in whey facilities with the goals of developing viable and profitable products and, ultimately, achieving a desirable return on their investment.

As the whey industry developed, the number of plants that made investments in processing whey slowly increased. Eight cheese plants that participated in the manufacturing cost study for the 1996 – 1997 period. Five plants were processing whey into higher value products, and other three plants were either simply disposing of the whey or shipping it off to be used as animal feed. The results of the cost studies conducted for the 2000 – 2001 time period, show that seven of the eight cheese plants processed whey into value–added products, with the one remaining firm using the whey for animal feed.

Whey production data show clearly that California's whey processing capacity has grown dramatically. The production of dry whey has more than doubled from 66.3 million pounds in 1991 to 140 million pounds in 2001. California's whey protein concentrate production has increased from 20 million pounds in 1991 to about 94 million pounds in 2001. During the last five years, the percentage of total U.S. production for dry whey and whey protein concentrate increased from 7 and 21percent, respectively, to 14 and 34 percent, respectively. It is evident that California has become a major player in both dry whey and whey protein concentrates.

Differing Views on Whey in the Class 4b Pricing Formula

Large cheese operations acknowledged at the hearing that whey products can provide net revenues, although some of the traditional outlets for whey product sales are becoming more competitive. The witness from Farmdale Creamery stated that his company cannot justify making investments in elaborate whey processing facilities (Hearing Exhibit 61). The Panel expects that many of the smaller cheese plants would echo this viewpoint.

Notwithstanding the acknowledgment by cheese processors that whey processing facilities can and do generate significant revenues, they testified in opposition to the incorporation of an explicit whey factor in the Class 4b pricing formula. Dairy Institute's testimony, which most of the cheese processor witnesses referenced and supported, reflected the processor position on the issue:

> *"The current Class 4b pricing formula overvalues milk used in cheese making, and the difference between the value of milk used in cheese making alone, and the value generated by the current formula provided an implicit allowance for whey."* (Hearing Transcript, January 29, 2003)

The cheese processor witnesses reiterated their testimony in past hearings on the whey issue by indicating that:

- There is no inherent raw whey value.
- The diversity of whey processing and the variety of whey products produced, ranging from the most basic skim whole whey powder, to the most sophisticated whey protein isolates, each with their unique specifications, processing requirements and investment risks.
- The available data pertaining to whey processing and disposal costs, quantities of different whey products produced and product yields are either insufficient or vary too widely to be used in the Class 4b pricing formula.
- Dry skim whey for human consumption is only produced by limited number of plants, as shown in the Departments analysis. The volume produced is too small to use as a basis for setting policy.
- Dry skim whey prices correlate poorly with movements of other products derived from whey.
- Incorporating whey is difficult without making the pricing formula excessively complicated.

While opposing the explicit inclusion of whey in the Class 4b pricing formula, the Dairy Institute testified that the marketing adjustment for cheese could be altered to give the same price level attained under the current formula with the addition of a whey component (Hearing Exhibit 50). This would be accomplished by reducing the marketing adjustment from $0.0321 per pound to $0.008 per pound. Another witness representing a cheese processor elaborated on this proposal by stating that:

> *"We support the Dairy Institute of California's alternative proposal because we believe it fairly incorporates a whey factor into the pricing formula, a concept we oppose but must grudgingly accept in the current political environment, while properly addressing the yields and make allowance elements."* (Hearing Exhibit 61).

The testimony of the Hilmar Cheese Company spells out in unambiguously the dilemma for the cheese plants:

> *"It's critically important for the continued development of the cheese industry nationally and in California that we invest in and develop even more uses for whey and whey fractions. This must be done, specifically in California if we want to grow the cheese industry in terms of new markets. While whey proteins have, in recent years, been a relatively hot marketing item, during the last 18 months we've seen a "commoditization" of what used to be unique specialty whey products and dramatic erosion in the margins in whey. We've also seen a growing surplus in what we in the whey business know as whey permeate. Whey permeate is what's left over after you generate whey proteins. As whey protein concentrate production has grown, so has the supply of whey permeate. We lose money processing our whey permeate. We've invested over $45 million to process a product from which we make no money. And environmentally we have to do it. We have no choice.*

We are at a critical time in our company's history where we must make decisions regarding growth. And a key part of that decision will be what to do with our whey and whey permeate if we fractionate whey. There are no easy decisions. I can't overestimate this point.

We as a company should have made growth decisions already in we want to have new capacity up and running in two years. But we have held off making the decision for several years, one of which is the massive investment required in whey permeate and the fact that we just can't afford to make any investment errors or invest like we have in the past -- $45 million just to lose money.

We believe that a new facility must be large to drive efficiencies, yet the cost of a new facility to compete nationally would be at least $150 million including whey processing". (Hearing Exhibit 55)

Finally, some witnesses expressed concern with price alignment of California's Class 4b prices with Class III prices in surrounding federal milk marketing orders. Unlike California's Class 1, 2, 3 and 4a pricing formulas which track reasonably well with the federal order prices, California's Class 4b prices do not track well with the corresponding federal order price Class III (Hearing Exhibit 6b). One possible reason for the price differences is the lack of a whey pricing component in the Class 4b formula. The testimony of a witness representing an out–of–state dairy cooperative indicated that:

"... The more fundamental reason for the price misalignment is that California does not include a value for whey. Using the final order formula we have calculated, for each of the previous 36 months, the value of whey in the federal order Class III formula. For all of the year 2000 this added only an average of 16.6 cents per cwt. to the Class III price. But in 2001 the whey value added 67.4 cents. In 2002 it dropped back to 23.2 cents per cwt. This is pretty impressive fluctuations in prices, which results in significant differences in the two announced prices." (Hearing Exhibit 60)

The Panel's Viewpoint

The interests of dairy producers and their associations, who seek to have some of the revenues generated by sales of whey products passed back to dairy producers, must be weighed against the cost of investment, the risk of the investment and the adequacy of the investment returns for the whey products. Maintaining regulated prices such that California cheese processors can compete in the national market place is essential. It is no less important that the Class 4b contribute to total pool revenues as equitably as Classes 1, 2, 3 and 4a. While the use of an explicit whey factor in the Class 4b pricing formula is not the Panel's preference for improving the equitable contribution of Class 4b to the pool, we recognize that the lack of a whey factor contributes to inherent price misalignments with the federal order Class III price. The Department continues to be mindful of using manageable pricing formulas. The addition of another pricing factor seems to be at odds with this objective.

The cheese industry of 2003 is not the same industry that existed in 1989 when the inclusion of the whey factor was first considered and denied. The industry has evolved, and nothing suggests that the industry will remain static. With the evolution of the cheese industry in California, it now seems appropriate to include a skim whey factor in the Class 4b pricing formula. While not all cheese operations are able to convert whey stream into a profitable enterprise, it is becoming increasingly clear that large and efficient operations can and do operate whey processing facilities that can provide net revenue to cheese operations. A substantial amount of time has elapsed since producer interests first raised the issue of incorporating a whey factor into the Class 4b pricing formula, permitting cheese processing plants time to recover some of their original investment in whey processing facilities.

It is clear from both the testimony of producer and processor witnesses that if whey is incorporated into the Class 4b pricing formula, then the product priced should be dry skim whey. At a hearing in March 2001, there was no consensus as to what whey product should be used. At this time, there is limited dry skim whey processing cost data available. Notwithstanding the lack of cost data, there was general agreement among producers and processors that the processing cost for nonfat powder should be used as a basis for determining the make allowance on dry whey. Processors testified that whey processing costs are up to three cents per pound higher than those of nonfat powder.

Some of the Department's concerns that were expressed in the prior hearing determinations are addressed by simplifying the whey portion of the Class 4b formula. First, a basic whey product, dry skim whey, is incorporated, and, thus, avoiding the more complex issues associated with the more sophisticated whey products. Second, the whey manufacturing cost allowance is set to the allowance for nonfat powder plus 2 cents per pound. Third, by relying on the testimony of hearing witnesses, a whey yield of 5.8 is used. Finally, the Western dry whey (mostly) price, as reported by Dairy Market News, is used as the commodity price series.

Panel Recommendation

The Panel recommends that a dry skim whey factor be included in the Class 4b pricing formula. A simple average of the Western dry whey (mostly) price is used for the commodity price series with a manufacturing cost allowance set two cents higher than the nonfat powder manufacturing cost allowance and a yield of 5.8 pounds of dry whey per one hundred pounds of milk.

Changing the Manufacturing Cost Allowances in the Class 4a and 4b Pricing Formulas

Issue

California's end–product pricing formulas rely on manufacturing cost allowances to adjust wholesale prices for butter, nonfat powder and Cheddar cheese to determine a value for milk. The Department conducts cost studies of California manufacturing plants regularly to ascertain processing costs for butter, nonfat powder and Cheddar cheese. The Department has a long–standing tradition of using the results of these studies as guidelines when establishing the manufacturing cost allowances. It should be evident that processing costs vary from year to year.

The structure of the milk pricing formulas treats manufacturing cost allowances as static parameters; they can be changed only through a public hearing. One recurring point of holding a hearing is that it allows the Department to receive testimony and evidence into the hearing record that might further guide the Department in establishing appropriate manufacturing cost allowances.

In November 2002, the Department released a document that detailed the most recent cost studies (Hearing Exhibit #19c). The data that provided that basis for the cost study covered the time period July 2000 to December 2001 with most of the data taken from the 2001 calendar year. Costs for natural gas and electricity were updated beyond the study period; the updates reflect the rates that the plants were charged in August 2002. The Department released a second study in December 2002 that updated the payroll portion of the cost studies.

This section of the Panel Report speaks only to manufacturing cost allowances for butter, powder and cheese. The manufacturing cost allowance for dry skim whey is addressed in the section recommending the addition of a whey factor to the Class 4b pricing formula.

Introduction of Proposals

Five witnesses recommended changing the manufacturing cost allowances (Table 11). Several witnesses did not address the issue of changing the manufacturing cost allowances directly and supported any change in the pricing formulas that would increase prices to milk producers. Other witnesses simply supported the manufacturing cost allowances that were suggested by other hearing witnesses. The California Dairy Campaign proposed manufacturing cost allowances that changed every month based on built–in variable indexes, and as such, the California Dairy Campaign's figures in Table 11 represent five-year averages.

Impact of Proposals

The impacts of the proposed changes to the manufacturing cost allowances are given in Table 12. For the three proposals that did not suggest changes to all three manufacturing cost allowances, we substituted the current allowances to generate a complete impact analysis.

Table 11. Summary of Proposed Manufacturing Cost Allowances and Percent of Volume Covered for Butter, Powder and Cheese

	Butter	Powder	Cheese
Current Formulas	**$0.1020 (37%)**	**$0.1610 (89%)**	**$0.1760 (77%)**
Weighted Averages, 2002 Cost Study	*$0.1211 (53%)*	*$0.1512 (69%)*	*$0.1746 (55%)*
Proposals:			
Western United Dairymen	$0.1134 (37%)	$0.1427 (21%)	$0.1592 (49%)
Alliance of Western Milk Prods.	$0.1211 (53%)	—	$0.1746 (55%)
California Dairy Campaign	$0.1354 (84%)	$0.1693 (89%)	$0.1846 (77%)
Dairy Institute of California	$0.1211 (53%)	$0.1512 (69%)	$0.1746 (55%)
California Dairies, Inc.	$0.1221 (53%)	$0.1525 (69%)	—

Table 12. Impact of Proposed Manufacturing Cost Allowances on Class and Pool Prices, 1998 to 2002

	Classes 2, 3 and 4a	Class 4b	Pool Prices
Western United Dairymen	$0.110	$0.165	$0.115
Alliance of Western Milk Prods.	–$0.080	$0.012	–$0.020
California Dairy Campaign	–$0.210	–$0.085	–$0.120
Dairy Institute of California	$0.004	$0.012	$0.010
California Dairies, Inc.	–$0.011	–$0.003	–$0.002

The changes proposed by Western United Dairymen would have resulted in the largest increases in class and pool prices. If the proposed changes had been in effect from 1998 to 2002, Class 2, 3 and 4a prices would have increased by an average of $0.11 per hundredweight. Class 4b prices would have increased by an average of $0.165 per hundredweight, and quota and overbase prices would have increased by $0.115 per hundredweight. The manufacturing cost allowances proposed by the California Dairy Campaign, which varied monthly, would resulted in the largest decreases in class and pool prices. If the proposed changes had been in effect from 1998 to 2002, Class 2, 3 and 4a prices would have decreased by an average of $0.21 per hundredweight. Class 4b prices would have decreased by an average of $0.085 per hundredweight, and quota and overbase prices would have decreased by $0.12 per hundredweight.

Differences in Approaches to Manufacturing Cost Allowances

Producer groups and processor groups compare routinely prices for California's Classes 4a and 4b to the federal order Class IV and III prices. In general, processor groups advocate maintaining a price differential, stating that product produced in California must be shipped to eastern markets to be sold. Producer groups suggest eliminating or at least narrowing the gap between California and federal order prices for reasons of price continuity and producer equity.

The sundry of proposed changes to the manufacturing cost allowances shown in Table 11 reflect how the various organizations in the industry view the allowances. The Alliance of Western Milk Producers, California Dairies, Inc. and Humboldt Creamery Association testified only to the allowances that affected their operations directly. The Dairy Institute of California proposed using allowances exactly equal to the weighted average costs as set forth in the December 2002 cost studies released by the Department. Western United Dairymen and the California Dairy Campaign based their proposals on a philosophical approaches. Western United Dairymen suggested that the allowances be set such that 100 percent of 80 percent of the weighted average costs are covered for the three manufactured products. The California Dairy Campaign suggested that a more market–oriented approach be used in establishing the allowances. In their view, allowances that decrease when milk prices are lower (and vice versa) fit that criterion.

Discussion

Incorporation of a Variable Make Allowance to the Class 4a and 4b Pricing Formulas

The California Dairy Campaign testified to a variable make allowance that adjusts base allowances monthly as the relationship of the commodity reference price to the Department's milk production cost index changes. The California Dairy Campaign indicated that the current fixed make allowance guarantees that the cost of the processing milk into product is covered. This allows processing plants to expand production of the lowest value dairy products (i.e., Classes 4a and 4b), and results in lower milk prices to producers. They cited California's growth in milk production, reduction in the Class 1 usage from 57% in 1979, to 18% in 2002, and 15% of California's production being purchased by the federal government as evidence. They indicated that the fixed make allowance mechanism has led to the development of the mega–dairies in the state.

California Dairy Campaign's arguments contain several flaws in logic. First, a fixed make allowance does not guarantee that all processing costs in all plants are covered. In the 1980s, the allowances were set such that a high percentage of plants and volume were covered because the milk supply was far outstripping plant capacity. Since that time, the percentage of volume and plants covered has been scaled back significantly. For example, the results of the November 2001 hearing established manufacturing cost allowances such that 57 percent, 76 percent and 65 percent of the butter, nonfat powder and Cheddar cheese volumes were covered. It seems that if the manufacturing cost allowance provided a guaranteed profit, i.e., all processing costs are covered by the allowance, then it would be difficult for manufacturing plants to experience financial difficulties. Yet, the record is replete with cheese and butter/powder plants that have closed, filed for bankruptcy, or were sold because of the financial difficulties they faced. Sorrento Cheese, Suprema Cheese Specialties, Sequoia Cheese, Parmallano Cheese, Land O'Lakes' Gustine cheese plant all fall into this category. The state's first large–scale cheese plant, Golden Cheese, encountered financial difficulties and was subsequently acquired by Dairy Farmers of America. The list of butter/powder operations that are not longer in business includes California Milk Producer's butter plant, Crystal Cream & Butter's powder plant, Humboldt Creamery Association's butter plant and Dairy Farmers of America's powder plant in Petaluma and butter plant in Hughson.

Processing costs, like milk production costs, are dynamic and change constantly as economic and market conditions change. There is no certainty that a fixed manufacturing cost allowance set as a result of one hearing will cover future plant costs, let alone past plants costs. It is not unusual for the manufacturing cost allowance established during a prior hearing to cover a much lower volume of product when the manufacturing cost studies are updated. For example, the volume of butter covered by the manufacturing cost allowance went from 57 percent in November 2001 to 37 percent when the update cost studies were released in December 2002.

Second, expansion of the milk supply in California is the result of a myriad of factors, not just the fixed manufacturing cost allowance. The milk production increases in neighboring states occurred, for the most part, without the existence of fixed make allowances; manufacturing cost allowance were introduced in federal milk marketing orders in January 2000. Table 13 tends to support the notion that regulation, whatever the form of it, is not the primary factor for milk production increases.

Table 13. Summary of Milk Production In Western States, 1991 to 2001

	California	Washington	Idaho	Arizona
1991	21,407	4,459	2,919	1,713
1996	25,812	5,279	4,735	2,410
2001	32,855	5,514	7,757	3,073
Average	*53%*	*24%*	*166%*	*79%*

Milk production in Western states has increased because of the comparative advantages of the region and the way in which milk is produced. The following list illustrates what some of those factors are:

- Climate
- Availability of labor, land, feed and water
- Progressive management style
- Larger farms with more automation
- Improved cow handling equipment
- Improved cow comfort
- Efficient handling of milk from farm to plant
- Computer and software for cow management

We assert, axiomatically, that these represent other factors contributing to increased milk production. The Panel has not conducted any extensive analyses regarding the cause and effect of fixed manufacturing cost allowances and expansion of milk production; we cannot conclude what relationship might exist. However, there seems to be a disconnection in the logic of that supposition. If manufacturing cost allowances are fixed at a high level, plants may be able to profit by processing more milk. But dairy producers, not plant operators, make the decisions that determine the level of milk production.

Finally, the Panel does not agree that the variable manufacturing cost allowance, as proposed, would be in the best interest of the California dairy industry. We agree with the points made by the United States Department of Agriculture in its Final Rule (published November 7, 2002) regarding variable make allowances in the Class III and IV pricing formulas,:

> "There appears to be no logical or economic reason for changing make allowances for processing plants because of a change in the cost of milk production. If milk is to clear the market, plants must be willing to accept it. Make allowances that decline as a result of increasing production costs would squeeze plant margins, and manufacturers will have to choose between not receiving milk, refusing to receive pooled milk, or paying less than the order prices to cooperative associations for milk used in manufactured products. None of these outcomes would be in the interests of dairy farmers, processors, or consumers. Many dairy farmers, facing increased costs of production, would have to find alternative outlets for their milk. Decisions on the part of many processors to cease operating, use only non–pool milk, or buy milk below order prices likely would result in very disorderly conditions among dairy farmers looking for outlets for their milk."

The variable make allowance, as proposed, would tend to increase farm milk prices when milk supplies are long, giving an economic signal to produce more milk and, thereby, worsening the supply/demand imbalance. Similarly, it makes little economic sense to reduce farm milk prices when milk supplies are either in balance with or short of market demand.

Volume of Product Covered

The one underlying element in common among all proposals was that the manufacturing cost studies conducted by the Department formed the basis for manufacturing cost allowances recommended. The Panel agrees that the results of the cost studies should guide the process of establishing the allowances and should serve as a basis for allowance updates. The cost studies, being based on California manufacturing plants, provide the most accurate and most applicable data for making any such adjustments.

The weighted average costs generated from the cost studies provide valuable information to the Panel for recommending manufacturing cost allowances. However, setting the allowances exactly equal to the weighted average costs does not allow the Panel any further assessment of all relevant economic conditions. The Panel prefers that the Department adhere to its historical policy of setting manufacturing cost allowances that result in consistency in coverage among the three products, rather than simply adopt the weighted average costs.

As elementary as it sounds, the goal of consistent volume coverage across the three products is not easy to achieve. First, the studies are based on a relatively small number of plants, and the volume of product processed among participating plants is not uniformly distributed. Second, plants with larger volumes do not necessarily have lower costs. Third, costs are not uniformly distributed among participating plants. An example will help to illustrate these points — processing costs for nonfat powder ranged from about $0.13 to $0.34 per pound. Processing costs tended to collect or cluster around a few points in the cost continuum. Four plants were within fractions of a cent of each other, even though the spread for all plants was over $0.20 per pound. If the nonfat powder manufacturing cost allowance were set exactly equal to the weighted average cost as determined in the cost study, the costs of the plant that processed over 20 percent of the nonfat powder in the study would not be fully covered.

The Panel has not pre–selected a percent of volume that must be covered. As a general rule, the acceptable level of coverage ranges from 50 to 80 percent of the product processed. More precision on the volume of product covered depends on the cost studies and how the plants, their volumes and their costs rank. The Panel implicitly considers the type of plant ownership, the age of the plants, and the level of investment made by the plant ownership. While the relationship is not precise, the Panel finds that plants with more recent investments tend to be more efficient, regardless of volume processed.

Given these considerations, we find that the weighted average cost for butter is too low and the weighted average costs for nonfat powder and cheese are too high. In order to attain acceptable level of coverage for butter, the Panel recommends increasing the allowance to $0.132 per pound, which covers approximately 77 percent of the butter processed. The Panel recommends decreasing the allowance for nonfat powder to $0.150 per pound, which covers approximately 69

percent of the nonfat powder. Lastly, we recommend a cheese manufacturing allowance of $0.173 per pound, which covers approximately 55 percent of the cheese processed. The coverage for cheese appears to be low relative to the coverage for butter and nonfat powder. When the ranked plant costs are viewed in more detail, the cost of a plant that processed over 20 percent of the cheese is very slightly higher than the recommended allowance.

Adjusting the manufacturing cost allowances as described treats both processors and producers even–handedly. The increase to the butter manufacturing cost allowance is cost–justified, just as the decreases to the nonfat powder and cheese manufacturing cost allowances are cost–justified. The Panel is not clairvoyant and does not purport to have the ability to predict what the future holds for the California dairy industry, but we are mindful of matching plant capacity with milk supply. If plant capacity does not keep pace with milk production, dairy producers may be forced to ship milk out–of–state, a practice that was prevalent in the late 1970's. Shipping bulk milk out of California to be processed elsewhere is inconsistent with the notions of "orderly marketing" and "stability" in the dairy industry, two principle reasons for the existence of regulation in the dairy industry.

Panel Recommendation

The Panel recommends that the request to adopt a variable manufacturing allowance be denied. Further recommendations for manufacturing cost allowances are summarized in Table 14.

Table 14. Panel Recommendations for Changes in Manufacturing Cost Allowances

Product	Current	Recommendation	Change
Grade AA Butter	$0.102	$0.132	+$0.030
Whey Butter	$0.102	$0.132	+$0.030
Nonfat Powder	$0.161	$0.150	–$0.011
Cheddar Cheese	$0.176	$0.173	–$0.003

These changes to the manufacturing cost allowances alone decrease the Class 2, 3 and 4a price by $0.031 per hundredweight and increase the Class 4b price by $0.026 per hundredweight. If these adjustments were in place from January 1998 to December 2002, quota and overbase prices would have decreased by $0.001 per hundredweight.

Pricing Formula Changes to the Class 2 and Class 3 Pricing Formulas

By their very nature, Class 2 and 3 prices will necessarily increase as a result of increases in the Class 4a price unless the Class 2 and 3 pricing formulas are modified. Because the recommendations from the Panel are not symmetrical, raw product costs for higher fat Class 2 and 3 will tend to decrease. Conversely, raw product costs for lower fat Class 2 and 3 products will tend to increase. For example, raw product costs will increase for yogurt, cottage cheese and low fat ice cream, but raw product costs will decrease for cream, sour cream and premium ice cream.

Given that the nation's leading dairy state is not insulated from imports of many Class 2 and 3 products (Hearing Exhibit 7b), raw product cost increases for any Class 2 and 3 products should

be viewed with care. However, no witness suggested any change differentials in the Class 2 and 3 pricing formulas such that increases in Class 4a prices would not "pass through". In fact while expressing concerns about any price increases, the representative from Crystal Cream & Butter said:

> *"I think the financial situation in the dairy producer community doesn't make that a discussion that we should have."* (Hearing Transcript, January 30, 2003)

Absent sufficient testimony on this subject, there is no basis for an offsetting reduction in the Class 2 and 3 differentials.

Panel Recommendation

At this time, the Panel recommends that the Class 2 and 3 pricing formulas remain unchanged.

WESTERN UNITED DAIRYMEN

- Need to reduce the disparity between California class 4a & 4b prices and FMMO prices.
- Make allowances (covering 100% of the weighted ave. cost on 80% of vol.)
  - Butter = $0.1134
  - Powder = $0.1427
  - Cheese = $0.1592
- Suggested changing yields:
  - Butter yield of 1.211
  - Powder yield of 1.004.
- Suggested a cheese yield of 10.2 using Dr. Phil Tong's report and the Van Slyke formula on milk testing 3.65% BF and 8.78% SNF.
- Use CDFA data in adjusting California prices on butter and cheese to prices at CME:
  - Butter = -$0.0332;
  - Cheese = -$0.0321.
- Questioned the large variance between the 2001 and 2002 average price differences for cheese.
- Suggested adding a skim whey powder component to the Class 4b pricing formula.
  - FMMO uses skim whey powder as a factor in establishing a value for milk going into cheese.
  - Evidence of a market for California whey products and the sharing by producers of some of this value.
  - Use skim whey powder as a surrogate for all other skim whey products.
  - Use a skim whey powder make allowance of $0.1590, which is used in FMMO via a study conducted by the National Cheese Institute.
  - A yield of 5.75 lbs. of skim whey powder per hundredweight of milk.

CALIFORNIA DAIRY WOMEN ASSOCIATION

Proposed flooring the commodity price data referenced in the Class 4a & 4b pricing formulas to result in class prices equal to USDA's support price of $9.90 minus ten cents.

ALLIANCE OF WESTERN MILK PRODUCERS

- For make allowances, suggested using the CDFA weighted averages released in December 2002
  - Butter = $0.1211
  - Cheese = $0.1746
  - No proposal for nonfat powder.
- A skim whey powder component should be added to the Class 4b pricing.
- Use the simple average of the Western mostly dry whey value.

- Use a skim whey powder yield of $0.1590, the same as is used in Federal Milk Marketing Orders.
  - CDFA should collect cost data on all dry whey plants in California
- Leave the butter yield of 1.2 unchanged.
- Suggested adding a true protein price (along with other SNF) to the Class 4b formula.
  - Protein cheese yield factor of 1.39.
  - Uses the Cal Poly, San Luis Obispo study along with Van Slyke cheese yield formula to determine the yield.
- Need to reduce the disparity between California Class 4b price and FMMO price.
- Leave the $0.045 butter freight allowance unchanged.
- Increase the cheese marketing adjustment to -$0.0321, as indicated by the CDFA study.

CALIFORNIA DAIRY CAMPAIGN

- Update the make allowances using CDFA (Nov. 2002) weighted averages.
  - Butter = $0.1200
  - Powder = $0.1500
  - Cheese = $0.1735
- Establish a variable make allowance that would be adjusted monthly based on producers' cost of production and prevailing commodity prices.
  - The make allowance would increase when milk prices are high and decrease when milk prices are low.
  - Compares the Commodity Reference Price to California Cost of Production to show what percentages of producers' costs are covered by prevailing commodity prices.
- Adjust the butter freight factor to -$0.0242, the most recent month in the CDFA survey.
- Eliminate the cheese marketing adjustment from the Class 4b formula.
- Use a butter yield of 1.2 and a nonfat powder yield of 1.0.
- Include a dry skim whey factor in the Class 4b formula
  - Use a make allowance of $0.1590
  - Use a yield factor of 5.00
- Endorses using the federal support price of $9.90 to floor the commodity prices used in the California 4a & 4b pricing formulas.
- Increase the cheese yield to 10.2 by using the Van Slyke cheese yield formula.

DAIRY INSTITUTE OF CALIFORNIA

- Leave the yield factors for butter and nonfat powder unchanged.
- Change the marketing adjustment for butter to -$0.0332.
- Update the make allowances using the latest (Dec. 2002) CDFA weighted averages.
  - Butter = $0.1211
  - Powder = $0.1512
  - Cheese = $0.1746
- Decrease the cheese yield to 9.98 using the Van Slyke cheese yield formula
- Use California statewide average milk testing 3.68% fat and 8.76% SNF.

- Believes that the current Class 4b pricing formula provides an implicit allowance for whey, but if an explicit whey factor is included it should have the following elements:
  - The relevant whey price is the Western mostly dry whey average price.
  - The dry whey make allowance is set to $0.1818 (3.06 cents higher than NFDM make allowance).
  - The dry whey yield is set to 5.82 lbs.
- Instead of using an explicit dry whey factor in the Class 4b pricing, a marketing adjustment for cheese can be altered to yield the same price level.
- Set the marketing adjuster at $0.008 per lb instead of the CDFA $0.0321 per lb.
- If protein pricing is to be considered in any fashion, it must be done with simultaneous pooling and stabilization hearings.

CALIFORNIA DAIRIES, INC.

- Update the make allowances by increasing the latest (December 2002) CDFA weighted averages using current energy costs at CDI plants.
  - Butter = $0.1221
  - Powder = $0.1525.
- Leave the yield factors for butter and nonfat powder unchanged.
- Leave the butter freight allowance of $0.045 unchanged.
- Actual audited freight costs should be used for the allowance.
- Gave no testimony for Class 4b pricing, but support the position of the Alliance of Western Milk Producers.
- Supports a floor price of $9.80 for California Class 4a and 4b pricing formulas.

KRAFT FOODS, INC.

- Supports the proposals of the Dairy Institute.
- Whey revenue is implicitly included in the current Class 4b price.
- Can be explicitly included only if corresponding adjustments are made to cheese components in the Class 4b formula.
- At the Kraft plant in Tulare, whey skim powder processing costs are $0.1862 per lb.
- The current adjustment for cheese of -$0.012 off the CME is not enough to allow for transportation charges.
- Freight charges to the east for Kraft's bulk parmesan cheese are 5.5 cents per lb.
- California Class 4b price should be 55 to 60 cents lower per cwt. than the FMMO class III price.

HILMAR CHEESE COMPANY

- Supports the proposals of the Dairy Institute.
- Asks for virtually no changes in the Class 4a or Class 4b pricing formulas — should be getting extra revenue from the marketplace, not from regulation.
- A valid relationship now exists between FMMO and the California Class 4b price.

- Recommends no inclusion of a whey factor into the Class 4b pricing formula.
- Offset the whey revenue factor by not increasing the cheese marketing allowance.
- Cheese yield data supplied by CDFA is not usable to determine an accurate cheese yield because the composition of fortified vats is very different from that found in raw milk.

HUMBOLDT CREAMERY ASSOCIATION

- Leave the current make allowance on nonfat powder at $0.1610 (unchanged).
- Supports a floor price of $9.90 for California Class 4a and Class 4b pricing formulas.
- Supports the Alliance proposals in recognizing the value of protein and whey in the Class 4b pricing formula.
- Leave the yield factors for butter and nonfat powder unchanged.
- Supports a Class 3 price that would be competitive nationwide, but no specific proposal.
- Eliminate any marketing or freight allowances used in the Class 4a and Class 4b pricing formulas.

SECURITY MILK PRODUCERS ASSOCIATION

- Supports the proposals of Western United Dairymen for adjustments to the make allowances:
  - Butter = $0.1134
  - Powder = $0.1427
  - Cheese = $0.1592
- Recommends a butter yield of 1.211 and a powder yield of 1.004
- Recommends a cheese yield of 10.71 based on CDFA data.
- A whey powder factor should be added to Class 4b pricing formula.
  - Use a $0.1590 make allowance for whey powder with a yield of 5.75 lbs.

IDAHO DAIRYMEN'S ASSOCIATION

- Price alignment issue — the elimination of federal orders adjacent to California because of competitive disadvantages will create market instability.
- Support the proposals that add a whey component to the Class 4b pricing formula.

NORTHWEST DAIRY ASSOCIATION

- Alignment of California Class 4a and Class 4b prices to surrounding federal markets is important and any differences should be clearly spelled out.
- Without better alignment, the Northwest Dairy Association may be forced to consider voting out the Pacific Northwest Federal Order.
- Add an appropriate whey value to the Class 4b formula.
- Based on our analysis a whey make allowance should be 2.7 cents more than the nonfat powder make allowance.
- Adjust the Class 4b marketing allowance and make allowance to appropriate levels.

- It is incomplete for the base market price used in the California 4b formula not to include barrel cheese.
- California should clearly and explicitly identify during this hearing process each factor used in its formulas.

NATIONAL ALL-JERSEY INC.

- Had no overall position on any of the pricing formulas included in the proposals being offered by this hearing.
- There would be serious negative consequences resulting from requiring cheese plants to pay into the pool on protein, while not allowing producers to be paid on the same basis.

FARMDALE CREAMERY

- Oppose the petition from Western United Dairymen and support the alternative proposal from the Dairy Institute.
- Recommend that CDFA not add a whey component to the 4b formula to increase overall producer prices.
- Can accept adding a whey factor when other components in the formula are adjusted to reflect revenue neutrality.

CRYSTAL CREAMERY

- Supports the Dairy Institute positions at this hearing.

LAND O'LAKES

- Position is similar to that of the Dairy Institute.
- Recommends that the Class 4b pricing formula stay unchanged.
- Cheese yield at 37.5% moisture is 10.04 and at 38% moisture is 10.12.
- There is no need to add a dry whey factor, but if it is added to the 4b formula, it would be necessary to change other factors to keep the formula unchanged.
- If any pricing adjustment should be made, it should be made in Class 4a.

LEPRINO FOODS COMPANY

- Supports the Dairy Institute's proposals for the Class 4b pricing formula.
- Supports a Van Slyke cheese yield approach on farm milk rather than vat milk.
    - A yield of 9.97 based on 3.68% fat and 8.76%SNF of farm milk.
    - The make allowance for Class 4b products should be equitable with the make allowance on Class 4a products.
- To capture the whey value in the Class 4b formula, an explicit whey factor should not be used, but the cheese marketing factor in the formula should be adjusted.
- If an explicit whey factor is used, the make allowance must be at least 3.06 cents higher than the nonfat powder make allowance.

- Oppose the proposal by the Alliance to allocate the SNF value to a combination of protein and other solids.
- Oppose the proposals to floor the Class 4b price and the variable make allowance.

MILK PRODUCERS COUNCIL

- Significantly narrow, if not eliminate the gap between the California Class 4a and Class 4b prices and the comparable FMMO.
- Retain the current marketing factor for cheese at -$0.012.
    - The CDFA cheese price data reveals no discernable pattern to the numbers that are produced.
- Supports Western United Dairymens' proposal for adding a whey factor to the Class 4b pricing formula.
- The cheese yield should be increased to 10.20 for milk testing 3.65% BF and 8.78% SNF.
- The make allowance on cheese should be $0.1592.
- Supports the flooring of the commodity value in the Class 4a and Class 4b formulas at the federal support price.
- Supports in concept the variable make allowance.
- Protein pricing of milk deserves more study at this time.

NATIONAL FARMERS ORGANIZATION

- Supports the proposal of the variable make allowance.
- Supports the proposal of a $9.80 support price for producers.

Appendix 2
Summary of Panel Recommendation

The Panel recommends that:

- In the Class 4a pricing formula the term "freight adjustment" be changed to "f.o.b. California Price Adjuster". Similarly, in the Class 4b pricing formula the term "marketing adjustment" be changed to "f.o.b. California Price Adjuster".
- f.o.b. California Price Adjusters be increased from –$0.450 to –$0.0332 per pound of butter and be decreased from –$0.012 to –$0.0321 per pound of cheese.
- In the Class 4a pricing formula, the powder yield be increased from 0.99 to 1.0 pounds of powder per pound of SNF, but that the butter yield should remain at 1.2 pounds of butter per pound of fat.
- In the Class 4b pricing formula, the cheese yield and associated fat and SNF vat tests be increased from 10.0, 3.65% vat fat, and 8.78% vat SNF to 10.2, 3.72% vat fat, and 8.80% vat SNF, respectively.
- At this time, the Class 4b pricing formula should continue to establish component prices only for fat and solids–not–fat, and not for fat, protein, and other solids.
- The support purchase prices for butter, nonfat powder and block Cheddar cheese should not be incorporated as floors to their respective commercial commodity prices in the Class 4a and 4b pricing formulas.
- A dry skim whey factor should be included in the Class 4b pricing formula. A simple average of the Western dry whey (mostly) price should be used for the commodity price series with a manufacturing cost allowance set two cents higher than the nonfat powder manufacturing cost allowance and a yield of 5.8 pounds of dry whey per one hundred pounds of milk.
- The request to adopt a variable manufacturing allowance should be denied.
- The manufacturing cost allowances for Grade AA butter and whey butter be increased from $0.102 to $0.132; for nonfat powder be decreased from $0.161 to $0.150; and for block Cheddar cheese be decreased from $0.176 to $0.173. Finally, the new manufacturing cost allowance for dry skim whey should be established at $0.170, which is two cents above the recommended allowance for nonfat powder.
- At this time, the Panel recommends that the Class 2 and 3 pricing formulas remain unchanged.

Price Effects of Panel Recommendations

Table 15 shows the combined impact of the Panel recommendations on minimum class prices and on pool prices. The analysis assumes that the recommendations were in effect from January 1998 to December 2002. The five year average annual impact on the prices for Classes 2, 3 and 4a is $0.09 per hundredweight; for Class 4b, the impact is $0.17 per hundredweight. Changes to annual average pool prices are $0.10 per hundredweight over the five–year period.

Table 15. Combined Impact of the Panel Recommendations on Class and Pool Prices Relative to Current Pricing Formulas, 1998 to 2002			
	Classes 2, 3 & 4a	Class 4b	Pool Prices
Panel Recommendations	$0.09	$0.17	$0.10

Arguments in Favor of Panel Recommendations

- The Panel recommendations for the f.o.b. California price adjuster, the butter and powder yields, the cheese yield, and the manufacturing cost allowances were all developed using California–based data. This method is consistent with the Department's past practices. Acceptable alternative methods have not been proposed.
- Placing a value in the Class 4b pricing formula for dry skim whey would ensure that the Department takes into consideration the values of the skim whey stream when considering appropriate minimum farm prices.
- Some large California cheese processors do capture net revenues above their processing costs from the skim whey stream. The whey stream industry is mature enough that it is appropriate that these additional processor revenues be captured in the pricing formula.
- Adoption of the recommendations would make California's Class 4b pricing formula structurally more similar and better aligned to the federal milk Class III pricing formula.
- To the extent that milk movement and processing practices are not adversely impacted, the total revenues to farmers will increase in the short run.
- Although the recommendation would grant less income than they sought, producers should not be opposed to the Panel's recommendation.

Arguments Opposed to Panel Recommendations

- Continued use of California–based data may be consistent with the past practices, but past practices do not necessarily justify continued use of any one method.
- Three of the four key economic factors in California (dairy farm numbers, cow numbers, total milk production,) do not support a price increase; however, the Panel recognizes that, in isolation, the fourth factor, farm milk prices, does support a price increase.
- By number, relatively few cheese processors are large enough to profitably process the skim whey stream. Thus, the recommendations may encourage smaller cheese plants to exit the dairy industry.
- A greater portion of the Class 4b price would be "pooled" among all producers to the detriment of those producers who are currently capturing protein premiums.
- The complexity of the Class 4b pricing formula will be increased.
- Unless processed into a marketable product, whey is a by-product of the cheese-making process for which disposal presents a problem by placing a strain on municipal sewer systems. Sharing potential profits from further processing of whey with producers would be a disincentive to making further investments.
- Processors will generally oppose the panel's recommendation.