UNITED STATES DEPARTMENT OF AGRICULTURE
BEFORE THE SECRETARY OF AGRICULTURE

IN RE:	
MILK IN THE NORTHEAST AND OTHER MARKETING AREAS; Class III/IV MAKE ALLOWANCES	**Dockets: AO-14-A74, et al. DA-06-01**
71 Fed. Reg. 545 (January 5, 2006) and 71 Fed. Reg. 52502 (Sept. 6, 2006)	

SUPPLEMENTAL POST-HEARING BRIEF OF PROPONENTS - CONTENTS

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SUPPLEMENTAL POST-HEARING BRIEF OF PROPONENTS
Following Reconvened Hearing, September 14, 2006

The second session of emergency hearings to amend federal milk order make allowances has concluded. The objective of the emergency hearing is to reestablish equity between producers, by reducing cross-subsidies created by inadequate make allowances and artificially high Class III-IV prices, and to protect producer income by allowing the shrinking population of manufacturing plants to recover conservative allowances for converting milk into dairy products. Expedited action on these proposals is necessary before regulatory limitation on cost allowances forces more plants to cease providing a market outlet for milk produced by dairy farmers in a large part of nation's most important milk producing and consuming regions.

This supplemental post-hearing brief is submitted on behalf of Agri-Mark, Inc., Northwest Dairy Association, Foremost Farms USA Cooperative, Associated Milk Producers, Inc., and Land O'Lakes, Inc., collectively referred to as "proponents," following a reconvened hearing session in Strongsville, Ohio, on September 14, 2006. Proponents' brief herein incorporates their brief of February 17, 2006 ("Proponents' Feb. 2006 Brief"), and builds upon the findings, conclusions and arguments therein.

The Limited Scope of the Hearing and of the Evidentiary Inquiry

The hearing that reconvened in Strongsville, Ohio, is part of a broader and continuing administrative examination of milk marketing order product price formulas that have been employed for only 6 ½ years since federal milk order reform rules took effect in January 2000. Although proposals submitted to USDA between September 2005 and January 2006 requested amendments to several elements of the product price formulas for Class III and IV milk, including proposals by proponents (Exhibits 37 and 62), the hearing convened in January 2006 was limited in scope to "manufacturing allowances for Class III and Class IV product formulas, as enumerated in § 1000.50" of the general regulations, for

which emergency relief was requested. By notice published at 71 Fed. Reg. 367151 (July 28, 2006), the Department advised that the hearing would be reconvened at a later date "to include in the analysis data on plant manufacturing costs currently being compiled by Cornell University or any other pertinent data or information that would be publicly available" in order "to be certain that the best possible data is available in making a decision concerning any possible changes."

The notice of the reconvened hearing again explained that its evidentiary scope would be limited to "data on plant manufacturing costs compiled by Cornell University and any other pertinent data or information specifically addressing plant manufacturing costs that would be publicly available." 71 Fed. Reg. 52502 (Sept. 6, 2006).

The hearing that reconvened in Ohio on September 14, 2006, however, is not the end of USDA's inquiry into broader aspects of the agency's product price formulas. In the July 2006 notice, USDA also invited proposals for possible hearing at a later time on other issues relating to the post-reform milk price formulas:

> The Department also is soliciting additional proposals that seek possible changes to other components of the Class III and Class IV price formulas. The Department recognizes the need to ensure that these pricing formulas are reflective of actual marketing conditions. Consequently, all interested parties are invited to submit proposals that address all components of Class III and IV pricing formulas. Proposals should be submitted by September 30, 2006.

71 Fed. Reg. at 367151. By this continuing process, USDA and the industry may devise improvements to any part of the pricing formula, including the "make allowance" portion now under consideration for critical emergency relief. [1]

As noted, the reconvened hearing was intended to supplement the January 2006 record by evidence from Cornell University, and other sources, providing "the best possible data" for a decision on make allowance amendments. The decisionmaking standards applied to hearing evidence, however, have not changed. These standards are detailed on

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[1] "Avoidance of market disruption pending broader reforms is, of course, a standard and accepted justification" for step by step regulation of costs in developing reasonable regulated rates on a broader scale. *Competitive Telecommunications Association v. Federal Communications Commission*, 309 F.3d 8 (D.C.Cir. 2002). The rules at issue in *Competitive Telecommunications* involved access charges that could be charged to competitors and had the effect of creating implicit regulated subsidies. An issue in amendments to the outdated make allowance for milk products, similarly, is an inequitable blend price subsidy by manufacturing plants, and the producers that own or supply such plants, to producers who do not have an ownership or market interest in milk manufacturing plants.

pp. 4-5 of Proponents' Feb. 2006 Brief, and are designed to effect manufacturing allowances that will "cover the costs of *most of the processing plants* that receive milk under the [federal milk] orders," including a reasonable return on investment. 67 Fed. Reg. 67906, 67915 -16 (Nov. 7, 2002) (italics added). As previously stated by USDA:

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

64 Fed Reg. 16026, 16094–95 (Apr 2, 1999)(italics supplied). The purpose of Federal Milk Orders is to provide a marketing tool, not to support milk prices. To this end, FMMOs establish only "minimum prices" that allow competitive forces to make price adjustments from time to time, place to place, and use to use, as supply and demand require.[2]

With these standards again in mind, proponents offer the following observations and arguments on the record of the reconvened hearing to assist the Secretary in identifying and evaluating "the best possible data" in support of make allowances that will "cover the costs of most of the processing plants."

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[2] Some opponents of updated make allowances have argued that any increase in the allowance, and a resulting reduction in the regulated *minimum* price for Class III and IV milk, should not be adopted because at least some efficient manufacturers are able to recover costs under current make allowances. This argument essentially asks USDA to alter the decision-making standards by which make allowances are fixed. Nevertheless, if opponents' perception of competition and plant costs is correct, an increase in the make allowance will simply make the system more market-oriented, and cause producers to receive more of their income from competitive rather than regulated prices. In a competitive dairy economy, milk manufacturers will "purchase milk at prices commensurate with the more efficient concerns' ability to pay for the product." 60 Fed. Reg. 7290, 7299 (Feb. 7, 1995). The greater danger, from a public policy (and legal) standpoint is to adopt or maintain a formula that fixes minimum prices that are too high. As the Secretary has previously concluded, and as Dr. Stephenson testified, "one of the worst errors you can have in regulating minimum prices is regulating them too high, because we don't have a market clearing mechanism for that." Stephenson, 9-14-06 Tr. at 187-88; 64 Fed. Reg. at 16094–95; 67 Fed. Reg. at 67916.

The current make allowances replaced a competitive pricing system that provided automatic adjustments in Class III and IV milk prices in response to changes in manufacturing costs and other supply and demand conditions. The make allowance component of post-reform end product milk pricing embeds the manufacturing allowance in regulatory concrete. Dairy product manufacturers are therefore no longer able to make natural competitive adjustments to producer prices, and Class III and IV prices have been artificially maintained at a level higher than supply and demand require. Proponents' Feb. 2006 Brief at 3, 6. This, in turn, has inevitably stimulated farm milk production when unregulated signals of supply and demand would have moderated production increases, contributing to milk and dairy product price volatility that has plagued the industry since federal milk order reform.

While federal milk order make allowances used in the Class III and IV product price formula apply, by definition, only to handlers receiving milk subject to USDA-regulated prices, the allowances currently used are based in significant part on evidence of manufacturing costs for California plants not part of the federal order system, and of non-California plants operated by cooperative associations, representing part of the population of plants that receive milk priced and pooled under federal milk orders.

As a result of the testimony and information provided by Dr. Stephenson of Cornell University, Cornell Program on Dairy Markets and Policy ("Cornell" or "CPDMP"), the hearing record now contains three distinct surveys of manufacturing plant costs for making cheddar cheese, whey powder, butter and nonfat dry milk (NFDM) during 2004 and 2005: (1) CDFA surveys of audited plant costs for 2004, (2) RBCS surveys of non-California cooperative plants for 2004, and (3) Cornell surveys of plant costs for various accounting periods, primarily 2004-2005.[3] USDA should consider the strengths and weakness of each of the three surveys of record in order to determine which provides the best data from which to infer conclusions about the costs of the relevant population of manufacturing plants that receive Class III and IV milk priced under federal milk orders.

The goal of Dr. Stephenson's work was to determine dairy product manufacturing costs for the population plants located outside of California. This is an appropriate plant population from which to estimate manufacturing costs for Federal Milk Marketing Order pricing purposes, since California plants are not price-regulated by USDA.

However California data and RBCS cooperative plant cost data are useful benchmarks for the cost of producing all products, and may provide the "best possible data" for making inferences of manufacturing costs that will cover "most plants" if the Cornell survey is unable to provide a representative sample of plants for the population federal milk order manufacturing plants under consideration.

As explained below, the Cornell survey results, as adjusted by necessary inferences from the survey about manufacturing costs for the relevant population of plants, meets the "best possible data" standard to estimate make costs for non-California cheese and whey manufacturing plants. This is clearly not the case for butter and NFDM plants surveyed by

[3] 63% of plant cost observations in the Cornell study were from the period July 2004 through June 2005. Seventy-nine percent of reported costs pre-dated July 2005. Ex. 75, pp. 3, 9.

Cornell, concerning which Dr. Stephenson cautioned about drawing inferences about costs for relevant population of plants not included in the survey. Accordingly, pending development of a more representative survey for non-California butter and powder plants, proponent cooperatives believe that the "best possible data" from which reasonable inferences may be made about current milk product manufacturing costs of most plants making butter and NFDM from federally-regulated Class IV milk continues to be the RBCS Ling survey and the CDFA surveys of 2004 plant costs.

I. Overview of Manufacturing Cost Surveys, Methodology and Plant Population

1. The number of plants and product volumes represented by each of the three recent manufacturing cost surveys is shown below.

SUMMARY OF CORNELL, LING AND CDFA MANUFACTURING COST FOR CHEESE, WHEY POWDER, BUTTER AND NONFAT

Product	Number of Plants	Average Plant Volume (pounds)		Total Plant Volume (pounds)	
CHEESE					
CDFA	**7**	**116,724,047**		**817,068,328**	
Low cost	3		209,520,101		628,560,303
High costs	4		47,127,006		188,508,025
Ling	**6**	**69,057,421**		**414,344,526**	
Cornell	**16**	**60,223,592**		**963,577,472**	
Low costs	8		88,784,343		710,274,744
High costs	8		31,662,841		253,302,728
WHEY POWDER					
CDFA	**3**	**31,090,631**		**93,271,893**	
Ling	**6**	**59,518,997**		**357,113,982**	
Cornell	**12**	**47,394,657**		**568,735,884**	
Low costs	6		65,549,194		393,295,164
High costs	6		29,240,120		175,440,720
BUTTER					
CDFA	**8**	**47,866,418**		**382,931,344**	
Low cost	4		72,023,185		288,092,738
High costs	4		23,709,652		94,838,606
Ling	**7**	**36,302,275**		**254,115,925**	
Cornell	**4**	**31,400,511**		**125,602,044**	
NFDM					
CDFA	**10**	**74,539,892**		**745,398,920**	
Low cost	3		156,004,763		468,014,289
Medium costs	4		59,633,004		238,532,016
High costs	3		12,539,892		37,619,676
Ling	**14**	**31,359,689**		**439,035,646**	
Cornell	**8**	**55,066,936**		**440,535,488**	
Low costs	4		66,605,863		266,423,452
High costs	4		39,681,700		158,726,800

2. The Cornell survey method uses a "sample statistic" whereby a pre-determined number of plants are selected from a known population (Stephenson Testimony, Tr. 31). A

stratified random sample was used for cheese since information on cheese manufacturing volume by plant was known. Dry whey operations were only included in the survey if they were part of a surveyed cheese plant since dry whey was viewed to be a companion product to cheese making. A non-stratified random sample was used for butter and NFDM because Dr. Stephenson had no prior information on which to stratify the plants by volume (Tr. 32).

3. The CDFA survey is a "population parameter" which uses data from very nearly all plants processing the dairy products of interest in their plants. This type of survey attempts to collect observation from every member of the plant population.

4. The Ling survey was an attempt to create a "population parameter" that was limited to cooperative manufacturing plants. Since cooperatives manufacture most of the NFDM product in the country as well as a very large share of its companion product, butter, data for those two products represented a very large share of the total production of each in the country. While cooperatives also manufacture cheese and whey powder, so do hundreds of other companies that are not cooperatively owned. Therefore, the share of the nation's cheese and whey production represented by the Ling survey was less representative of the plant population.

5. Plant manufacturing allowances currently in effect in the Federal Orders were based upon a combination of the Ling and CDFA data from plant costs during 1998-1999 – the best available data at the time of federal order reform, and in previous post-reform hearings. For this hearing, updated Ling and CDFA data for 2004 plant costs were received. The following table shows the combined product volumes of the Ling and CDFA-surveyed plants as included in the January 2006 hearing record. This table also shows the total U.S. volume of each product for 2004.

	No. of Plants	**Total Survey Product Volume**	**Total U.S. Production**	**Survey as a % of U.S.**
		(Million lbs)	(Million lbs)	
Cheddar Cheese	13	1,231	3,004	41%
Whey Powder	9	350	949	37%
Butter	15	637	1,247	51%
NFDM	24	1,184	1,412	85%

6. As an intended "population parameter", the combined Ling/CDFA data was very representative for national NFDM production, with 85% of that production. The combined surveys were also fairly representative of U.S. butter production with the majority of that

production. However, the combined surveys were less representative for cheddar cheese and whey powder, particularly that portion of cheddar cheese and whey manufactured in plants located outside of California.

7. Cornell's methodology of using sample statistics avoids the need to survey the majority of plants so long as one can "assume that all your data are randomly sampled from an infinitely large, normally distributed population." From such a representative selection, one can analyze this sample and use the results to make inferences about the population. (Tr. 30-31). However, as further noted by Dr. Stephenson, the Cornell manufacturing cost "model is an accurate description of some situations but not the U.S. dairy industry." *Id.*

8. Cheese and whey powder are companion products, usually produced in the same plants. Stephenson's testimony specifically mentions: "whey plants were a subset of the cheese plant selected." (Tr. 28). Because of the companion product and sampling subset factors, proponents believe that it is important to use the same survey for both of those products.

9. Butter and NFDM, too, are usually companion products. Dr. Stephenson mentioned that the four butter plants in his survey were a subset of the NFDM plants (Tr. 28). Whatever survey or survey combination is used to determine the butter manufacturing allowance should also be used to determine the NFDM allowance.

10. As already noted, the Cornell survey was designed and intended as sample statistic survey representative of a population of plants,[4] while the CDFA and Ling surveys were population parameter surveys. While it was appropriate to combine two population parameter surveys (so long as the population does not overlap as was the case for one plant in the past), it is not appropriate to combine a sample statistic survey with a population parameter survey since such a combination would give disproportionate weighting to the population parameter sample

[4] The Cornell survey results did not meet the 'representative' expectations of design and intent for the population of butter and powder plants. Among factors for this gap between design and result were: limited time to conduct the survey, sub-optimal plant participation, and, in most significant part, lack of access to USDA data about the size and production volume of plants that make up the population so that reasonable inferences can be made about manufacturing costs for non-surveyed plants in the population. (Stephenson, Tr. 37-38, 43-44).

II. The Need to Deal With Variability in Plant Costs to Meet the Goal of Covering Costs of "Most Plants"

11. Each of the three cost surveys reveals considerable variability in manufacturing costs among plants surveyed. Much of the variability can be attributed to economies of scale. Large volume plants have lower per unit costs than smaller plants. Tr. 35. Other factors contributing to cost variability include production seasonality and balancing functions, efficiency of plant operations and plant technology (Tr. 34), as well as regional differences in cost inputs that are distinct from milk production variables and beyond the control of manufacturers. Addenda 1-4.

12. Labor and energy costs described below, for example, vary from state to state and region to region. Plants identical in all respects in terms of efficiency, technology and production volume and seasonality will have different manufacturing costs depending upon where they are located.

13. Natural gas or fuel is the largest energy cost component of manufacturing costs, and represents a significant portion of costs for all manufactured dairy products. Tr. 117-18, 133-34. As reported by the Department of Energy, EIA, Short Term Energy Report, Table 8c, natural gas prices in the West South Central, Pacific and Mountain regions have consistently been, are projected to be, lower than natural gas prices in New England, the Mid-Atlantic states, and in the North Central regions of the United States.[5] (Addenda 3, 4). The cost of industrial natural gas in New England during the summer (third quarter) of 2005, for example, was $11.34 per thousand cubic feet, 37% greater than the cost of $8.30 in the West South Central region (Texas, Louisiana and Oklahoma and Arkansas), 38 % greater than the cost of $8.24 in the Mountain region, and 86% greater than the cost of $6.09 in the Pacific region. (*Id.*)

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[5] EIA's website glossary, http://www.eia.doe.gov/glossary identifies the nine census divisions as follows: **New England**: six states; **Middle Atlantic**: New Jersey, New York, and Pennsylvania; **East North Central**: Illinois, Indiana, Michigan, Ohio, and Wisconsin; **West North Central**: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; **South Atlantic**: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; **East South Central**: Alabama, Kentucky, Mississippi, and Tennessee; **West South Central**: Arkansas, Louisiana, Oklahoma, and Texas; **Mountain**: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; **Pacific**: Alaska, California, Hawaii, Oregon, and Washington.

14. The West South Central region, likewise, has a labor cost advantage over other regions. For 2005, average blue collar wages were $16.28 per hour in New England, $17.17 in the Mid Atlantic region, $16.83 in the East North Central region, and $16.29 in the West North Central region – all ranging 17% to 24% greater than average blue collar wages of $13.87 per hour in the West South Central region. Addendum 2.

15. Industrial electricity costs also vary by region, with lower prices in the Mountain and North Central states and higher prices in the Northeast, Pacific, and West South Central regions. The third quarter 2005 average price for industrial electricity in New England was 8.4 cents per kwh, 20% greater than the average price in the West South Central region and 45% higher than the price in the Mountain region. (Addenda 3, 5).

16. It is readily apparent from these regional cost differences that a make allowance adequate to cover the costs of most plants in the West or Southwest will be insufficient to cover the costs of similar plants in the East or Midwest, and for some regions may not cover the costs of any plant, even without consideration of cost variability due to production volume, plant technology, and seasonality differences. Testimony by Dr. Stephenson observed that weighted average costs for cheddar cheese plants in the survey (not costs of plants in the population), included 4.35 cents in labor costs (Ex. 76, p. 7, Table 1), 1.09 cents in fuel costs, and 0.82 cents in electric costs. Tr. 133-34. If the Cornell weighted average plant costs are representative of a cheese plant in Texas, for example, an identical cheese plant in New England would need an additional 1.4 cents per pound in the cheese make allowance merely to recover costs for the same input of labor, fuel and electricity. If plants at both locations operate identical whey drying facilities and the Texas plant produces whey at the Cornell weighted average survey costs, the New England plant would require an additional 1.92 cents per product pound merely to recover costs for the same input of labor, gas and electricity.

17. Federal Order make allowances apply to the entire population of plants receiving Class III and IV milk regulated under the Federal Orders. The manufacturing allowance rate used by USDA must therefore, as intended, reflect the costs of that entire population of plants. In order to fix an allowance that covers costs of "most of the processing plants that receive milk under the [federal milk] orders" (67 Fed. Reg. at 67915), regional differences in cost inputs, as well as regional differences in plant and production characteristics, must be factored into the resulting make allowance.

III. CHEDDAR CHEESE: The Best Possible Data on Current Manufacturing Costs of Most Plants

18. The Cornell Survey was designed to review costs at 20 non-California cheese plants, stratified by plant size whereby 5 plants were randomly selected from the largest 10% of plants in the country and 15 were selected from the remaining 90% of plants. The stratified approach was used to assure that information about larger plants was developed, and to assure that the survey sample did not over represent the Upper Midwest, a region of many small and medium sized cheese plants. (Tr. 31-32).

19. In his working paper entitled "Cost of Processing in Cheese, Whey Butter and Nonfat Dry Milk Plants" (Exhibit 76), Dr. Stephenson reported processing costs for 16 cheddar cheese plants. The 16 plants included the original 5 plants drawn from the largest 10% of plants in the country, but only 11 plants from the remaining 90% of plants. *Id.*

20. Dr. Stephenson explained that the population of "large plants," from which the five survey participants were drawn, was defined as plants producing 34 million pounds of cheddar cheese or more per year. The actual production average of large plants participating in the survey was about 68 million pounds cheese per year, according to Dr. Stephenson's recollection. Tr. 91-92. Seventy percent of the plants meeting the definition of large plants included in the population are located in the West (outside of California). Tr. 180.

21. While proponent cooperatives strongly endorse use of the Cornell cheese and whey manufacturing cost surveys as the basis for amended make allowances, the surveyed average costs are, by design, not representative of costs incurred by the non-California cheese plant population. The bare survey results, by design, give disproportionate weight to costs incurred by the largest cheese plants; and under-participation in the survey by the remaining 90% of cheddar cheese plants aggravate the large plant bias of the results. It would therefore be highly unreasonable to rely on Cornell cost surveys results alone, for reasons detailed below. However, based upon the survey, known characteristics of the surveyed plants, and known characteristics of the plant population, it is eminently reasonable to infer, with a high degree of confidence, representative costs of most plants in the relevant plant population.

A. The Reported Manufacturing Costs of 16 Plants in the Cornell Survey Are Not Representative of, and Grossly Understate Costs Experienced by, the Relevant Population of Cheddar Cheese Plants

22. Table 1 of Exhibit 76 shows the weighted average costs of the 8 low cost plants as being $0.1459 per pound. Those plants on average produced 88.8 million pounds of cheese annually. The same table shows the weighted average costs of the 8 high cost plants as being $.2140 per pound. Those higher cost plants produced 31.7 million pounds of cheese annually. The weighted average cost for all 16 plants was $0.1638 per pound with an average size plant manufacturing 60.2 million pounds of cheddar cheese. Since large plants, by definition, produced more than 34 million pounds of cheese per year, and participating large plants produced significantly more than the cutoff volume, it is clear that the 16-plant production average is very heavily biased by large plant production costs.

23. The 16-plant sample is clearly not representative of the national, non-California population of such cheese plants. On page 2 of Exhibit 76 a diagram of plant locations and the average plant size for each region is shown. A compilation of those regional average size plants, along with the cost per pound using Dr. Stephenson's regression formula (Ex. 75, pp. 6-7) is shown below:

Plant Group **C3 - National List**	**Average Annual** **Plant Volume** (mill. lbs. cheese)	**Cost per pound** **(Regression Formula)**
Eastern Region	5.6	$0.292
Upper Midwest Region	17.2	$0.210
Western Region	42.3	$0.186

24. No region in the county has average size cheese plants near the Cornell survey average of 60.2 million pounds cheese per year. The Eastern Region average of 5.6 million pounds of cheese per year is less than one-tenth of the Cornell average. The Upper Midwest average is less than one-third, and even the Western average is significantly lower than the average plant surveyed by Cornell.

25. Using Dr. Stephenson's regression formula (Ex. 75, pp. 6-7), the average cost of cheese production in the East is $0.292 per pound. The average cost in the Upper Midwest is $0.210 and the average cost in the West is $0.186. Considering that Federal Order Class price are minimum prices, setting the manufacturing allowance at the Cornell sample statistic weighted average of $0.1638 would force all average plants, and higher than

average cost plants in all regions, to continue to produce cheddar cheese in commercial blocks and barrels without recovering manufacturing costs.

26. Dr. Stephenson is very familiar with cheese plants in the Northeast and confirmed on cross examination that he was not aware of any Northeast cheddar plants that produced the Cornell survey average of 60.2 million pounds of milk (Tr. 52). This shows that it is highly probable that *no plant* in the Northeast Region would be able to cover its costs under a $0.1638 manufacturing allowance. It would also be cost prohibitive if Northeast dairy farmers had to transport their milk to lower cost Western plants even if such excess plant capacity was available given the growth in milk production out West. Northeast milk producers will have few options if manufacturing plants and plant capacity in the region continue to shrink.

B. ***The 2004-2005 Manufacturing Costs Reported by Cheese Plants in the Cornell Survey Can Be Adjusted, With Confidence, to Reflect Representative Costs of Plants in the Relevant Cheese Plant Population.***

27. Dr. Stephenson acknowledged that Cornell's 16-plant survey of cheese plant costs were disproportionately weighted by large plant costs, and were not representative of the relevant plant population. (Tr. 34-37).

28. However, the 16-plant survey produced results from a variety of plants with varied production volume. From this survey data, regression analysis revealed that almost 89% of the plant-to-plant variability in manufacturing costs could be explained by differences in annual production volume. Ex. 75 p. 6. The volume produced by each plant in the non-California cheddar cheese plant population (138 plants) was also known and available to Cornell. *Id.* From these two sets of data (the survey results and known production volume of plants in the population), the costs of all plants in the population can be estimated.

29. However, before drawing conclusions from these data about the costs of plants in the relevant plant population, it is necessary to identify the production volume characteristics of those plants that should be included in the *relevant* population. Dr. Stephenson determined that the relevant population should include only those plants that produce one million pounds or more of cheese annually. This corresponds with the minimum production volume of plants included in NASS weekly cheese price surveys. Ex. 75, pp 6 – 7. This definition of the *relevant* population of cheddar cheese plants reduces the population from 138 plants to 53 plants. *Id.*

30. Application of survey results to production characteristics of plants in the relevant population, now defined to include 53 non-California cheddar cheese plants, it can be estimated with reasonable confidence that a manufacturing allowance (excluding marketing costs) sufficient to cover the 2004-2005 costs of most plants (50% or more) in this population during would be about 25 cents per pound of cheese. Ex. 75, p. 7, fig. 2. An allowance sufficient to cover manufacturing costs of 60% of plants would have been 30 cents per pound. *Id.*

31. The survey results may also be applied to the relevant 53-plant population, and known production volume of each plant, to estimate total cheese production volume covered by manufacturing allowances (excluding marketing costs) at various levels. Dr. Stephenson did this, and provided the following estimates of production volume and plants covered based on costs reported for the 2004-2005 survey period observations (Ex. 75, pp. 7-8; Stephenson, Tr. 178 – 179):

Cost Allowance (Cents/lb. cheese)	% of Plants with costs covered	Production Volume (% of total cheese)
18.45	12.0	50
19.00	24.0	70
22.70	44.0	90

32. Finally, the combined data from the survey and production characteristics of the relevant population of 53 plants permits calculation of an estimated weighted average production cost for the population. Dr. Stephenson reports the weighted average manufacturing cost estimate for the relevant population of 53 plants is $0.2028 per pound cheddar cheese. This manufacturing cost rate would have covered 82% of the production volume, but only 33% of plants (Ex. 75 p. 8).[6] This weighted average estimate clearly would fall far short of the Secretary's stated objective of "cover[ing] the costs of *most of the [cheddar cheese] processing plants* that receive milk under the [federal milk] orders" (67 Fed. Reg. at 67915), but permits, we believe, a conservative starting place for updating cheese make allowances by an expedited and emergency decision pending further development of federal milk order cost survey procedures and anticipated hearings on

[6] The weighted average costs for the relevant population as calculated by Dr. Stephenson neutralized the bias of large plants in the survey, since variability in plant product volume explains 89% of the manufacturing cost variability. Due to the location of most large plants in the West, the survey results also produced a geographical bias, unrelated to size, that would understate costs for the 11% of cost variability not attributable to differences in production volume. Findings 11-17.

broader product pricing issues (71 Fed. Reg. 367151 (July 28, 2006) (invitation to submit proposals).

C. Adjustments to Manufacturing Costs Estimated from the Cornell Survey of 2004-2005 Data Should Be Made to Reflect Current Costs.

33. It is the nature of federal milk order make allowances that they are based on manufacturing cost observations that are years old by the time a rate is adopted as part of the regulated product price formula. Make allowances are therefore outdated when they first take effect, and become even more outdated as time passes before a new hearing. Because of this phenomenon, the Secretary should take reasonable steps to assure that amended make allowances reflect current costs, and that they do not quickly become outdated.

34. The cost information provided to Dr. Stephenson mostly reported costs from 2004 and 2005 with perhaps some months from both 2003 and 2006 included. The mid-point of the time period appears to be December 2004 based upon the fact that 63% of the observations were from July 2004 to June 2005 with 21% in earlier months than July 2004 and 16% in months after June 2005. Cost observations in the RBCS and CDFA surveys are from 2004, and are also now out-of-date. Cost indices from the Department of Labor, Bureau of Labor Statistics (BLS), were included in Proponents' Feb. 2006 Brief (pp. 6-8) and show input cost increases in many categories of costs incurred by dairy product manufacturing plants since 1998 – the reference cost year for prior surveys used in the current make allowance. Addendum 1 to this brief reproduces BLS indices of cost changes for these same categories from 2004 through August 2006, and in all categories costs have risen.

35. If USDA amends the Order to include new manufacturing cost allowances, they would not become effective until December 2006 at the earliest, and then apply throughout calendar year 2007 and likely beyond. It is crucial that the most recent cost information available be used, particularly for energy costs. Current and objective data on the costs of industrial natural gas and electricity – significant components of manufacturing costs for all dairy products – are available from BLS and from the Department of Energy, Energy Information Administration (EIA).

36. In his testimony, Dr. Stephenson used a Bureau of Labor Statistics Index of producer prices for natural gas and industrial electric power to standardize the energy costs

of all plants in the survey to a 2005 calendar year basis.[7] When that is done, the average surveyed costs to produce cheese would be increased by $0.0034 per pound. Ex. 75, p. 9.

37. At the very least, an energy adjuster of $0.0034 should be added to Dr. Stephenson's weighted average cost estimate for the population of $0.2028. In addition, Dr. Stephenson excluded any marketing cost from his survey, so the marketing costs of $0.0015 previously used in the Orders should also be included. The weighted average plant cost estimate plus a current energy cost adjustment and marketing costs totals $0.2077 per pound. A cheese manufacturing allowance not less than $0.2077 should be adopted in the Class III component price formula for purposes of this emergency proceeding, even though it will not cover costs of most plants in the population and does not allow for significant regional differences in cost inputs (findings 11 – 17, *supra*).

38. The cooperative proponents also support the National Milk Producers Federation proposal to update energy costs on an on-going basis from 2005 forward for cheese and other dairy products. This will allow at least a portion of the total cost allowance to remain current, and mitigate the effect of delays between cost increases and make allowance amendments.

IV. WHEY POWDER: The Best Possible Data on Current Manufacturing Costs of Most Plants

39. The Cornell Survey did not specifically select whey powder plants from the population of such plants. Instead, whey plants were assumed to be a subset of the cheese plants selected. (Tr. 39). However, whey plants are far more likely to be found attached to large cheese plants than with medium to small cheese plants. This was clearly the case with the Cornell Survey. Of the 12 dry whey plants in the survey, five were associated with the five largest cheese plants and only seven with the 11 other cheese plants. Some adjustment to the reported costs of the 12 plants in the survey need to be made, therefore, to estimate representative costs for the relevant population of whey powder plants.

40. The manufacturing costs for whey plants reflect a very large confidence level range of $0.1328 to $0.3237. However, keep in mind that this range only applies to cheese plants

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[7] We observe that Dr. Stephenson's manufacturing cost adjustment for 2005 natural gas costs used the BLS index for all natural gas prices (WPU0531), rather than the index for industrial natural gas prices (WPU0553) (Tr. 105). Although the indices are similar in direction of price changes, industrial natural gas prices are less volatile, and industrial natural gas prices have not dropped so steeply since the high point in October 2005.

with the luxury of having whey drying facilities at their location. Whey use costs associated with cheese plants with no such drying facilities would likely be at least the costs of loading and transporting the condensed whey to a whey drying facility. (Testimony of Dan McBride, January 26, 2006)

41. For the 12 plants in the Cornell Survey, the costs averaged $0.1466 for the lowest cost six plants and $0.3007 for the highest cost plant group. This is a very large range.

42. The ratio of whey powder to cheddar cheese is about 0.6 pounds of whey for each pound of cheese production. Using this ratio, the following estimates of cheese product associated with the dry whey production can be determined.

Cornell Dry-Whey Plants	**Average Dry Whey Volume in Group** (mill. lbs)	**Estimated Avg. Cheese Volume in Group** (mill. lbs)
6 Low Cost Plants	65.5	109.2
6 High Cost Plants	29.2	48.7
Weighted Average	47.4	79.0

43. The six low cost plants process a volume of whey representative of a cheese volume of 109.2 million pounds per plant. When one concludes that those 6 plants likely include the 5 largest cheese plants in the survey and the fact that the 8 low cost cheese plants produced an average of 88.8 million pounds of cheese, it is within reason to consider that the 6 largest dry whey plants are associated with cheese facilities producing 109.2 million pounds of cheese (including any off-site cheese plants). Even the 6 high cost dry whey plants are associated with cheese facilities producing 48.7 million pounds of cheese. The weighted average of the 12 plants represents 79.0 million pounds of cheese production.

44. Clearly these dry whey manufacturing plants are associated with extremely large cheese plants, even larger than the comparable low, high and average cost group cheese plants.

45. The simple statistic weighted average of the Cornell Survey for dry whey has the same, and probably greater, problems than its counterpart for cheese. If ever a weighted average estimate for the population was needed, it is needed for dry whey plants. However, Dr. Stephenson was not provided with plant information, available to USDA agencies, needed to calculate a wheighted average estimate of plant costs for the population.

46. Of the three weighted average survey costs available for dry whey plants, the high cost plants in the Cornell survey come closest to the average size of comparable cheese plants at 48.7 million pounds of cheese. One alternative would be to set the dry whey make

allowance at $0.3007 per pounds. That, however, presents a decision making dilemma due to the wide range of costs reported in surveys, and the absence of concrete information about the size characteristics of all plants in the relevant population.

47. Another, more conservative, alternative is to use the simple statistical weighted average, but also account for the fact that most cheese plants will have to load and transport condensed whey to one of those large dry whey facilities to take advantage of the lower manufacturing cost of such plants. The weighted average cost of the surveyed whey plants alone is likely to as unrepresentative of the relevant population of whey powder plants as the Cornell weighted average cheese make cost for 16 plants was unrepresentative of the population of cheese plants. Indeed, the size of the surveyed plants reveals even greater large plant bias in the whey cost survey than in the cheese cost survey. This would likely understate costs for the great majority of whey powder processing due to the omission of the costs of loading and transportation. While the Cornell study apparently included such costs for firms that had a surveyed dry whey facility, *and* multiple cheese plants supplying whey to one central whey-drying facility attached to a large cheese plant, only the costs of the relatively small portion of the whey that was transferred was included. Cornell did not obtain any dry whey cost loading and transportation data from the four surveyed and dozens of non-surveyed cheese plants that had no dry whey facilities. One hundred percent of the whey from those cheese plants had to be transported to a distant dry whey or other whey use facility.

48. Testimony on the loading cost of condensed whey was provided by Dan McBride at the January 2006 hearing. Those costs were $0.00205 per pound of dry whey solids. Witness McBride and Richard Langworthy submitted condensed whey transportation costs at the January hearing. McBride presented costs of condensed whey solids of $0.01825 per pound while Langworthy submitted cost estimates from two cheese plants to a central whey processing plant. his costs were $0.0189 and $0.0313 per pound of dry whey solids. The average of those three costs is $0.02282 per pound. Combined with the loading costs of $0.00205 represents a total average cost of $0.0249 per pound.

49. At the very least, the $0.0249 transportation and loading costs incurred by most cheese plants to obtain a value for their whey should be added to the $0.1941 weighted average cost. This assumes that the cheese plant selling its condensed whey will be paid its full value by the dry whey manufacturing plant, as well as that the smaller cheese plant has the same whey condensing costs as the large facility. Both these assumptions are unlikely.

For lack of information, these additional costs (whether allocated to whey processing costs or to cheese making costs) cannot be measured from this record.

50. These foregoing factors produce a conservative dry whey cost $0.219 per pound. However, as with the case for cheese, the 2005 energy adjustment for dry whey of $0.0076 and marketing costs adjustment of $0.0015 should be added. This brings the proposed dry whey manufacturing allowance to $0.2281 – a rate nearly identical to the Cornell simple average $0.2282 cost of the eight surveyed plants without inclusion of marketing and current energy costs. Proponents believe that a rate of *not less than* $0.2281 per pound is appropriate even though that rate, like the proposed cheese make rate, will probably fall short of the stated objective of "cover[ing] the costs of *most of the [whey powder] processing plants* that receive milk under the [federal milk] orders" (67 Fed. Reg. at 67915). A provision for automatic adjustment based on changes in energy costs, as proposed by NMPF, should also be provided.

V. BUTTER: The Best Possible Data on Current Manufacturing Costs of Most Butter Plants

51. The survey conducted by Cornell University, CPDMP, on the costs of manufacturing butter included four plants that manufactured butter in 68-pound or 25-kilogram boxes. While not including any plants located in California, the four selected plants were associated with the NFDM plants included in that CPDMP survey.

52. Dr. Stephenson explained that he wanted to survey ten non-California butter plants, but only received responses from four. Dr. Stephenson explained that the small number of participating butter plants may have resulted from the shortened time period for collecting the butter information (Tr. 44). Due to the small sample, and unavailability of information on production volume and size distribution of other plants, it could not be established that the surveyed plants constituted a representative sample of the population. The Cornell surveyed plants only accounted for 13 percent of the volume of non-California produced butter reported to NASS during 2005. Dr. Stephenson declined to extrapolate from his sample to the population of butter plants and remarked that his survey of butter plants provided the "weakest numbers" of his four production cost surveys (Tr. 45). In the Summary of Exhibit 76, page 11, it is noted only one of the four surveyed plants produced butter during the cost reporting period at a cost less than the current USDA make allowance of $0.115 per pound. That lowest cost plant was also larger than the average plant

participating in the survey, since it represented 25% of the surveyed plants, but 31% of the volume produced by survey participants. *Id.*

53. While we would have preferred to rely on inferential population statistics for butter manufacturers, unfortunately the Cornell survey could provide none. Without a process to make statistical inferences to the population, the descriptive sample statistics of the Cornell survey will undervalue the butter make allowance for the majority of FMO regulated butter plants. Given the fact that the Simple and Weighted Averages of the Cornell survey are so dissimilar, one could reasonably conclude that one large plant is skewing the Weighted Average data. This conclusion is buttressed by the declaration by Dr. Stephenson that only one plant could cover its costs by the current $0.115 make allowance.

54. In the Hearing Record there are three surveys of butter plant costs: Cornell, Ling (RBCS), and CDFA.

55. The 2005 NASS Dairy Products Summary reported that 55 plants located outside of California produced 939.355 million pounds of butter during 2005. The simple average of the Summary's reported plants was 17.079 million pounds of butter per year. A comparison of plant numbers and volume of each survey, and coverage of non-California plants and volumes in NASS Dairy Products report, is estimated below:

	Plants	Total Volume	Average	Estimated % of NASS
Cornell Survey	4	125,602,044	31,400,511	13%
NASS	55	939,355,000	17,079,182	
NASS not in Cornell	51	813,752,956	15,955,940	
Ling Survey	7	254,115,925	36,302,275	27%
CDFA Survey				
Low Cost	4	288,092,738	72,023,185	
High Cost	4	94,838,606	23,709,652	
Total CDFA	8	382,931,344	47,866,418	

56. The average cost results of the three surveys, with return on investment and marketing costs added to results where not included in the cost surveys, are summarized below.

	Volume	Cost	ROI	Marketing	Total

Cornell Survey					
Simple Average	125,602,044	$0.1492	included	$0.0015	$0.1507
Wtgd Average	125,602,044	$0.1108	included	$0.0015	$0.1123
CDFA					
Low Cost	288,092,738	$0.1230	included	$0.0015	$0.1245
High Cost	94,838,606	$0.1793	included	$0.0015	$0.1808
CDFA Average	382,931,344	$0.1368	included	$0.0015	$0.1383
Ling Survey	254,115,925	$0.1659	$0.0066	$0.0015	$0.1740
Weighted Average of Ling and Average CDFA Costs					$0.1525

57. Of the three surveys, California performs the most extensive cost survey of its manufacturing plants. A state employee visits each plant and performs a detailed audit from accounting source materials. Extrapolation from sample statistics to the population is unnecessary because CDFA samples data from all plants in the population. Additionally, since the agency knows precisely the volume and cost at each of the state's manufacturing plants, CDFA is able to determine with certainty the volume of milk that is processed at a specific make allowance.

58. The four large plants included in the CDFA survey, however, skew summary cost statistics for average California butter processing plants. These four plants produce 75 percent of the state's butter, and the low manufacturing costs of the four plants strongly influence the total weighted average cost of butter manufacturing in the CDFA survey.

59. The Cornell Survey was modeled on the CDFA methodology and its results are comparable to the CDFA survey. Dr. Stephenson wrote that ". . . the comparability of methods means that the CPDMP results can use the CDFA summaries as a useful benchmark. In other words, we would expect that comparable plants would have comparable processing costs across the separate efforts." (Exhibit 76, p. 5) As noted before, Cornell provided descriptive sample statistics of the four-surveyed plants and offered no extrapolations to the population of 55 NASS-reported butter plants located outside of California. The four Cornell plants represented 13 percent of the NASS 2005 Summary. Cornell did, however, provide confidence intervals for their sample statistics. The 95 percent confidence interval for butter processing cost was between (-$0.0921 and $0.3905 per pound. Dr. Stephenson referenced this wide range in the confidence interval, when noting that the butter numbers represented his weakest data. Commenting on this

weakness, Dr. Stephenson noted that, "The large range in butter costs reflects relatively few observations and a fair amount of variability in the data." (Tr. 33-34)

60. Dr. Charles Ling, an agricultural economist employed by USDA's Cooperative Programs of Rural Development, provided a survey of 7 butter plants. All of the plants were owned and operated by cooperatives. The Department relied on Dr. Ling's manufacturing cost surveys as a basis for determining the product make allowances for the 2000 Federal Order Reform Decision and the 2003 Class III/IV Final Decision. While the average plant volume of Ling's survey is comparable to the Cornell sample, Ling included three more plants in his sample; moreover, Ling's survey represented 27 percent of the butter reported by NASS.

61. For those reasons, the Proponent Cooperatives recommend that USDA weigh the results of the Ling survey with the weighted average from the CDFA butter survey. The weighted average make allowance of the two groups is $0.1525 per pound, after adding the marketing allowance to the CDFA average and the CDFA return on investment and marketing allowance to the Ling survey.

62. The Proponent Cooperatives believe this rate is a superior estimate, based upon the available "best possible data" (71 Fed. Reg. at 367151), because of the acknowledged weakness of the Cornell survey for purposes of making inferences about costs of plants in the relevant population, and:

- The average plant size of the CDFA survey (47.8) is comparable to the sample average of the Ling survey (36.3);
- The total volume of the Ling survey (254.1) represents 27 percent of the NASS reported butter production for 2005 compared to the Cornell survey which represented only 13 percent of the NASS butter production in 2005.
- Since the Ling Survey included more plants (7) than the Cornell Survey (4), its weighted average cost is more representative of the population of butter plants.

It is useful, nevertheless, to test Proponents' recommendation against the results of the Cornell survey. Proponents' recommended make allowance ($0.1525) is comparable to the simple average cost of the Cornell group after adding marketing costs ($0.1507) and falls within the 95 percent confidence level of the Cornell survey.

63. The Proponent Cooperatives also recommend that the butter make allowance be increased by $0.0029 to recognize updated to current energy costs, consistent with Dr. Stephenson's testimony (Tr. 40). With this addition, a butter make allowance of *not less*

than $0.1554 per pound should be implemented as expeditiously as possible by the Secretary.

VI. NONFAT DRY MILK: The Best Possible Data on Current Manufacturing Costs of Most NFDM Plants

64. The survey conducted by Cornell University (CPDMP) on the costs of manufacturing nonfat dry milk included eight plants that manufactured nonfat dry milk. While not including any plants located in California, the eight selected plants represented diverse geographic locations. Dr. Stephenson testified that it was intended that the eight plants be selected, using a non-stratified random draw from a universe of 18 to 20 plants. (Tr.. 119). Additionally, the plants were required to manufacture nonfat dry milk in bags, totes or in bulk as reported in the NASS nonfat dry milk surveys.

65. The 2005 NASS Dairy Products Summary reported that 37 plants located outside of California produced 679,652 million pounds of nonfat dry milk during 2005. The simple average of the Summary's reported plants was 18,368,972 pounds of NFDM/yr.

66. In the Summary of Exhibit 76, page 11, it is noted that four of the eight surveyed plants, accounting for 49 percent of the Cornell survey volume, reported costs greater than the current $0.14 make allowance for NFDM. It follows, therefore, that only the four remaining plants, representing 51 percent of the survey volume and identified as the "low cost group," achieved costs below the current NFDM make allowance.

67. Combining the data from Table 3 of Exhibit 75 and the 2005 NASS Dairy Products Summary, the average plant size of plants not surveyed by Cornell can be estimated.

Participating plants	Average Volume	Total Volume	Percent - NASS	Wt Average Cost
4 Low Cost Plants	66,605,863	266,423,452	39%	$ 0.1318
4 High Cost Plants	39,681,700	158,726,800	23%	$ 0.1659
Total 8-plant Sample	55,066,936	440,535,488	65%	$ 0.1423
Total NASS Volume		679,652,000		
NASS Vol & plants not in Cornell Sample		239,116,512 (29 plants)	35%	
Average Size of Plant not included in Sample	8,245,397			

68. While Dr. Stephenson intended a random draw from the universe of 18 to 20 nonfat dry milk plants, his results appear to be biased by a sample selection that over-represents

large plants and under-represents smaller plants in the population. While the average size of NASS-reported powder plants was 18.4 million pounds of powder per year, the Cornell's eight-plant-survey averaged 55.1 million pounds per year, almost three times as large as the NASS average sized plant of 18.4million pounds per year. Moreover, the four "low cost" were extremely large plants (3.6 times larger than the NASS average) and skewed the average and weighted average costs of the eight-plant sample.

69. Dr. Stephenson characterized his nonfat dry milk data as descriptive statistics of the sampled plants (NT 122). Since he did not have annual production volumes for all of the nonfat plants in the relevant population of plants outside of California, he declined to extrapolate from the sample to cost characteristics of the relevant population of powder plants. However, he did note that for NFDM manufacturing, like that of other dairy products, larger plants experience economies of scale and are characteristically lower cost plants (Tr. p. 126).

70. The cost differences between the Cornell reported "low cost" and "high cost" NFDM plants were reported as follows:

	Labor	Non-Labor	Package	G & A	ROI	Total
4 Low Cost Plants	$0.0318	$0.0577	$0.0140	$0.0211	$0.0071	$0.1318
4 High Cost Plants	$0.0384	$0.0893	$0.0149	$0.0161	$0.0072	$0.1659
Difference	$0.0066	$0.0316	$0.0009	-$0.0050	$0.0001	$0.0341

As explained in Footnote 8 in Dr. Stephenson's testimony (Ex. 75), the weighted average of the "high cost" group was further revised to $0.1659 as a result of a participant's reporting error (Tr. 294). Since the adjustment was due to changes in energy allocation, the cost increase was assigned to processing non-labor.

71. Ninety-two percent of the difference between the unit cost of the two groups can be found the Processing Non-Labor category. Dr. Stephenson defined Processing Non-Labor costs as ". . . all utilities, depreciation, taxes, cleaning laboratory and general supplies, etc." (Exhibit 76, pg.6) Except for utilities, all of the costs listed are fixed costs. A reasonable conclusion is that fixed costs and total cost per unit increases as the plant's production decreases. Typically, low volume non-fat powder plants are associated with market balancing activities. The great region-to-region and state-to-state variation in costs for

natural gas to dry skim milk (Addenda 3, 4), may also explain some of the variation in non-labor processing costs between plants.

72. It is critical that the Secretary take note of the many, cooperative-owned non-fat powder plants provide balancing services to regions across the country. By definition, plants that balance market supplies experience wide variations in throughput during the marketing year. Accordingly, one would expect that fixed costs (spread across a small total volume of throughput due to market balancing) may explain a large part of the difference in total costs per unit between the Cornell "low cost" and "high cost" plants.

73. One can reasonably conclude that the 29 plants not included in the Cornell survey produce less powder annually than the eight-plant sample. Given that the average plant size of the plants not surveyed is almost one-fifth the size of the "high cost" group, it is reasonable to assume that the manufacturing costs of the 29 not-surveyed plants are greater than the weighted average of the "high cost" group. Since only the four "low cost" group plants experienced manufacturing costs lower than the current make allowance, it is also reasonable to assume that only the four "low cost" plants, representing 11 percent of the NASS reported nonfat dry milk plants and 39 percent of the NASS volume experienced costs below the current $0.14 NFDM make allowance.

74. The Record of this Hearing contains three manufacturing cost surveys for nonfat dry milk. These are summarized below, with percent of NASS non-California volume:

	Plant Number	Average Volume	Total Volume	Percent - NASS	Wt Average Cost[8]
CDFA					
Low Cost	3	156,004,763	468,014,288		$0.1373
Med Cost	4	59,633,004	238,532,017		$0.1733
High Cost	3	12,950,870	38,852,610		$0.2412
Totals	10	74,539,892	745,398,915		$0.1543
Cornell					
Low Cost	4	66,605,863	266,423,452	39%	$0.1318
High Cost	4	39,681,700	158,726,800	23%	$0.1659
Total		55,066,936	440,535,488	65%	$0.1423
Ling Survey	14	31,359,689	439,035,646	65%	$0.1681
NASS plants	37	17,828,432	659,652,000		

75. Of the three surveys, California performs the most extensive cost survey of its manufacturing plants. A state employee visits each plant and performs a detailed audit

[8] Again, it should be noted that none of the surveys include a marketing cost, and the Ling Survey, in addition, does not include a return on investment.

from accounting source materials. Extrapolation from sample statistics to the population is unnecessary because CDFA samples the entire universe of production. Additionally, since the agency knows precisely the volume and cost at each of the state's manufacturing plants, CDFA is able to determine with certainty the volume of milk that is processed at a specific make allowance.

76. A few large plants skew summary cost statistics for California powder processing plants. Three large plants produce 62 percent of the state's NFDM. The low manufacturing costs of the three plants strongly influence the total weighted average cost of manufacture for the CDFA survey. The annual average NFDM production of those three plants is 2.8 times greater than the average production of the eight-plant Cornell survey.

77. The Cornell Survey was modeled on the CDFA methodology and its results are comparable to the CDFA survey. Dr. Stephenson wrote that ". . . the comparability of methods means that the CPDMP results can use the CDFA summaries as a useful benchmark. In other words, we would expect that comparable plants would have comparable processing costs across the separate efforts." (Exhibit 76, pg. 5) As noted before, Cornell provided descriptive sample statistics of the eight-surveyed plants and offered no extrapolations to the population of 37 NASS reported nonfat dry milk plants located outside of California. The eight Cornell plants represented 65 percent of the NASS 2005 Summary. Cornell did, however, provide confidence intervals for their sample statistics; the 95 percent confidence for NFDM processing cost was between $0.1204 and $0.1846 per pound.

78. Dr. Charles Ling, an agricultural economist employed by USDA's Cooperative Programs of Rural Development, provided a survey of 14 nonfat dry milk plants. All of the plants were owned and operated by cooperatives. The Department relied on Dr. Ling's manufacturing cost surveys as a basis for determining the product make allowances for the 2000 Federal Order Reform Decision and the 2003 Class III/IV Final Decision. While the total volume of Ling's survey is comparable to the Cornell sample, Ling included six more plants in his sample, which resulted in an average plant size closer to the NASS plant average.

79. While we would have preferred to rely on inferential population statistics for nonfat milk manufacturers, unfortunately the necessary data was not made available to Cornell. Without a process to make statistical inferences about the population, the descriptive sample statistics of the Cornell survey will undervalue the NFDM make allowance for the

majority of FMO regulated nonfat dry milk plants. Large plants and their resulting efficiencies are over-represented in the Cornell survey. Accordingly, the weighted average cost of the Cornell-surveyed plants is skewed by the unrepresentative sample, and insufficient information is available concerning the volume and size distribution of the relevant population of plants to make confident inferences about the cost experience of the population.

80. In addition, NFDM is a companion product to butter, with both products usually produced in the same plant. As previously discussed, the Cornell survey was not representative for the population of butter plants, whereas the combined CDFA and Ling surveys were far more representative. If the CDFA/Ling survey is used to determine butter manufacturing allowances, the same survey should be used for its companion product, NFDM.

81. For those reasons, the Proponent Cooperatives recommend that USDA weigh the results of the Ling survey with the "medium cost group" from the CDFA survey. We further recommend that a marketing cost allowance of $0.0015 be added to the CDFA and Ling Survey averages and that the CDFA Return on Investment cost of the "medium cost group be added to the Ling Survey cost. The weighted average make allowance of the two groups is $0.1778 per pound.

	Volume	Cost	ROI	Marketing	Total
Ling Survey	439,035,646	$0.1681	$0.0099	$0.0015	$0.1795
CDFA -Medium	238,532,017	$0.1733	included	$0.0015	$0.1748
Weighted Average					$0.1778

82. The Proponent Cooperatives believe this rate is a superior estimate, based upon the available "best possible data" (71 Fed. Reg. at 367151), because of the demonstrated shortcomings of the Cornell survey for purposes of making inferences about costs generally smaller plants in the relevant population, and:

- The average plant size of the "medium cost" CDFA survey (59.6) is comparable to the sample average of the Cornell Survey (55.1).
- The total volume of the Ling survey (439.0) is comparable to the total volume of the Cornell survey (440.5) and each represent 65 percent of the NASS reported NFDM production for 2005.

· Since the Ling Survey included more plants (14) than the Cornell Survey (8), its weighted average cost is more representative of the population of nonfat dry milk plants.

83. As with Butter manufacturing cost estimates, it is useful to test Proponents' NFDM recommendation against the results of the Cornell survey. Proponents' recommended NFDM make allowance ($0.1778) is comparable to the weighted average cost of the Cornell "high cost" group with allowance added for marketing ($0.1659), and falls within the 95 percent confidence level of the Cornell survey.

84. The Proponent Cooperatives also recommend that the NFDM make allowance be increased by $0.0070 per pound to account for changes in energy costs since 2004, the period for which survey costs were reported, consistent with Dr. Stephenson's testimony (Tr. 39-40). With this adjustment, proponents urge the Secretary to adopt an NFDM make allowance of *not less than* $0.1848 per pound for nonfat dry milk.

VI California Manufacturing Allowances and State Class 4a and 4b Prices: A Competitive Factor Compelling Expedited Implementation of Current Make Costs in Federal Milk Order Make Allowances.

85. On an aggregated basis, Federal Orders pooled over 41 billion pounds of Class III milk and over 14 billion pounds of Class IV milk in 2005. This represented 55 billion pounds of milk, which was 48% of the total milk pooled in 2005.[9] Clearly manufacturing plants receiving pool milk are a major source of dairy products for the nation; such plants also represent a major and essential market for dairy farmers supplying milk to handlers in federally-regulated markets.

86. California manufacturing plants are also a major source of dairy products for the nation. California is the largest milk producing state in the nation. In 2005 its plants produced 22% of the nation's cheese, 30% of the nation's butter, 12% of the nation's dry whey for human food and over 50% of the nation's nonfat dry milk for human consumption.[10]

87. Manufacturing plants receiving Federal Order pool milk compete directly with California plants and therefore it is crucial that USDA recognize the need to align prices between the Federal Order and California, or at least to account for lower California Class 4a and 4b prices in the process decision-making. As USDA has previously observed,

[9] Federal Milk Order Statistics – 2005 Annual Summary

[10] Dairy Products 2005 Summary, USDA, April 2006.

federally-regulated handlers "must be able to compete with processors whose milk receipts are not priced in [federally]-regulated markets." 67 Fed. Reg. at 67915.

88. On July 24, 2006 the California Department of Food and Agriculture announced a decision to raise the state manufacturing allowance to $0.178 per pound for cheese, to $0.267 for skim whey powder and to $0.160 for NFDM. Butter remained unchanged at $0.156. These rates will likely take effect November 1, 2006, and were adopted following a hearing in June 2006. However, even before California's hearing last June, all California manufacturing allowances were significantly higher than those currently used in the Federal Orders.

89. Under California's amended manufacturing allowances, plants are given $3.35 to turn 100 pounds of 3.5% test milk into California Class 4a cheese, dry whey and whey butter. Current Federal Order make allowances for the same (federal Class III) products provide only $2.57 to such manufacturing plants using pool milk.

90. Under proponents' proposed Federal Order make allowances, manufacturers will be allowed $3.40 per hundredweight of standard milk used to make cheese, dry whey and whey butter. This is a five cents per cwt. above the current California allowance – a differential that is appropriate for a number of reasons, including: (1) the size and age difference between plants in the two areas, (2) significantly higher costs for natural gas in most regions of the federal milk order system, (3) greater use of manufacturing plants in federal markets to balance milk supplies, and (4) the federal milk order amendment process requires significantly more time from proposal to final rule than the California administrative process.

91. Under the new California manufacturing allowance, plants will be given $2.03 to turn 100 pounds of 3.5% test milk into butter and NFDM. Current Federal Order manufacturing allowance provide only $1.69, despite the smaller size, greater age and balancing role that such plants play in Federal Orders, and higher regional input costs for fuel to dry milk. Under proponents' proposed manufacturing allowances, plants receiving Federal Order Class IV milk will be given $2.24 to make these dairy products. Given the regional differences in production, seasonality, balancing functions, plant characteristics and energy input costs, among other factors, the slightly greater make allowance for federal order markets is appropriate.

Summary of Proposed Minimum Make Allowances, Based Upon the "Best Possible Data" in the Hearing Record, Intended to Cover Current Manufacturing Costs of Most Plants That Receive Milk Under Federal Milk Orders.

The recommendations of Proponent Cooperatives for amendment of federal order make allowances for cheddar cheese, whey powder, butter and NFDM, are based on (1) best possible data from surveys of record, (2) reasonable inferences about costs incurred by non-surveyed plants in the relevant plant population, to the extent characteristics of such plants are available, and (3) current information on energy costs to supplement surveys that are already two years outdated. The manufacturing allowances – current, minimum proposed, and California's for reference – are summarized below:

	Manufacturing Allowances		
	-- Federal Order --		California
	Current	Proposed Not less than	As Amended
Cheese	$0.165	$0.2077	$0.178
Dry Whey	$0.159	$0.2281	$0.267
Butter	$0.115	$0.1554	$0.156
NFDM	$0.140	$0.1848	$0.160

Proponent cooperatives have made repeated reference in this memorandum to the established and reasonable policy of USDA that regulated make allowances should "cover the costs of *most of the processing plants* that receive milk under the [federal milk] orders." 67 Fed. Reg. at 67915. We acknowledge that the manufacturing allowances herein proposed undoubtedly do not meet that objective for one or more of the dairy products, almost certainly fall short of the objective for the remaining products, and undoubtedly fall short of the objective for several or all products in some regions. Proponent cooperatives do not maintain that USDA should alter its policy of allowing most plants to cover their manufacturing costs for commodity dairy products. Rather, in making these proposals for make allowances that are demonstrably or probably inadequate by established standards, we simply recognize the administrative and political difficulty of greater decision-making precision in an emergency hearing limited by time as well as scope.

Proponents intend to continue to work with USDA, Cornell University, and other institutions to improve plant costs surveys and other factors relevant to end-product pricing of milk. To this end, representatives of the proponents have submitted proposals to USDA for future hearing, in accordance with USDA's invitation for proposals issued in July 2006.

There was a lot of testimony at the hearing on the impact of make allowance changes on producer prices. We, as cooperatives, are always concerned about such issues. However, for the following reasons, we strongly maintain that this issue should not influence the Secretary's decision.

1. USDA's impact analysis shows that the longer run impact of changing make allowances on overall producer prices is minimal. However, we strongly feel that the current make allowance situation and the one that will exist if the make allowances are not adequately adjusted will have a significant long run negative impact on producer prices. Over the past few years we have seen a significant shift of manufacturing operations out of Federal Order areas to California and unregulated areas. This shift lessens competition for farmers' milk and means farmers have to move milk longer distances to find a market. Both of these factors have a very significant long run negative impact on farmer prices that are not factored into the impact analysis.

2. Many critics of make allowance amendments attempted to predict adverse impact on farm prices by reference exclusively to projected changes in Class price and blend price values. This approach makes for good press copy, but is economically irrational. It does not account for the adverse impact on producer revenue of transportation costs charged to producers when local manufacturing capacity is inadequate. It does not account for the desirable role of increased competition in setting actual prices paid – an objective of the 1996 Farm Bill – nor the likely premium price response of handlers if the regulated price allows competition to work. It does not account for the fact that artificially high Class III and IV prices, due to artificially low make allowances, helped stimulate unnecessary expansion of milk production that resulted in depressed milk prices over the past year and contributed to price volatility over the past several years.

3. The purpose of the Federal Order System is to create orderly marketing. One of the ways it does this is by creating minimum price equity between producers in similar locations. The current situation creates minimum price inequity between producers. Those producers who have invested in manufacturing facilities are receiving a lower price than those who have not. In effect, the current make allowances are a tax on those producers who have invested in the market that transfers money to those that have not. This is not the purpose of the Federal Order.

4. The mandate of the Federal Order is to set minimum prices, not "the" price. The principal here is not only that "the" price is impossible to determine, but also that

competition for milk will adjust the minimum price to "the" price. Competition (at non cooperative plants) cannot adjust the minimum price down - only up. Therefore this minimum price concept must be maintained. The worst thing for a farmer is no competition for their milk, or inadequate local production capacity for milk (as evidenced by the cross-examination statement of Mr. Talsma at the January hearing, Tr. Vol III p. 241, who admitted to receiving less than the Class III price for milk, and that transportation costs were eating up 30-40% of his milk check).

5. There are other Federal Programs, discussed below, whose purpose is the protection of the producers' price (the price support and MILCX programs). This is not the purpose of the Federal Order Program. "The FMMO Program is a marketing tool, not a price support program." Letter of Jan. 23, 2003, from Under Secretary Bill Hawks to Rep. Roy Blunt. (Addendum 6).

Other Regulatory and Dairy Policy Considerations

It has frequently been acknowledged that federal milk order prices are affected by, and interdependent with, other federal dairy programs. Although beyond the scope of this limited federal order hearing in some respects, proponent cooperatives believe that it is proper for the Secretary to consider the interrelationship between USDA-administered dairy programs in making amendments to Class III and IV make allowances, and the role of other programs in mitigating the effect on producer prices until the market again returns to equilibrium.[11]

A. The Price of Dairy Products Purchased Under the Milk Price Support Program Should Be Increased.

Each time Federal Orders put in place specific manufacturing allowance, USDA subsequently and appropriately revised the minimum prices for dairy products set under the Price Support Program. USDA should reflect the new rates again when they become effective.

[11] As previously observed (note 2, *supra*), inadequate regulated make allowances and resulting artificially high Class III and IV prices have distorted the supply and demand equilibrium for raw milk, and sent false economic signals stimulating milk production that would not otherwise have taken place. This, we believe, has contributed not only to dairy product and milk price volatility, but also contributed to the need to spend federal funds to buy dairy products under the price support program earlier this year, and to pay participating producers under the MILCX program, when expansion of milk production again resulted in low dairy product and milk prices.

Market prices are currently above the support price level for all such products, and prices are beginning to recover from lows of early 2006 on the Chicago Mercantile Exchange and in NASS surveyed prices. An increase in dairy product prices under the price support program should therefore not cost the Federal government any money at this time. However, such an action should help increase market prices relative to the support level and offset any initial negative impact on farm milk prices.

B. **The Milk Income Loss Contract Extension Program**

The MILCX Program will also offset some of any negative impact of regulated Class III/IV prices moving downward as a result of increasing manufacturing allowances until supply-demand equilibrium is restored. We also observe that such MILCX payments will be made even if the competitive response of handlers to lower *regulated* prices is to make more of their purchase price for milk in the form of unregulated prices (premiums) to dairy farmers.

CONCLUSION

Updating manufacturing cost allowances to reflect current plant costs is crucial to maintaining the orderly marketing of 55 billion pounds of Federal Order Class III and IV milk as well as addressing issues such as the integrity of minimum class pricing and eliminating inequities between Federal Order producers who own and operate manufacturing and market balancing facilities and those producers who do not.

Manufacturing cost allowances currently in place in Federal Order minimum price setting formulas do not provide sufficient monies to cover the costs incurred by the vast majority of plants who receive regulated milk. Many Federal Order plants have an alternative available to relocate their facilities to, or product purchases from, other areas of the country where less costly milk supplies can be purchased. These areas include California, unregulated states like Idaho, and even Federally regulated areas such as New Mexico and Texas where minimum Class prices have become almost irrelevant by extensive milk production growth and pay prices that are commonly $1.00 to $1.50 below the Class III price. A number of plants in the Northeast and elsewhere have already closed in order to avail themselves of this lower cost milk opportunity. This creates disorderly marketing conditions, results in higher farm transportation costs to find a home for milk, and reduces competitive over-order premiums as local competition for milk diminishes.

Dairy farmers and their cooperatives that have invested in local manufacturing facilities directly bear the economic injury of inadequate and outdated manufacturing allowances. Artificially high Class III and IV prices transfer income from those farmer-owners to farmers with no such investment. This inequity is unfair and inappropriate.

The manufacturing allowances supported by the proponents as a result of two emergency hearings and three plant surveys represent understated costs incurred by most Federal Order manufacturing plants. These conservative amended manufacturing allowances need to become effective as soon as possible due to the emergency nature of this problem. Further upward adjustment of these allowances can, and should, be made to cover the actual costs of most plants if sufficient additional evidence about size and costs of the relevant plant populations becomes available at the next product-price formula hearing already under consideration.

Respectfully submitted,

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