CERTIFIED TRANSCRIPT

NATIONAL FEDERAL MILK MARKETING ORDER

PRICING FORMULA HEARING

DOCKET NO.: 23-J-0067; AMS-DA-23-0031

Before the Honorable Jill Clifton, Judge

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Zionsville, Indiana

December 6, 2023

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(Please note: Appearances for all parties are subject to change daily, and may not be reported or listed on subsequent days' transcripts.)

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IN CHRONOLOGICAL ORDER:

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WEDNESDAY, DECEMBER 6, 2023 -- MORNING SESSION

THE COURT: Let's go back on record.

We're back on record. It is 2023, December 6th. It's Wednesday. It's day 41 of this proceeding.

Who would like to acquaint me with how we will begin?

MR. ENGLISH: This is Chip English with the Milk Innovation Group.

If I may, we have communicated this to USDA and to National Milk.

When we went off the record last night, we were asked about some of the dairy farmer witnesses, and the answer is that we, having discussed with the dairy farmer witnesses, are going to want National Milk to go forward with Dr. Brown, Dr. Scott Brown.

And then the order would be, after Dr. Scott Brown: Mr. Joe Carson and Joe Shockey. Joe Carson for United Dairy; Joe Shockey who is a dairy farmer who ships to United Dairy. Then Mr. Mike Sumners, S-U-M-N-E-R-S. And then Mr. Hau from Mapleville Creamery, H-A-U.

It is perhaps my turn to take the optimistic position, that we anticipate finishing all of those today. And then in addition, if any extra time, having a flex witness that I'll let Mr. Rosenbaum speak to, from IDFA.

But that is -- that is our intention. All of that testimony was submitted overnight.

I will say that early this morning Mr. Sumners indicated to us that he had done some modest rewriting,

some of it was just some typos, and we expect that to be re-submitted shortly.

MR. ROSENBAUM: Your Honor, Steve Rosenbaum for the International Dairy Foods Association.

Assuming the completion of the witnesses that Mr. English has identified, we will be calling next Mike Brown. Mr. Brown is relatively flexible, and so if we don't have time to start him today, he might not be the first witness tomorrow because others are less flexible, but we will let everyone know today.

THE COURT: Thank you.

Are there any other preliminary matters?

I see none. I'm going to ask you to state and spell your name.

THE WITNESS: My name is Scott Brown, S-C-O-T-T, B-R-O-W-N.

THE COURT: And you are referred to as "Dr."?

THE WITNESS: Correct.

THE COURT: And in what field is your doctorate?

THE WITNESS: I have a Ph.D. in agricultural economics.

THE COURT: Have you previously testified in this proceeding?

THE WITNESS: I have not.

THE COURT: I'd like to swear you in.

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SCOTT BROWN, Ph.D.,

Being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. HANCOCK:

Q. Nicole Hancock for National Milk.

Good morning, Dr. Brown. Thank you for being here today.

Would you -- before we begin talking about your testimony, would you provide your business address for the record?

A. Yes. It's 1100 University Avenue, Columbia, Missouri, 65211.

Q. Thank you.

I'd like to first start off by talking about your professional background. Could you start with your education and then let us know what you have done in your professional career.

A. Yeah. So I would have received a bachelor's degree in agricultural business from Northwest Missouri State University, and then went to the University of Missouri and received both a master's degree and my Ph.D. in agricultural economics.

Much of my professional career has been doing quantitative dairy policy analysis. I have been associated long-term with the Food and Agricultural Policy Research Institute at the University of Missouri, where we really stand ready to -- to provide Congressional ag

committees analysis of farm policy as they debate farm bills.

Q. And then tell us about your professional career. What have you done in your profession?

A. So a lot of the work that I have done, so running an econometric model that analyzes livestock and dairy policy, so I -- I'm broader than just dairy. But using a combination of econometric model to help analyze policies, and, again, spent a lot of time working with House and Senate ag committee staff as they write farm policy, to help them understand quantitatively what changes in policy might mean to the industry. I don't go to advocate pro or con for policy, really just trying to educate about what's the quantitative results of the -- of potential policy changes.

Q. And who are you employed by now?

A. Employed -- sorry.

Q. Yeah. Who is your employer?

A. Yeah. I am employed by the University of Missouri.

Q. Do you have any other employment?

A. No.

Q. Do you have a separate consulting company or anything like that that you work through?

A. So I do have an LLC, Global Ag Model, that occasionally work will go through that LLC.

Q. And as you sit here today, who are you doing your work on behalf of, which employer or which role?

A. So it is the University of Missouri. It was a grant between National Milk Producers Federation and the University of Missouri for this work.

Q. Okay. Are you being paid to be here today?

A. I am not.

Q. And are you here to advocate on behalf of any party or any proposal or any position?

A. I am not. Only here just to share quantitative results from some model runs that I have made.

Q. Okay. Similar to the role that you performed when you were providing your modeling analysis for Congress when they are writing policy as well?

A. Exactly the same role.

MS. HANCOCK: Okay. Your Honor, at this time we would ask that Dr. Brown be recognized as an expert in agricultural economics, dairy policy analysis, with a specialization in econometrics modeling.

THE COURT: Is there any objection?

There is none.

Dr. Brown, I do accept you as an expert in agricultural economics, dairy policy analysis, especially with regard to econometrics modeling. Thank you. Thank you.

THE WITNESS: Thanks.

BY MS. HANCOCK:

Q. Dr. Brown, before you move into your testimony --

MS. HANCOCK: And, Your Honor, we have two exhibits to mark here, one being his written statement and

one being his presentation.
BY MS. HANCOCK:
Q. Dr. Brown, I would like to know, what is it that you were asked to do before you put together your testimony in your presentation?
A. Yeah. So it was to look at a number of options that National Milk was looking at in terms of Federal Order Reform. This was work that was done back in -- well, completed back about September of 2022. It would have looked at changes in Make Allowances, changes in skim milk components, move back to the higher-of in terms of the Class I mover, and then changes in Class I differentials.
Q. Okay. And so you performed your analysis on behalf of National Milk, you said in September of 2022?
A. That is correct, before what would have been their annual meeting in 2022.
Q. And what did you understand was the use of the work product that you had provided to National Milk?
A. It was -- I think was to be used for them to decide how they wanted to move forward. They wanted to see what proposed changes they were thinking about, I would -- what I would say, the impacts of those changes were going to be.
Q. Did anybody tell you where they were hoping to go with those results before you performed your analysis?
A. They did not.
Q. Did you have any kind of pre-determined outcome

that you were asked to achieve or any -- any kind of guidance that directed the results of your study, other than just the numerical inputs?

A. No -- yes. They gave me the assumptions that I needed to run each of the scenarios, and I then delivered that back to National Milk Producers Federation when I was completed.

Q. And has anybody scrubbed or modified any of your data in a way that would minimize any negative information that came out of that modeling?

A. They did not.

MS. HANCOCK: Your Honor, if we could mark Exhibit NMPF-60, which is Dr. Brown's written statement, as the next exhibit.

THE COURT: I believe that would be 421.

(Thereafter, Exhibit Number 421 was marked for identification.)

MS. HANCOCK: And then if we could mark the PowerPoint as the next exhibit, I believe that it -- online it is posted as NMPF-60A. My version has NMPF-59 on it.

THE COURT: Mr. Hill?

MR. HILL: Yes. And it does have to be renumbered for NMPF because there is an NMPF-59 already for J.D. Heiskell's statement.

THE COURT: All right. So this will be renumbered as NMPF-60A.

MS. HANCOCK: And we'll resubmit it so that it is

properly labeled for the electronic version, so our record will be correct, and the online version will be corrected as soon as we can make that change.

THE COURT: Excellent.

I'm going to go off record for just a moment while I receive my copies of those two exhibits, and the witness will also need copies, although he's going to be looking at his laptop, I believe.

MS. HANCOCK: I think he has copies, Your Honor.

THE COURT: All right. Good.

(An off-the-record discussion took place.)

THE COURT: All right. I'm looking at Exhibit 421, which is NMPF-60; and 422, which is NMPF-60A.

(Thereafter, Exhibit Number 422 was marked for identification.)

THE COURT: You may proceed.

MS. HANCOCK: Thank you, Your Honor.

BY MS. HANCOCK:

Q. Dr. Brown, did you prepare Exhibit 421, your written statement, in support of the analysis and the conclusions that you reached for the modeling work that you did for National Milk?

A. Yes, I did.

Q. Okay. And then did you also prepare Exhibit 422 as a PowerPoint presentation to summarize the contents of your written statement and the modeling work that you did in 421?

A. That is correct.

Q. And are you prepared to provide us with your presentation to summarize those results?

A. I am.

Q. Okay. If you would go ahead and proceed, and then we'll follow up with just a few questions.

A. Thank you.

So I want to start this morning just talking a little bit about the FAPRI-MU Dairy Model, and a little bit of the origins when you look back at the history of FAPRI. So these were models that really came from USDA back in the early 1970s. A lot of the very first documentation I saw was from folks working in the Economic Research Service of USDA back then.

My work in the dairy model really started during the 1990 Farm Bill debate. I have been involved in most -- in all the farm bills since the 1990 Farm Bill debate. It has been used extensively as dairy policy's been debated on the Farm Bill.

I recall one time during a Farm Bill debate getting a call asking for analysis from the chief of staff of one of the ag committees who relayed to me, "Scott, we need you to answer the correct" -- or I shouldn't say the correct -- "the direct payment program that you think works best under these set of scenarios that we have put together for you."

And my response was, "Well, how long do I have to work on that analysis?"

And the chief of staff said, "Well, the members

are next door working on some other things, so you have about three hours to provide that analysis," which can put you in a scary situation trying to do analysis on the fly.

But the decision was, whatever I told them, that was going to be the direct payment program that they chose to use for that particular analysis. That did not become final law at the end of the day, but certainly been in the process of farm policy.

And as I look at other farm bills, I see some pretty familiar language in the final text that might have a fingerprint or two of mine on it.

I will say, FAPRI itself really started as an annual appropriation from Senator Tom Eagleton back in the early 1980s. I used to proudly say we were the longest running agricultural earmark in the Federal Government until earmarks went away. With removal of earmarks, we became an authorized policy center and have received funding through that authorization ever since.

FAPRI has certainly been recognized for its work in -- in agricultural policy. In the early 1990s we would have received, from The American Association of Agricultural Economics, the Distinguished Policy Contribution Award. We have also been recognized by USDA for the work that we have done in dairy policy as well.

So the system that we have developed is, in many ways, similar to the modeling approach used by the Congressional Budget Office in that we are all trying to look at the cost and expected changes of farm policy for

the next ten years into the future.

The model's had other uses as well. You know, I mentioned some of the work that has been related to dairy promotion that I believe Dr. Capps talked about earlier in this hearing as well. So the model's received work outside of Farm Bill work as well.

The model itself is an annual model. That is as much a result of the way farm bills have been written in the past in that we're looking at the cost and expected impacts of those farm bills ten years into the future. When you look at the individual equations, it's a mix of estimated equations as well as imposed relationships. I sometimes say those imposed relationships could be as simple as identities that take milk cows times milk yield to give us milk production, and in other cases we may have imposed elasticities on the model based on what we see out in the literature related to whatever equation that we're working on.

On the supply side, it is a state-level model where it's primarily driven by milk prices, as well as the cost of production.

On the demand side, we do demand at the national level. The model is a dynamic partial equilibrium model. It is a combination of Excel spreadsheet and then the statistical package SAS that we use to estimate and simulate the model.

I always like to remind us that the model is a simplification of the reality of the complication of the

dairy industry today. There's no way that I can replicate all of the detail that exists in the dairy industry.

The dairy model's always changing. As we do analysis, as we do forward-looking baselines, we're looking for areas where the model could be made better, and we invest our time each year doing that kind of work related to making, hopefully, the model better at some points in time.

Having done this for over three decades, it's a slow process in terms of the evolution to make the model better, but I've spent a lot of time thinking about the pros and cons of -- of how to make changes to better address some of the questions that we need.

I always say, I need the model to be simple enough to relay to a lay audience, but at the same time, rigorous enough to pass muster with my colleagues as agricultural economists around the country.

So I spend time with these key elasticities for you, just because they are very important to the results that you get when you begin to run scenarios. I start with the supply side, so although we do state-level supply side, we're actually estimating regional dairy cow equations.

You will see the two-letter state abbreviations on the right side that tell you what states are in each of those regions, but we're estimating at the regional level cow numbers; we're estimating at the state level milk yields.

I will say that when you look at the supply side, cow numbers are fairly inelastic with terms of response in the short run --

THE COURT: Now, I'm going to slow you down because this information is extremely important and dense, so just talk more slowly, please.

THE WITNESS: I will slow down.

THE COURT: When you said numbers of cows are fairly -- it's very often difficult to tell whether the speaker has said "elastic" or "inelastic." So would you take it from there again, please?

THE WITNESS: I will. When you look at the dairy cow equations, they are very inelastic. When you look at a short-run elasticity, and we'll pick the southern states here, short-run elasticity of .05, it says to changes in milk prices or milk receipts, we get very small response in the first year on terms of dairy cows. Now, those equations do have lag-dependent variables in them, so the longer run elasticity is larger. I would still characterize it as reasonably inelastic.

When you look at the elasticities on the right-hand side, those are production per cow elasticities with respect to milk prices. Also very inelastic in the case of Kentucky, in the very upper right-hand corner of that block of southern states of .02. So, again, some response to milk yields as prices go up in the current year, but not much response longer-term.

When I do -- all right. So oftentimes, I'm

looking at who are others that are out there building similar models and what do their elasticities look like?

USDA's Economic Research Service staff recently published their own documentation of a dairy model that structurally looks similar to the dairy model that I have. And their cow elasticity at the U.S. level, short run, is .031, to give us a point of comparison, and their elasticity in terms of milk yields, .016. So very similar relative to the FAPRI framework and what I see from the Economic Research Service documentation.

The demand side elasticities are also very important to the mix. Again, I will characterize the products. So you see here the demand side products at the national level: Butter, nonfat dry milk, American cheese, other than American cheese, fluid milk. And then we have other milk fat and other skim solids demand equations. If I look, for example, at what we're running as an own-price elasticity for fluid milk, it is a minus 0.12, also relatively inelastic.

Income elasticities matter as well, especially when we're talking about the baseline that we're doing. But I'd characterize the dairy model's current version as becoming more inelastic over time, as we have looked at adding more observations to the estimation period. Both the supply side has become more inelastic and the demand side has been more inelastic.

We tend to estimate single equations, ordinary least squares estimation. The retail equations tend to be

estimated in double-log format so that we can interpret the parameters as the elasticities.

A little bit of comparison to other results. So USDA's documentation from 2023, they show a fluid own-price elasticity of minus .035; they show a cheese price elasticity of minus .066; and a butter elasticity of minus .056.

Let's just, as I conclude here, remind us that the scenarios that I'm going to show depend critically on these elasticities and will affect the magnitude of the results.

So this work for National Milk Producers Federation was, in fact, a grant agreement between NMPF and the University of Missouri that was entered into in mid-2022. FAPRI traditionally turns out a baseline in March of each year, so long-term ten-year forward-looking baseline in March of each year. We really didn't start the National Milk work until about August of 2022, so we did some updating to the March FAPRI baseline by taking input from National Milk Producers Federation and other industry stakeholders.

If you recall, 2022 prices for milk were much -- moved much higher than I think many of us would have thought early in 2022, so a lot of those adjustments that -- that were made had -- had to do with aligning to what was a more positive beginning of 2022. We'll look a little at some of the results of this baseline in the next slide or two.

And then it's to impose these five scenarios, making initial adjustments in 2023. We know we haven't met the deadline to make policy -- make Federal Order changes this year, but back when that work was done in 2022, it was actually started as a scenario beginning 2023.

Initial adjustments were made. If any of the proposals talked about additional further adjustments that might occur depending on the data that was available, those were not incorporated. So it's just the beginning changes that the parties of the proposals would have talked about.

So I always like to remind us of the difference between a baseline and forecast. If -- if I was forecasting, I might not use models like this. I also have learned very early on that I should not go trade in futures markets based on the baselines put together by FAPRI.

So I -- I go -- I am trying to find what I think is an accurate reflection of what the future of the industry looks like, but it's difficult because so many things are changing as we go through time.

So here is the U.S. all-milk price from the deterministic portion of the baseline. I always say, you can see what's a long-term U.S. all-milk price that's about $19.75 per hundredweight over the period, just to remind us of the changes that were made as we interacted with NMPF and industry stakeholders, was really about a 25

to $0.30 increase in that U.S. all-milk price at the end of the day long-term. The adjustments in the short-term were a little larger, just reflecting on the current market situation.

When I -- when I talk about the baseline process as well, so FAPRI goes through a very long process of generating a preliminary long-term baseline that usually occurs in November of each year. We then invite stakeholders, primarily other economists that would run models similar to this, to come in and critique, tell us what they see that we didn't do well, or that they think we have missed in terms of how the baseline is put together.

So we try to take that industry and other expert input into creating the final baseline that then eventually gets turned out, again, usually in March of the following year.

One of the real changes that I think is important for us to talk about as we see a lot more volatility in dairy markets today is I just can't do deterministic point estimate analysis of some of these proposals. It matters to how these different proposals affect the volatility.

So the line that you see in front of you, again, is, thus, now stochastic. All right? So I want to take 500 alternative futures around the deterministic baseline that would look at historical weather deviations, historical changes in international demand, for example, and then other things like macro factors as well, as a way

to talk about what is the distribution of possible outcomes relative to that deterministic baseline.

So the line is a cumulative density function, for those that want to get into statistics this morning. Some of you may be much more familiar with the old bell-shaped curve that comes from a probability distribution function, but this is just cumulative as you go left to right. You see the 500 outcomes across the horizontal axis, where you see the prices on the vertical axis. I sometimes summarize this graph by saying, I think milk prices will be somewhere between $15 and $30 per hundredweight.

I -- I think it's important to understand that there's a lot of volatility to where prices are today, and we need a modeling approach that handles that volatility. The problem, when we go to the stochastic approach, is how to get the information out and across in a simple manner.

Just to give you a little bit of flavor of what that means. So I was looking at roughly about 380 variables that we forecast out of the dairy model that we have today, ten years into the future, and there are 500 outcomes for each year. That's 1.9 million data points. There's no way I could cover 1.9 million data points, so I'm going to be summarizing that information, but I want you to get a sense of the breadth of what's available in the modeling approach.

So why -- why stochastics? What really started the stochastic process was, I think staff, especially ag committee staff, got really good about saying, if I'm

going to have to do a change in policy relative to a deterministic baseline, if I set the trigger just a little bit below the baseline, it would have very little cost. So they learned very quickly that, hey, I can kind of almost game, if you will, or -- or position those changes in a way that minimizes cost, because it's going to be looked at relative to a deterministic baseline.

When we look at stochastics, we get a much wider distribution, and I think that gives us a better estimate of the cost of some of these proposals.

The tails of these distributions -- so when I say "tails," if you look on the left side of this graph from 1 to 51, so the first 10% of outcomes, what that tail looks like matters immensely to some of the information that we get out, as well as the tail on the right-hand side. If they're normally distributed, which this one probably looks fairly normally distributed, then may be less of a problem. But when you think about it from a cost standpoint, sometimes the cost side of this is not normally distributed when you look at the end.

So I'm going to give you a flavor of the proposals that I looked at for National Milk, and in no particular order. So I looked at each of the first five of these individually, and then combined them altogether.

You know, number one was an increase in Make Allowances --

THE COURT: I'm going to interrupt you just a moment. So the people who may be looking at the

transcript in the future will have an idea that we're now on page 9 of Exhibit 422.

And you may proceed.

THE WITNESS: Thank you.

So -- so the first proposal here was to increase Make Allowances. You see the butter Make Allowance of $0.21, as well for nonfat dry milk for cheese $0.24, and then for dry whey 23, so Proposal 7.

Number two for my analysis was what happens if we discontinue the use of barrel cheese and the protein component price formula.

Option three for me was the return to the higher-of the Class I skim price mover, so Proposal 13, which again, I will say that's one where analyzing this stochastically is very important.

Updating the milk, skim milk component price factors for Class III and Class IV, Proposal 1.

And then the fifth one would have been Proposal 19, which was to impose the Class I differential surface that National Milk has put together.

And then last is to look at all of these scenarios together.

So I'm going to look, first of all -- bear with me for one minute because my PowerPoint skipped a couple of the slides here that apparently -- so I'm going to start by looking at the effects of increasing Make Allowances.

And again, I'll say, so this is a systemwide approach of the effects. So the table that I have in

front of you is a table that shows the changes in the different prices listed in the table relative to the baseline. This is the -- often the way that we look at FAPRI analysis. We're trying to peel that onion back of just what's the small -- shouldn't say small -- but what's the change just from changes in Make Allowances separating out everything else from that.

And in the case of increasing Make Allowances, you know, I start by, number one, the Class III milk price decline is $0.33. Now, that already has built into it effects from the rest of the model, so lowering the Class III prices did lower the all-milk price $0.30 in the first year. That gives us some modest supply response. That modest lower supply response then also ends up with less manufactured products on the marketplace, and raising, then, wholesale prices for dairy products that enter those class -- minimum class price formulas.

So we minimize in some ways the increases in Make Allowances because dairy product prices are higher than where we were in the baseline because we have some slight reduction in milk production.

As the supply side, milk production, allowed to adjust more fully across the years, you begin to see that the effects on the all-milk price or the minimum class prices go down from their initial change in 2023. And so by the end of the period we talk about, the results show a U.S. all-milk price change of $0.04 per hundredweight lower under these higher Make Allowances, and you see then

the corresponding changes in the minimum Federal Order class prices as well.

The second scenario looked at, again, was removing barrel cheese from the protein component price formula. So under that approach, I was really looking at historically, what's the spread between barrel and block cheese prices to adjust the formula.

And in this case, you see in 2023 that the minimum Class III price increases $0.37 per hundredweight in the first year. That generates higher U.S. all-milk prices of $0.15, which, again, would slightly increase milk production, milk supplies, creates a few more manufactured products in the first year, which drives down wholesale dairy product prices, and that's why we see a Class IV, for example, that's -- that's lower under that scenario.

As production, milk production, is allowed to respond longer-term, we start to see some of those results move back towards closer to the baseline. And by 2032, U.S. all-milk price is $0.02 per hundredweight above where they were under the baseline; Class III price is $0.22 per hundredweight higher than where they were under the baseline.

Looking at the distribution of -- so this is the change in Class III prices scenario less baseline. There were a few outcomes where leaving the barrel price in might have generated a higher Class III price. Not very many of those observations existed historically.

There's also the other end of the tail. So here's

a good example of, you look at this cumulative density function, and it is not normal. You see the tail on the right-hand side has a lot more tail to it. But on average, we were talking -- the results show about $0.35 higher Class III prices under the scenario of removing barrel cheese than what we would have seen with barrel cheese in the formula.

I'm going -- it's just trying to skip another slide here for me.

So the higher-of. So remember the baseline is one that continues current policy. So in this case we had the Class I mover as the average-of Class III, Class IV plus $0.74, as was passed in the 2018 Farm Bill. The scenario then goes back to the higher-of for the Class I mover. This would be Proposal 13.

The results here, in 2023, the Class I mover going into the higher-of was $0.48 per hundredweight higher in 2023, and that generates some additional milk supplies as a result. That lowers Class III and Class IV prices under this scenario relative to the baseline. Here, longer-term we're talking about a U.S. all-milk price in 2032 that was $0.02 per hundredweight higher.

Those averages -- all right. So these are the average results. Now if we start to look at some of the distribution, I think here is where we can find some interest in the analysis as well.

I have given you, in this slide, the distribution between Class III and Class IV prices. I have imposed a

minus $1.48 per hundredweight and plus $1.48 per hundredweight, because when you are within that band of those blue lines, taking the average plus $0.74 likely returns higher -- a higher Class I mover. Yet, trying to make the point that given the volatility that we have seen in the marketplace and the stochastic baseline process that we use, when you look at the gold line that moves outside the upper or lower bounds of those black lines, we have a situation where the higher-of returns a higher value than using the average plus $0.74.

I sometimes like to characterize this of, which is better, it all depends on the exact path over the next ten years. But relative to this stochastic baseline process that we have together, it will suggest there's a lot more tail outside of the $1.48 to minus $1.48 per hundredweight band. That would suggest the higher-of might return a higher Class I mover price. But if you do this kind of analysis deterministically, you are going to miss what I think is a very important piece of the higher-of.

I look back to when we first put the higher-of in place in the early 2000s, and I don't think we clearly understood the potential implications of a higher-of process, despite we thought that was a very good approach to the process. And I -- I don't say this being critical of that. It's just when I take the higher of two prices, it gives me the opportunity for, I think, some additional higher Class I mover than any other combination that I might want to think about.

I bin these together -- all right, so for those of you that are tired of seeing cumulative density functions this morning, just to put them in bins of a hundred for a minute, and now I'm talking about the actual Class I mover level. So think of the first hundred bins on the left-hand side. So first bin is the first hundred outcomes averaged together on the left-hand side. The bin 5 was the highest 500, if you will, on the right-hand side.

Just binning those together just reminds me to say, on the ends, we certainly end up with higher Class I mover under the higher-of relative to the baseline, which again, is -- is what we have passed in the 2018 Farm Bill. If you are in the middle bin, bin 3, and also bin 4, we see in a situation where what we passed in the 2018 Farm Bill would return a higher Class I mover.

The next slide is the impacts of updating the skim milk solids component, Proposal 1. Again, we're going to, under this scenario, talk about what are higher minimum class prices. Class III price, for example, is $0.07 higher in the first year of the analysis 2023. It results in a U.S. all-milk price that is $0.05 higher the first year as well.

As the supply side modestly increases production to those higher milk prices, we tend to moderate the results. And by the end in 2032, we're talking about a U.S. all-milk price that's one penny above where it was under the scenario.

Then the last single one here of Class I differentials. These Class I differentials were provided to me by order from National Milk Producers Federation. I show the Class I mover in this case, in this table, to be consistent with the other proposals that I have looked at here this morning, but you know on top of that Class I mover are going to be the higher differentials under Proposal 19.

So if we wanted to think about a minimum Class I price, I'm sure for every order that's going to be higher instead of what's a Class I mover that is lower. However, when we talk about the first year of the analysis, U.S. all-milk prices are $0.17 per hundredweight higher, generates some additional production, and drives down minimum class prices as a result of then lower wholesale dairy product prices. Again, more milk supply response longer-term tends to moderate the impacts on the all-milk price, so it's only up $0.02 by the time we get to 2032, yet those individual minimum class prices are still below by 30 to $0.40 per hundredweight when we look at the end results for these higher Class I differentials.

And I close this morning just to make sure that we look at all five of these proposals together at the same time. I like to remind us, so the model is nearly linear, it's not absolutely linear. So you just can't take the simple average of the five individual impacts and come up with the all-scenario line that is at the bottom.

Now, in this case the table is, U.S. all-milk

price changes for each of the five outcomes: Make Allowance change, remove barrel cheese, higher-of Class I mover, update the skim solids, and then Class I differentials. So now we're just looking in each of this data as only the effect on the U.S. all-milk price.

But when you look at all those scenarios taken together, the first-year impacts are for $0.09 per hundredweight higher U.S. all-milk price. And, again, supplies respond to that higher price, and by the time we're out to 2032, we're talking about U.S. all-milk prices that are about $0.03 per hundredweight higher at the end.

And I think that summarizes from my PowerPoint, my testimony.

BY MS. HANCOCK:

Q. Thank you, Dr. Brown.

I just want to follow up on a couple of points that you raised in your testimony. And maybe I'll start with the summary, if you want to pull that back up because you still have that handy.

THE COURT: Again, just for someone reading the transcript, we're in Exhibit 422, the last slide, which if you have a paper copy, is page 18.

BY MS. HANCOCK:

Q. When you are looking at the summary of all scenarios, that -- that's capturing if all five of National Milk's proposals were adopted and in a final decision as they are proposed today; is that right?

A. That is correct.
Q. Based on the numbers and the modeling that you did, if National Milk's proposals were put in place, is it going to turn the dairy industry on its head and destroy the dairy industry?
A. That is not the summary of the model results that I would have conducted, no.
Q. Okay. And what is your -- what is your takeaway when you look at the results of all five of those proposals being put forth?
A. So modest impacts on average from those five proposals, I think it's important to realize that, you know, as we make those changes, there are differences and maybe modernization to some of the factors that haven't been changed for decades that are important. But in terms of the overall impacts, I always like to remind us that the industry adjusts oftentimes to whatever changes we're trying to make from a policy perspective, and I think the model reflects that -- that adjustment, whether it is increase in milk supplies or et cetera. But the actors within the industry adjust to whatever policy changes we want to make.
Q. Are there policy changes that could be made that -- that don't acclimate over time?
A. So, absolutely. You know, I think that the very latest kind of discussion would have been back in the 2014 Farm Bill, and there was a lot of discussion when the margin protection program was put in place that it needed

supply management associated with it. If you are going to do that kind of supply management, that those impacts stay with you in the industry longer-term.

So there are policies that we can change that would move the industry to a different place. But I often say many of the policies that we can talk about affect the path, so where is the industry headed long-term? You can change the path to the long-term, but it probably does not change the long-term outcome of the industry all that much.

Q. And based on your review and analysis of the changes that are proposed by National Milk, would any of those have a long-term impact that would alter the course of the dairy industry?

A. It does not appear there would be on the model.

Q. I want to talk about your work in -- in the annual Congressional report that you are involved in.

Can you tell me about that?

A. So -- yes. A work that I have been doing with Dr. Capps for about the past five or six years, I -- so under that work, I have been taking what's Dr. Capps' estimates of both the promotion impacts, as well as then the elasticities he gets from the different dairy products, realigning my structural model to his estimation, and then simulating to generate the returns that we see from promotion under that work.

Q. Okay. And so you are analyzing the -- the promotion programs for Congress; is that right?

A. That is correct.
Q. And the effectiveness of those programs to help Congress evaluate whether they should be used in the future?
A. That's correct. So Dr. Capps would be doing the estimation of those direct impacts. We're then imposing that into the FAPRI system to help understand the total impacts of what did producers have to put in, or what did market participants have to pay in terms of those promotion programs, and then what's ultimately the payoff from those programs. So I'm kind of the second stage, if you will, of that work that Dr. Capps does on the estimation side.
Q. And as part of those estimations, Dr. Capps and you look at the elasticities of the milk, of the total milk; is that fair?
A. That is correct.
Q. Can you tell me what information is used to evaluate those elasticities?
A. Yes. So I -- I will take from Dr. Capps' estimation, both his estimates of the own-price elasticity, and then the impacts of dairy promotion gets introduced into the annual framework as well. Those are the two pieces for me that, then, I will take the simulation model and incorporate, and then run these alternatives scenarios.
Q. And in the work that you have done, you said that you have been doing it for the last five years with

Dr. Capps?

A. Yeah, roughly the last five years is when I became involved. I think Dr. Capps has been doing it for a longer period of time, but it was an add to his work to be able to talk about the BCRs from doing that work.

Q. And what's a BCR?

A. It's really just the return on investment from dairy promotion. That's -- that's ultimately what that project is trying to do. What's the -- what's the return of dairy promotion expenditures for the industry?

Q. Is the -- is your plan to continue to work with Dr. Capps in the future as well?

A. That is the current plan.

Q. Okay.

A. At least until I retire, that's my --

Q. And you have -- you were involved in -- in the Congressional report that was most recently published in September of 2023 that covered the time period from 1995 through 2020; is that right?

A. That is correct.

Q. And do you recall what the elasticity conclusion was in that report to Congress?

A. So I believe the fluid own-price elasticity, if that's the one we're going to make reference to, so less elastic than what was in the current version of the FAPRI model as I recall, somewhere a little less than minus .05.

Q. Okay. I think Dr. Capps testified that it was negative .038.

Does that sound correct?

A. It does sound familiar.

Q. Okay. And since that time, have you been involved in analyzing the elasticities since then?

A. So we are -- have worked on the update that would be through 2021 as well that's not publicly available at this point.

Q. Have they gone up or have they gone down?

A. So they haven't -- I will just say, characterize it as they haven't changed a whole lot. When you are talking about a minus .038, that is very inelastic, which really means consumers seem to have very little response to changes in fluid milk prices. If anything, I think we continue to get more inelastic, which is, frankly, not any different than when I look at my own work over the last three decades of what's been retail fluid elasticities that have continued to be smaller, more negative over time.

Q. And the Judge had made a note earlier that it's really important for our transcript to be able to hear the difference in what you are saying between elastic and inelastic, so I want to make sure that our record is very clear on this.

Are you saying that -- that the total milk price for own-price elasticities has gone even more inelastic?

A. That is correct. More inelastic over the period where I have been looking at estimations.

Q. Okay. So even from a report that would estimate

the elasticities of milk up through 2020, if we were to update that through today, you have not seen anything that would be credible in order for you to conclude anything different than -- than dairy prices are highly inelastic?

A. When you look at the dairy promotion work that we have been doing, that's correct.

Q. Okay. And I think that we -- are you familiar with the work that -- that Dr. Kaiser did for National Milk in evaluating the elasticities?

A. So somewhat familiar, yes.

Q. And you understand that he concluded the same thing, that if dairy price -- or that total milk was highly inelastic?

A. Yes.

Q. And he took the totality of 38 different studies, and took the median and the mean averages, and used the totality of those to draw that conclusion.

Were you aware of that?

A. Yes, I am.

Q. Is that a methodology that you believe is standard in the industry to determine and evaluate elasticities?

A. I think it has a lot of advantages in the approach. And I look at it this way, I work in a soft science world. As much as I sometimes now wish I would have gotten my Ph.D. in a hard science where things might have been more black and white, I'm working with data that has a lot of noise beyond what I'm trying to measure in that data.

And so being able to look at a number of different ways to approach how you -- how to estimate fluid milk elasticities, I think is important. We should be looking at all the information that's available from those experts that have been out there publishing the literature different ways to estimate elasticity -- own-price elasticities.

Q. So you are saying that taking the collection of the various peer-reviewed studies into account when you are evaluating those elasticities is important to factor in all of the noise or variables that happen.

A. Correct. I think it's hard to look at one analysis and draw serious conclusions. Looking at all of them, I think they all offer opportunities for us to think about the best own-price elasticity estimates.

Q. And, obviously, you have been working pretty closely with Dr. Capps over the last five years using elasticity analysis for the dairy industry; is that right?

A. That is correct.

Q. In the work that you have done with Dr. Capps, have you ever been involved in any studies with him where you have collectively concluded that the total price of dairy products was elastic?

A. I have not been involved with him.

Q. And are you familiar with the testimony that he gave at this hearing?

A. I am -- I'm somewhat familiar with that testimony, yes.

Q. And are you familiar with the methodology that he used in analyzing the IRI dataset?

A. Yes.

Q. I think it's called Circana now.

A. Yes. Correct.

Q. And what is your understanding about what the use of that dataset is and the methodology he was using?

A. So number one, we're -- I believe he was looking at weekly data in -- in that IRI data. There are advantages here of being able to see a number of different dairy products, and so maybe breaking it into those different types of fluid milk is important. So it's another approach to estimating fluid milk elasticities that one should be looking at.

I think more and more we have an opportunity to see scanner data today that in the past wasn't availability to us, to look at different ways to estimate elasticities.

Q. And that weekly analysis, what -- what would be the benefit of looking at it on the weekly level capturing the IRI data for the retail data that it captures?

A. Yes. So for me, getting really short-term, getting up against the current situation, if I can have weekly observations, I could get a -- I would have a lot more observations to do estimation with that are closer to where the industry might be today. I think that's some of the benefits of taking that weekly approach. It's a direct measure of sales that I think sometimes has some

advantages relative to some other data sources available to us to think about the consumption side.

Q. And if we look at the total supply chain from the farm all the way to the retail outlet, it gives you a capture of the lens that's happening just at the retail side for the a limited subset of products; is that right?

A. That's correct. We're only going to look at retail sales data there, which is going to miss some of the other fluid consumption that's occurring in the industry.

Q. Okay. And so it might be a value to a retail outlet when they are trying to determine if the market would absorb a price increase if they're tired of taking it as a loss leader product, for example?

A. Absolutely. And I think the other benefit here is that provides us the opportunity look at those alternative beverages as well and to see what kind of cross-elasticity impacts those have.

Q. And when you are doing your Congressional reports, when you are analyzing policy for Congress, what is the measure of time that you are looking at for those reports?

A. Yes. So there we're looking at -- so to the dairy promotion work that I'm doing with Dr. Capps, he is estimating quarterly elasticities. We're still using the annual framework from the FAPRI system in the portion of the work that I'm doing.

Q. And as you sit here today, are you aware of any recommended changes to the annual reporting and

methodology that you and Dr. Capps were using for setting policy for Congress?

A. I'm not aware of any.

Q. And what do you believe is the appropriate measure of time and scope for use in evaluating policy decisions that affect the dairy industry?

A. I think given the history of how we have handled dairy policy, doing it on an annual framework has been the most normal way of addressing policy change.

Q. Okay. And is there a reason why you think that the retail outlet and the weekly measurements would not be appropriate for setting policy?

A. So I think it is -- it's important to think about what the annual response is. That weekly data is much shorter. I think most of us would agree that weekly elasticities are going to show more elastic response than annual elasticities will show because consumers could choose one week to forego dairy sales. Over an annual period, we start to level out some of that more lumpiness that we might find in the weekly data.

Q. And is it also fair to say that if you are going to be making policy changes and recommendations that you want to have more than just a limited subset of data, you would want to have the entire dairy market analyzed?

A. Absolutely. We want to know the effects relative to total fluid milk demand, and I think we want it on a time step that's similar to the approach we're going to take to analyze that policy as well.

Q. And that's the -- that's what you do for the Congressional reporting?

A. That is correct.

Q. And that is the elasticity basis and conclusion that you used for purposes of your analysis that you did for National Milk; is that right?

A. That is correct.

Q. And you stated on -- when you were on page 5 of Exhibit 422 when you were talking about the key elasticities, you stated that those elasticities are -- excuse me -- that the model that you were running was critically dependent on the elasticities that were built into the model; is that right?

A. That is correct.

Q. And do you feel confident that the elasticities that you built into this model accurately reflect the elasticity analysis for the current dairy industry?

A. Given my long-term experience, I feel like those are the best elasticities to use for conducting this kind of policy research.

Q. And does that incorporate the most recent elasticity results that were reported in that September 2023 USDA report?

A. So I think, again, that would be the case where I would have used Dr. Capps' own-price elasticity. Very similar, very inelastic as well. More -- in fact, more inelastic than what I might use, or that I do use in the policy work that I'm doing for Farm Bill options.

Q. And so that was somewhere in the range of negative .038 or less?

A. That's correct.

MS. HANCOCK: At this time, Your Honor, that's all the questions that I have. We would make Dr. Capps available for cross-examination.

I'm sorry, I said Dr. Capps, I meant Dr. Brown. I would love to have Dr. Capps back for more cross-examination.

But we would make Dr. Brown available for cross-examination.

THE COURT: I'd like to take a five-minute stretch break. Let's see, a little longer than five, please. Please be back and ready to go at 9:25.

(Whereupon, a break was taken.)

THE COURT: Let's go back on record.

We're back on record at 9:25.

Cross-examination may begin.

Would you identify yourself, please.

CROSS-EXAMINATION

BY MR. ROSENBAUM:

Q. Dr. Brown, my name is Steven Rosenbaum. I represent the International Dairy Foods Association.

Good morning.

A. Good morning.

Q. I want to start with just a question of clarification.

In your PowerPoint presentation, do you have a

copy of that?
A. I do.
Q. Which is Exhibit --
THE COURT: 422.
BY MR. ROSENBAUM:
Q. -- 422. On page 6 you state, in the first bullet point, "The work on Federal Milk Order scenarios was conducted in 2022 under a grant agreement between NMPF and the University of Missouri."
Do you see that?
A. I do.
Q. And that's a reference to the work on Federal Milk Order scenarios that is your testimony today, correct?
A. That's correct.
Q. Did you perform that in 2022?
A. Yes, I did.
Q. Okay. Okay. Now, are you aware that National Milk has changed its proposal since 2022? And I have specific reference as to Proposal 19 with regard to the increase in Class I differentials, where they have changed their request as to what the increase in Class I differentials should be.
So my question is, does your scenario and analysis that you present today reflect the actual National Milk proposal as submitted after the changes they made in 2023, or, instead, does it reflect the numbers that National Milk had had in mind back in 2022?
A. So it does reflect the final numbers. So I did

analysis on a set of Class I differential changes back in September of 2022, that I then came back in very early 2023 and updated to the final ones.

Q. Well, when in 2023 did you do that work?

A. That would have been done in January of 2023.

Q. All right. And if the record would disclose that National Milk, in fact, made changes in those January 2023 numbers, and that the numbers they actually submitted reflected numbers they did not develop until June 2023, would that indicate that you, in fact, have not used in your analyses the final National Milk numbers?

A. So if there were changes after the work that I did in early 2023, it would not be incorporated, that is correct.

Q. And so you have no view, I take it, as to what impact those changes would have on your final numbers?

A. That is correct.

Q. All right.

MR. ROSENBAUM: Let me, if I could ask that a copy of Hearing Exhibit 13 be made available to the witness.

USDA REPRESENTATIVE: Exhibit 13?

MR. ROSENBAUM: 13.

And, Your Honor, I have a document that I would like to -- if I could approach the witness with as well, a separate document, but I need him to look at both.

THE COURT: All right. But have you had a chance to give opposing counsel a look at what you are about to show him?

MR. ROSENBAUM: I'm going to give it to everyone at the same time. Yes, Your Honor.

THE COURT: Oh, okay. Fine.

Now, both the witness and the Judge have record copies of Exhibit 13, and we must make sure we return that when this questioning is completed.

THE WITNESS: All right.

BY MR. ROSENBAUM:

Q. So I want to start with the question of eliminating barrels from the calculation of the protein price. Okay?

And if you turn to page 7 of your written testimony, which is Hearing Exhibit 421, you have a heading that says "Discontinue the use of the barrel cheese price."

Do you see that?

A. Yes.

Q. All right. And the first document I have given you is called "The Current Use of the Barrel and Block Cheese Prices in the Federal Milk Order System." I'm not going to mark this as an exhibit because I've just replicated verbatim the regulation, but I did this just so it would be handy. Obviously, we don't need to put regulations into the record.

But this is the definition of the protein price. Do you see that in the regulation?

A. Yes.

Q. And the -- the -- what it says in the first part

of it is, "The protein price per pound, rounded to the nearest one-hundredth cent, shall be computed as follows:

(1) Compute a weighted average of the amounts described in paragraphs -- "

THE COURT: More slowly, please.

MR. ROSENBAUM: Sorry. Thank you, Your Honor.

BY MR. ROSENBAUM:

Q. "-- compute a weighted average of the amounts described in paragraph (n)(1) &i and &ii [sic] of this section."

And then &i [sic]: "The U.S. average NASS survey price for 40-pound block cheese reported by the Department for the month; and

"&ii [sic] The U.S. average NASS survey price for 500-pound barrel cheese" -- "cheddar cheese (38% moisture) reported by the Department for the month plus $0.03."

Do you see that?

A. Yes.

Q. And is that your understanding -- and then it goes on from there to deal with the Make Allowance, but I'm not going to -- that's not the subject of my questioning here.

So is that your understanding as to how the protein price currently works?

A. Yes.

Q. Okay. And so if I could now draw your attention to Hearing Exhibit 13, which I have asked to be shown to you.

And if you turn to page 7, and what's described as

Proposal 3. This is the document by which USDA has, if you will, redlined the current regulation to explain what the proposals will do. This is the National Milk proposal in the barrel-block cheese issue.

And basically, do you see that the proposal is simply to eliminate the participation of the barrel price from the formula?

A. Yes.

Q. And that would simply mean that the formula would continue as is, except it would now exclusively use the block price to set the protein price?

A. Yes.

Q. Okay. Just -- I'm -- this is just orientation to make sure we're all on the same page about this proposal.

So now let's go back to your written testimony on page 7 under the heading "Discontinue the use of the barrel cheese price." And I just want to read the key language, which is what's right under that quote: "This scenario removes the barrel cheese price from the protein component price formula. The effects of this scenario depend on the barrel cheese price relative to the block cheese price. Looking at historical relationship of the barrel cheese price to the block cheese price over the 2000 to 2022 period, including barrel cheese prices into the protein component price formula would have resulted in a higher price less than 3% of the time. In about 10% of the historical observations eliminating the barrel cheese price would have raised the Class III milk price by $0.75

per hundredweight or more. For most of the historical period, the effect of removing the barrel cheese price on the Class III price was an increase of zero to $0.75 per hundredweight. This distribution of the impact is important to this particular analysis, as the exact difference between block and barrel cheese price is essential to the results."

Do you see that?

A. Yes.

Q. And every time you refer to the historical observations in this section that I have read, I take it you are referring to the 2000 to 2022 period; is that correct?

A. That is correct.

Q. Okay. And when you say in the last sentence, "This distribution of the impact is important to this particular analysis," your reference to "particular analysis" is to your analysis in your report of the impact of eliminating the barrel price from the formula, correct?

A. That is correct.

Q. Now, obviously, we know what the barrel price and the block cheese prices were between 2000 and 2022, correct?

A. Yes.

Q. And so we also know what the block price and the barrel price plus $0.03 was, correct?

A. That is correct.

Q. And that's how the formula actually works,

correct?

A. That is correct.

MR. ROSENBAUM: Your Honor, I now have a document. I would like to approach the witness, and I'm going to ask that this document be marked with the next Hearing Exhibit.

THE COURT: All right. But before you do that, when you read from the document that you say you do not want to have as an exhibit because it's just the regulation, a couple of times as you read through it, you used the term "ampersand," and I didn't understand your use of that with regard to what you were reading.

Would you have any objection to our making part of the record what you read?

MR. ROSENBAUM: Not at all. And if I misused the term, I stand corrected. I believe that means the -- if you will, the little i and two little ii, that term "ampersand," but if I'm wrong about that. But in any event, I have no objection to marking that as a Hearing Exhibit, Your Honor.

THE COURT: I think the ampersand is the symbol for "and."

MR. ROSENBAUM: Then --

THE COURT: And I do think the easiest way to understand the little i and the two little i's is just to say that.

But Ms. Hancock had a Latin term that I'm not familiar with that also describes those little i's on a

previous occasion.

MS. HANCOCK: Romanette.

MR. ROSENBAUM: Romanette. Your Honor, it's --

THE COURT: Romanette.

MR. ROSENBAUM: -- Romanette, and I stand corrected. That was my mistake.

THE COURT: And I couldn't even remember what she had said because I have never heard it before.

MR. ROSENBAUM: I was mixing up my phrases, Your Honor.

But I - in any event, I certainly have no objection to marking that, if that's preferred, Your Honor.

THE COURT: All right. I think that's the best way for the -- I think that's the best way.

Now, also we have got it correct in Exhibit 13, so -- so that also could be how the problem is solved.

MR. ROSENBAUM: Well, Your Honor, in that case, let's just rely on Exhibit 13 as the correct language.

THE COURT: All right. Good. Thank you. I think that's an excellent way to go, and that is on page 7 of Exhibit 13.

All right. Now you may deal with this next exhibit.

MR. ROSENBAUM: All right, Your Honor. I will distribute this to the -- copies.

THE COURT: Let's go off record for just a moment at 9:38.

(An off-the-record discussion took place.)
(Thereafter, Exhibit Number 423 was marked for identification.)
THE COURT: Let's go back on record.
We're back on record at 9:39.
Mr. Rosenbaum, I have marked this exhibit as Exhibit 429, IDFA Exhibit 59.
You may proceed.
All right. Exhibit 423, IDFA-59. Thank you.
BY MR. ROSENBAUM:
Q. Dr. Brown, I will -- let me just explain this document.
As we were discussing a moment ago, your discussion of the discontinuance of the use of the barrel cheese price references the period from 2000 to 2022, correct?
A. I think it's -- yes. You are correct.
Q. And so from pages 1 through 9 -- let me start that question again.
For pages 1 through 8 we have simply copied information from either the NASS dairy products prices report, that's for the period 2000 through 2012, or the National Dairy Products Sales Reports, that's from 2012 to 2022. And that's -- those are the documents that set forth the data that are used to set the protein price.
So as you will see, there is a separate entry for each month.
Do you see that?

A. Yes.
Q. And you are aware that the protein price is based upon a weighted average of the block price and the barrel price plus $0.03, correct?
A. Yes.
Q. And so what we have done here is simply copied, under the Column B, the weighted average; Column A obviously is the month, as announced by the government, that's the weighted average as announced by the government; Column C is the announced block price; Column D is the announced barrel price; Column E is the announced barrel price plus $0.03, which is what is actually used to set the formula.
Do you see all of that?
A. Yes.
Q. Okay. And then in Column G we have compared the block price to the barrel price.
Do you see that?
A. Yes.
Q. And in Column -- and if the difference is black -- the different -- let me just say, the difference is in black color when the block price was higher than the barrel price, and it's red when the block price is less than the barrel price. Okay?
A. Okay.
Q. Do you see that?
Then the next column, Column H, is the block price versus the barrel price plus $0.03.

Do you see that?

A. Yes.

Q. And this is actually what is used -- strike that.

And once again, it's the barrel price plus $0.03 that actually is used in the formula.

Do you see that?

A. Yes.

Q. And then Column -- once again, it's black when the block price was higher than the barrel price plus $0.03, and it's red when the block price was lower than the barrel price plus $0.03. Okay?

That last column, Column I, that's the block price versus the weighted average. It's black when the block price is higher than the weighted average, and it's red when the block price is lower than the weighted average.

So if you look at Column H, you can see how many months the block price was higher than the barrel price plus $0.03, those are the black ones, and how many times the block price was lower than the barrel price plus $0.03, and those are red. Okay?

And then finally, if you go to the very end of page 8, once again in Column H, there's a summary.

Do you see that?

And what this shows is that if you look at those months, the block price was higher than the barrel price plus $0.03 only 37% of the time, 101 times out of 276 months. That's Row 310.

Conversely --

THE COURT: Wait, wait. Go slowly, because this part is where you are getting to the importance of your examination.

MR. ROSENBAUM: Yes.

BY MR. ROSENBAUM:

Q. That's Row 310 for the number of months and Row 313 for the percentage of months, 37%.

Conversely, the barrel price plus $0.03 is higher than the block price 63% of the time. That's shown in Row 314. And that represents 175 of the 276 months, which is in Row 311.

Do you see that?

A. Yes, I see those numbers.

Q. Okay. So now I take you back to your testimony on page 7 where you say, "Over the 2000 to 2022 period, including barrel cheese prices in the protein component price formula would have resulted in a higher price less than 3% of the time."

Do you see that?

A. Yes.

Q. But doesn't the data I just showed you indicate that, in fact, including the barrel price in the protein price formula resulted in a higher price not 3% of the time as you indicate, but 63% of the time?

A. So that's what the data you have in this table suggests.

Q. Do you have any explanation for the discrepancy between your testimony and this data, assuming its

accuracy?

A. So I will say don't forget we're talking about a scenario impact here. So the figure -- sorry -- the -- my PowerPoint presentation, page 12, was the reference of the results of eliminating the barrel cheese price. So there's those changes happening from the rest of the system as well as just the simple historical arithmetic.

Q. But your testimony explicitly references the 2000 to 2022 period and purports to represent that including the barrel price only resulted in a higher price 3% of the time.

That was the discussion of the historical reality, wasn't it?

A. That was the results of the analysis assuming that historical block versus barrel.

Q. Weren't you, in your statement, purporting to say that the participation of the barrel price in setting the protein price during the period 2000 to 2022, only resulted in a higher price less than 3% of the time? Isn't that what your statement says?

A. So I -- again, I refer to the PowerPoint presentation where it shows page 12 of the change in the Class III price scenario minus baseline in -- in those -- in that outcome relative to what's written in my written statement here.

Q. But that's a projection forward from 2022 through 2032, correct?

A. So that is correct. The combination of historical

differences between block and barrel cheese prices appropriately weighted on top of the scenario is what results in what is Figure 12 -- sorry -- page 12 of the PowerPoint presentation.

Q. Okay. You agree with me that from the historical perspective, assuming the accuracy of the numbers I have shown you in IDFA Exhibit 59, which is Hearing Exhibit 423, from a historical perspective, going all the way from 2000 to 2022, which is, I believe, the entire period when that formula has been in use -- still in use today -- including the block price resulted in a -- excuse me, start that question again.

Do you agree with me that from the historical period of 2000 to 2022, which is the entire period the formula's been in effect -- of course, it's now still in effect -- including the barrel cheese price resulted in a higher price 63% of the time, not 3% of the time?

A. So according to this historical data in the table, yes. Again, the information I'm providing is not only taking that historical data as some base, but then running the scenario of removing the barrel cheese price, which I think is creating the difference in the answer that you are seeing.

Q. Well, we'll get to in a minute to what effect this has on your projections, but certainly you would concede that your statement on page 7 is just incorrect?

A. So maybe interpreted differently than it was written. But, again, we're talking -- I'm trying to talk

about the impacts of removing barrel cheese price over the 2023 to 2032 period.

Q. Okay. Let's skip down to the couple sentences further on page 7 where you say -- you see the sentence that begins, "for most of the historical period"? Do you see that?

A. I'm sorry, can you repeat that?

Q. Yes. The sentence that begins "for most of the historical period."

Do you see where I am? It's a little more than halfway down the first paragraph.

A. Yes.

Q. Okay. So just reading that quote, "For most of the historical period, the effect of removing the barrel cheese price on the Class III milk price was an increase of zero to $0.75 per hundredweight."

Do you see that?

A. Yes.

Q. And isn't it fair to say that, in fact, the data that I have shown you in Hearing Exhibit 423 indicates that 63% of the time the effect of removing the barrel cheese price would have resulted in a negative number, not an increase in the protein price?

A. So the data that you provided me, that's, yes, what it looks like. Again, I'm trying to look over the forecast period of that scenario relative to the baseline.

Q. But -- but you're sort of selling the -- if you will, the advantages of the proposed formula change by

representing on page 7 of Exhibit 421, that had this change been in effect from 2000 through 2022, it would have increased the protein price, and yet that's just not right.

Isn't that fair?

A. I think you are interpreting what's written there differently than maybe the intention of what was meant to be said there.

Q. And you -- and just for completeness purposes, I will call your attention to page 9 of Hearing Exhibit 423, the one that I presented, where we simply translated the data to be annual data, in case that somehow was the issue, the use of annual data versus monthly.

But if you look at Column H, do you see that going to Rows 32 and 33, eliminating the barrel price from the formula would have increased the protein price only 26% of the time, but decreased the protein price 74% of the time, correct?

A. I see that in your table.

Q. Okay. And so you would agree with me that the use of annual versus monthly data does not have a material effect on the data; is that fair?

A. That's what your table shows.

Q. And after telling us on page 7 about the purported historical impact, had it been in effect, of the elimination of the barrel cheese price, you conclude, quote, "This distribution of the impact is important to this particular analysis as the exact difference between

block and barrel cheese price is essential to the results."

Do you see that?

A. Yes.

Q. And I assume that historical data is part of what the calculation is for purposes of making your projections in the future?

A. Making draws off that historical period, yes.

Q. Okay. Let's switch to another topic.

THE COURT: Before you do, Mr. Rosenbaum, let's go to the bottom of page 9 where you indicate your data sources, and I want to know which parts of Exhibit 423 were reported by NASS.

MR. ROSENBAUM: You are asking me, Your Honor?

THE COURT: Yes.

MR. ROSENBAUM: Your Honor, I believe that B, C, D -- well, let me start again.

Columns A, B, C, D, and E are all reported numbers, and then the rest are simply literally pluses or minuses -- I mean, by "the rest," I mean, G, H, and I are simply pluses and minuses with respect to what's in B, C, D, and E.

THE COURT: All right. And when I said "NASS," I see part -- some of the years were from NASS and some of the years were from the National Dairy Product Sales Report.

MR. ROSENBAUM: Yes, Your Honor. The entity within USDA that reported this number switched in 2012,

but it's the same number.

THE COURT: All right. And then how did the software that you utilized for the adding the numbers and so forth do the calculation? Did you use a particular kind of a spreadsheet or --

MR. ROSENBAUM: This is an Excel spreadsheet, Your Honor.

And, Your Honor, Mr. Brown, Mr. Mike Brown -- sorry, our other Mr. Brown, who will be our first witness -- put together the document. I'm intending to ask him about it. So I -- I think I know the answer to your question, but I would prefer to have him answer them to make sure they are absolutely correct.

THE COURT: All right. Thank you. All right. And you wanted now to leave this subject and bring us a new document.

MR. ROSENBAUM: I don't have any -- I'm literally -- I'm leaving the block barrel subject. I don't have another document to use quite yet, Your Honor.

THE COURT: Okay.

MR. ROSENBAUM: I just have some questions.

THE COURT: Understood. Thank you.

BY MR. ROSENBAUM:

Q. Okay. So let's talk about a bit about FAPRI and its methodology, if we could.

So I think you have said this already. I'm -- I think you say it in your report, that FAPRI is often called upon to assess the impact of proposed policy

changes affecting agriculture, correct?
A. Correct.
Q. And to do that analysis, you will utilize a base case market outlook, and then -- which FAPRI creates, and then assess how that outlook would be affected if certain proposed policy changes are changed, correct?
A. That is correct.
Q. I didn't say that quite right.
If certain proposed policy changes are adopted, correct?
A. Yes, that is correct.
Q. And -- and that's -- and every -- every year FAPRI prepares what they call a U.S. Agricultural Market Outlook, correct?
A. That is correct.
Q. And I'm going to mark it.
THE COURT: Let's go off record while we deal with the -- identifying the document that's being distributed.
We'll go off record at 9:59.
(An off-the-record discussion took place.)
THE COURT: Let's go back on record.
We're back on record at 10:00 a.m.
Mr. Rosenbaum, I have marked this document, and I'll let you identify it in just a moment, as Exhibit 424, IDFA-60. And you may proceed.
(Thereafter, Exhibit Number 424 was marked for identification.)
///

BY MR. ROSENBAUM:

Q. Dr. Brown, I'm sure you recognize this document. Is this, in fact, the U.S. Agricultural Market Outlook published by FAPRI in March 2022?

A. It is.

Q. And, in fact, you make reference in your testimony to this particular document, correct?

A. I do. Yes.

Q. Okay. And -- and this is a document that -- and I believe -- I believe you testified to this -- this is a document that FAPRI publishes every March, basically, correct?

A. Basically every month.

Q. And -- and it's -- it covers a variety of agricultural commodities, including dairy, which appears on page 63 of this particular document; is that right?

A. That is correct.

Q. And according to the second page of the document, it doesn't have a number, it's the page that's right after the cover, it states -- it lists people who are prepared -- who were participants in preparing the document, correct?

A. Yes, it does.

Q. And -- and you are listed as one of them, correct?

A. That is correct.

Q. And you're responsible for the -- among other things -- the dairy and consumer price projections, correct?

A. You are correct.
Q. Okay. Now, what I want to focus on now is your testimony on -- starting on page 4.
And I take it that you did not simply run the National Milk proposals against this baseline as shown in Exhibit 424, correct?
A. That would be correct as well.
Q. Now, is it, in fact, common when Congress asks you to do analyses of the impacts of proposed changes that you do, in fact, use the actual baseline as your starting point?
A. A majority of the time, but there have been exceptions in the past.
Q. And the work you did for National Milk was an exception, correct?
A. It was not using the straight March 2022 baseline.
Q. Okay. And you say that -- I'm just looking at page 4 of your testimony -- that "the March 2022 dairy baseline was modified in July 2022 based on NMPF's staff and member feedback."
Do you see that?
A. Yes.
Q. Is it fair for me to interpret that language to mean that the only individuals with whom you consulted for purposes of making these modifications were representatives of National Milk?
A. That would be correct.
Q. Okay. And you say that the -- strike that.

And so you actually ended up developing a new baseline in July 2022 based upon that National Milk participation, correct?

A. Yes. That would be from their feedback starting with the March 2022 baseline.

Q. And -- and this was work that you were doing for purposes of this hearing as opposed, for example, to -- well, let me just -- I should have put a question mark on the end of that.

This was work you were doing specifically for purposes of this hearing, correct?

A. It actually was not for purposes of this hearing because it was done in advance of National Milk actually forming an opinion, a decision about what they wanted to move forward. So it was done in -- in mid-2022 when I think they were getting ready to talk internally relative to their annual meeting time to decide what proposals they were interested in moving forward.

Q. In any event, this was work you were doing specifically for the project that has now culminated in your testimony; is that fair?

A. It was work done relative to the grant entered into with between the University of Missouri and National Milk in mid-2022.

Q. And that was work relating to National Milk's consideration of proposing changes in the Federal Order system, which ultimately have resulted in these hearings, correct?

A. That is correct.
Q. Okay. Now, did you consult with anybody other than National Milk?
A. Are you asking about just the baseline?
Q. In -- in coming up with the July 2022 baseline -- strike that.
In -- in relation to the changes you made between the official March 2022 FAPRI baseline, which is Exhibit 424, and the July 2022 baseline that you created.
A. So, no, I did not. I did not. So this was a conversation or discussion back and forth between myself and those National Milk Producers Federation representatives about what possible changes needed to be made. They were not just, "Hey, make this change." It was still my ability to push back or say, "It's a change I don't want to make." So it was not just them imposing those changes.
And, again, the start of this conversation back in 2022 had a lot to do with some changes in market behavior that we did not capture very well in the March 2022 FAPRI baseline. If you look at page 63 of the document that you handed to me, the 2022 U.S. all-milk price that was estimated in March of 2022 of $22.04 was too low. Markets had moved substantially higher since that work was done. And I -- it was appropriate to talk about the kinds of adjustments that needed to be made to the baseline to make sure it was a more accurate reflection going forward than where we were in March.

Q. Do you recall what specific changes were made between the official March 2022 FAPRI model that's Exhibit 424 and the model that you then used in July 2022 to assess the proposals?

A. No, I cannot recall here what exactly was changed along the way in coming up with the amended baseline.

Q. Is there a list that exists somewhere?

A. No.

Q. So if we -- what I'd like you to do is take a look at page 63 of Hearing Exhibit 424, which is the official March 2022 FAPRI baseline, and Table 2 of your written report, which appears on page 5 of Hearing Exhibit 421. And I'm not going to go through all the numbers, but if we just look at the all-milk price, am I correct that for purposes of this study you have done for -- start that question again.

If we start with the Hearing Exhibit 424, the official March 2022 document, we have an all-milk price in 2022 of $22.04 as compared to the number that you used in your analysis, which is $24.85.

A. That is correct, for 2022. But 2022 is not one of the analysis years, it's just really the starting off point.

Q. So for 2023, the official FAPRI number was $20, as shown in Hearing Exhibit 424 for the all-milk price, and you used, for purposes of your analysis, or your testimony here, $21.77, correct?

A. That is correct. And, again, I'll refer back to,

as you think to 2022, I believe when it was all said and done, the 2022 annual average U.S. all-milk price would have approached $26. So we were moving up to much stronger prices, and that's really the kickoff point relative to that July update.

Q. Now, I take it that -- and just to complete that, and then I'll ask a couple questions about it.

For 2024, just to compare one more set of numbers, the all-milk price in the official FAPRI March 2022 report in Exhibit 424 is $19.13, and that's shown on Table 2 of your report, Hearing Exhibit 421, page 5; you used $20.34.

Is that correct?

A. That is correct.

Q. By my rough math, your assumption is 8.85% higher for 2023 and 6.33% higher for 2024.

Does that seem about right?

A. I assume your calculations are correct.

Q. Okay. So, now, the assumptions that are being used in the March 2022 FAPRI document, Exhibit 424, do those go through some sort of what I'll call peer-review process of some kind?

A. So the vetting process for that baseline will take information about the general macro economy in this country and around the world from what's now S&P Global Market I believe at the time, when in 2022 was -- when this baseline was done.

We will have a baseline review in December, that I mentioned in my testimony, that would bring together

groups of industry and academic economists to review what we dub our preliminary baseline. So it does undergo a review process trying to come up with what's the most realistic baseline we can with none of us knowing exactly what the future looks like.

Q. I take it that your -- your July 2022 forecast as set forth on Table 2 of Hearing Exhibit 421 did not go through such a review?

A. That would be correct.

Q. All right. So the March 2022 FAPRI U.S. Agricultural Market Outlook in Hearing Exhibit 424, that is a deterministic --

A. That is not a deterministic outcome. That is the average of the stochastic outcomes that you see reported in that table -- table that's on page 63.

Q. Oh, Table 63 is the result of the stochastic?

A. It is the average of the stochastic outcomes.

Q. All right.

A. You can look at, for example, page 76 of that document. Although there's nothing specific to dairy, you see corn prices in what's the 90th percentile, the 10th percentile, and then what's labeled as expectation as the mean of the outcomes for corn prices.

This is always the struggle we have in doing stochastic work of how to present this in a way that is easier for those looking at these tables to understand it. Trying to put all of the stochastic information in these kind of baseline documents has been a struggle, just as

what's shown as Table 2 in my written testimony on page 5 is the average of the stochastic outcomes.

Q. And just to be clear, are you saying page 63 of Hearing Exhibit 424 is a stochastic document?

A. Stochastic averages are being reported in that table.

Q. I thought -- and I -- you're maybe going to tell me I'm wrong -- I thought FAPRI sometimes published a separate stochastic analysis, separate from the annual U.S. Agricultural Marketing Outlook, of which Exhibit 424 is an example.

Is that wrong?

A. So the answer is, it depends. I'm a good economist today here when I answer that one for you. But we'll do an August update that is deterministic. So just what's happening in current markets, it's much more short-term in nature.

The document that we -- I'm sorry -- the baseline that we put together that we call our preliminary baseline that normally happens in November that we get reviewed in December, is also a deterministic process. That's how we get feedback on the deterministic baseline. What we turn out in March, then, is the stochastic process.

Q. So I appreciate your clarifying that. A little less clear on your website, perhaps, but in any event, I'm sure you are right.

I think the bottom line, then, is that your employment -- well, a bottom line is that your employment

of stochastic techniques to produce the July 2022 analysis that you used for purposes of this hearing were not intended to be a methodological improvement over what had been done to create the March 2022 Annual Market Outlook; is that fair?

A. That -- so that is correct. It's really just a better update to the current situation relative to what we set in March.

Perhaps the thing I would say is that having the opportunity to have re-done the March 2022 baseline, maybe we missed some things in what FAPRI was doing back when they turned out that more -- back when we turned out that March baseline. And really, July gave us a chance to correct that before the jumping off and doing any of the scenario work.

So baselines are never completely disentangled from the scenario work that we're doing. So the better we feel about the baseline, of which becomes the yardstick, of which -- against which we'll measure these scenarios, the better I feel about providing those kinds of changes and results.

Q. But in this context here, use of the word "us" in connection with the July 2022 analysis is reference to you?

A. Yeah, yeah. So that should be a reference to me. My -- so the FAPRI team gets me in the "us" mode occasionally, but this is work that is my work.

Q. All right. Let me just switch to another topic.

I take it you have not performed any analysis at all as to whether the National Milk proposals are, themselves, desirable?

A. I only provide quantitative assessment, and I really don't advocate pro/con for anything. So this is my quantitative assessment of the proposals that National Milk asked me to look at.

Q. You are not here as a proponent of the adoption of any of these proposals; is that fair?

A. That is fair.

Q. So let me focus on one particular issue, which is the proposed change in Make Allowances. Okay?

So -- and I just want you to take as a given, I think the record is clear enough on this, that National Milk's proposed changes to Make Allowances are, by National Milk's own admission, not enough to increase the Make Allowances to actually reflect the cost of manufacturing. Accept that as a given. All right?

So tell me how -- how does your -- does your model, the FAPRI model, or the FAPRI model as you have used it in July 2022 through your changes, how does it take into account cost of manufacture, if at all?

A. So we'll have equations that represent allocation of milk fat and skim solids into the different manufacturing processes. They are going to have a combination of factors on the right-hand side that describe the amount of milk fat and skim solids used in different products, depending on input, output prices,

manufacture of whatever product we're talking about.

So they generally have some macro economic factors that would relate to higher input prices in them.

Q. Well, I understand from your statement that the actual sales price of finished products, that goes into the equation; is that -- is that right?

Just ask you -- I'll just ask it as a flat-out question. Does -- do the -- does the modeling incorporate a projected price of finished products?

A. So we'll have wholesale product prices, yes.

Q. And it projects -- strike that.

Not projects, perhaps. It actually reflects what quantities of milk or its components are used to make those products; is that right?

A. So the equation is allocation of milk fat and skim solids that depend on relative economics of the manufacture of whatever process, yes.

Q. All right. And where, if at all, does the actual cost of a processor to take those raw milk products and turn them into a finished product, cheese being an example, where does that enter into the equation, or does it not enter into the equation at all?

A. Yes. So there -- again, there are some macro economic drivers in some of those equations that would be -- try to be reflective of some of the other costs of manufacture in those products. So it's generally those more macroeconomic cost factors, producer price indices, that would help that allocation decision.

Q. And where, if at all, does the model capture what the impact is of a regulated system that requires processors of manufactured products -- I'm going to oversimplify slightly -- but requires them to take whatever they get for their finished product, say, a 40-pound block of cheddar cheese, deduct from that whatever has been set by regulation as the Make Allowance, and pay the rest over to farmers? What effect, if at all, does it have on model results if the amount that the processor is allowed to hang on to is less than actual cost of manufacture?

A. So, again, we're looking at those relative input and output costs, raw milk being part of that. So those equations will give us that allocation based on, again, what they have to pay for the inputs to manufacture products that they are paid for on the other end.

Q. I mean, are you -- you are using the CPI index and things of that nature to -- as a proxy for those costs; is that what I am hearing?

A. So I wouldn't -- I wouldn't characterize it as a consumer price index in this case. I would actually characterize it as the producer price indices, and we'll dig into the ones that are more reflective of what we think the costs are for the manufacture of those products.

Q. And -- okay. That's -- I appreciate that correction. You are quite right, consumer price index would not have been the right number.

So you look at producer price index and things of

that nature to assess what the costs would be, correct?

A. Producer price indices, wage rates, it's a bundle of those kind of other input costs that we include in those estimates.

Q. And what -- how does the -- how, if at all, does the model capture a situation in which the government has, by regulation, capped the actual amount available to the processor at a level lower than those various inputs would suggest are the processor's actual costs?

A. So, again, that -- that -- the costs they have to pay for the raw milk to also go into -- or the components to go into whatever manufacture process, those are another input.

And, again, we're not looking at the individual processor in this case, we're looking at the allocation of milk to the different manufacturing processors. And we know that input and output prices are going to drive the decision of that allocation across products.

Q. But, once again, I appreciate milk is an input, too, and obviously you have to project the milk cost. I understand that's, in fact, what you are doing in part.

But what, if anything, are you doing to assess the implications for ultimate production of finished manufactured products of a regime in which, by regulation, the processor is being allowed to recover less than its actual costs?

A. So I would, again, suggest that the economics here are what we look at, and as the price they might have to

pay for that -- those products to manufacture whatever output they want, those have -- as those costs go up, it has downward impact on the allocation to that particular manufactured product, just as increases in the dairy product prices would be an incentive for them to produce more products.

Q. Are you aware that raising the price of a finished product simply increases how much the processor has to pay the farmer and, in fact, leaves the processor unable to garner any benefit from having raised its price?

A. I am. It increases the minimum price required, yes.

Q. And -- and have you assessed to what extent your model reflects the decline in production that results from the inability of processors to obtain return on their efforts?

A. So the equations will certainly give us back less production of manufactured products when the economics are less strong.

Q. But you're -- you're judging that economics based upon things like producer price index, et cetera, correct?

A. So that's part of what drives it. Right? So the big drivers here is, what's it cost me for the milk or dairy products I'm putting in to get that manufactured product out the other side and what am I being paid for that manufactured product? Yes. Those are the big drivers.

Q. And, I mean, so let's take an example. Let's

assume energy prices have gone up.

I assume energy prices must be part of the formula, correct?

A. Correct.

(Court Reporter clarification.)

MR. ROSENBAUM: Must be part of your formula.

BY MR. ROSENBAUM:

Q. And so let's assume energy prices have gone up. That would be reflected in your formula.

What, if anything, does your formula do to assess whether or not the manufacturer, in fact, has any ability to recover that extra energy cost given the regulatory limit on the Make Allowance?

A. Yes. So this is, frankly, the beauty of a full system of a set of equations, because you just set in motion step one here of, let's take the assumption of higher energy prices. So the very first effect of that in the allocation would be to say, we're going to allocate less milk to those manufactured products because costs went up for the manufacturer.

What's that do at the retail level? Fewer retail products available. It raises the retail price slightly. I'm -- I mean, we can argue, it depends on the shift we want to make here.

But then that feedback is simultaneous, then, back to those allocation equations as well. So we're searching for -- you know, you have really shifted the supply of a manufactured product to the retail level by increasing

energy costs, and we're looking for that new equilibrium that balances markets all the way from farm prices, to wholesale, to retail prices. It is not a simple process. We have to go through that entire set from farm to consumers to find a new equilibrium.

But all else equal, you increase energy costs, and will manufacture less products, and ultimately see some higher prices as consumers see less product out there.

Q. Is the -- is the diminution in sales different in the real world based upon whether or not you have the ability, as you would for most products, to raise your price to try to recover that increased cost, as opposed to a regime in which, in fact, you -- talking about the processor -- are unable to raise your price and thereby recover that cost because you're required to pass on that higher price to your farmers, so you net nothing from trying?

A. So I'm not sure I followed the question completely, but I will say I think the question you asked me, if I'm a price taker, can I raise my prices? And I eventually will say, in aggregate, we get supplies to adjust, whether that's milk or of manufactured product, and eventually that goes against aggregate demand to give us some higher prices.

Q. But the demand reflects the prices, too, right?

A. It -- so it does. That demand function gives us a schedule of consumption or -- or -- and I'll say total consumption in this case -- we can say per capita, that

depends. As prices go higher, we get less consumption.

Q. Let me ask it a little differently. Some of the agricultural products that you cover in the Agricultural Market Outlook are not subject to regulation as to how much the entity making the finished product must pay its suppliers; is that right?

A. That would be correct. We could talk about cattle markets not having a lot of regulatory burden between -- along the way, yes.

Q. Is the model changed for dairy to reflect the fact that there are these Make Allowances which cap how much a processor can recover?

A. Yes, to the extent that those minimum price formulas, you know, make changes as we change wholesale product prices. In those allocation equations, the minimum class prices will be part of what drives the relative economics.

Q. And is there a determination made as to whether or not those changes are significant enough as to retard production?

A. So generally, I answer yes to that. I -- I don't know if you are looking for some point of a big change that results or some cliff that happens. These models tend to be fairly linear in their response.

I -- again, I would remind us that in this case we're talking about aggregate response, not individual processor response. And I think that's important to -- we may find an individual processor that adjusts a lot more

than the aggregate situation might suggest as well.

Q. Well, presumably some material portion of all manufactured products are subject to the restrictions of Make Allowances that I described, correct?

A. You are correct.

Q. Let me ask you this. You, for purposes of your analysis -- let me start by just repeating -- start that question again, by repeating, and I'd ask you just to assume this, you haven't been here for the whole hearing, but --

THE COURT: Remember where you are. Let's take a 15-minute break. It's about 10:35, so please be back and ready to go at 10:50.

(Whereupon, a break was taken.)

THE COURT: Let's go back on record.

We're back on record at 10:51.

Mr. Rosenbaum.

BY MR. ROSENBAUM:

Q. Dr. Brown, if you could look at your written report here in Exhibit 421 and turn to page 5, which contains your baseline. The second entry on the page under the heading U.S. Milk Supply is Milk Yields.

Do you see that?

A. Yes.

Q. And you show that milk yields will increase year over year during that entire timeframe, correct?

A. That is correct.

Q. If you look at the last page of your exhibit,

Table 14, I was just struck by the fact that that table which shows change from baseline, shows milk yields declining from the baseline in years 2024 through 2032.

Now, they are small changes, but I was just curious if you could -- if you have an explanation as to why you think the National Milk proposals would actually cause milk yields to go down a little bit?

A. Well, those are very -- so first off, I'll respond, those are very marginal changes relative to the baseline. But you are correct that they are slightly down. I think when you look at those results, we're probably in a situation where it depends on where the growth in cow numbers occurred and what yields look like in those areas relative to other areas that may have driven milk yields down slightly under that scenario.

Q. I mean, you are showing production goes up by 200 million pounds in years 2028 through 2032, each year, as compared to the baseline, and yet yields are dropping.

Does that -- as I say, very slightly, but I just -- it -- it seemed a little bit of an anomaly.

A. So I think we're -- again, we're adding cows that maybe are in places with lower average yields that's resulting in that slight decline in milk yields.

Q. In terms -- switching topics to elasticities. On page 3 of your written report, Hearing Exhibit 421, there is Table 1 that shows the elasticity estimates of the FAPRI dairy model.

Let me start by asking you: Are you the person

responsible for developing those elasticities or is it somebody else?

A. So it's combinations of researchers in FAPRI that we're working on estimations. But, yes, I have a part of that as well.

Q. Are you the principal person for coming up with elasticities for dairy or is that somebody else?

A. I'm responsible for the structure of the model that we end up with at end of the day. Primary responsibility, yes.

Q. Okay. Now, there's -- right underneath where it says Table 1, there's something that says "Estimation Period 1988 through 2018."

So I would like you just to explain to me what that means.

A. Yeah. So when we think about the parameters that we're estimating on the supply and demand side, we're looking over that period of -- of 1998 through 2018 to estimate those parameters. We are always in constant evolution in these models; however, trying to maintain some consistency across time and how they -- how it analyzes policy changes is important for me, so I'm always careful about how quickly to update those elasticities. I'm more focused on areas of the model where we -- we have done analysis where we feel like the model's come up short in terms of answering the questions.

Q. But are you -- is it -- does that reference to the --

(Court Reporter clarification.)

MR. ROSENBAUM: I'll start the question again.

BY MR. ROSENBAUM:

Q. Does the reference in Table 1 to an estimation period of 1988 through 2018 mean that it is data from that time period that is used to create the elasticities?

A. That is correct. So when I'm doing annual model development, I have the tradeoff of how far back do I want to go to get the number of observations to do estimation versus getting far away from what we might consider the current structure of the industry. So I have tradeoffs there in terms of that estimation period, for sure.

Q. Have you personally performed any studies as to whether COVID has -- and its aftermath -- have caused any material shifts in consumer elasticities?

A. So I will say we look at changes of time periods all the time in terms of the estimation that we go through. That's both cutting off of the early period as well as adding observations on the in period.

Can I specifically identify the effects of COVID? No.

Have I been concerned about how quickly to incorporate the data that's available for me in a COVID period? Yes. Only because I'm not sure what the longer-term impacts are of those changes, yet.

Q. But you -- your cutoff date is pre-COVID for the data collection for purposes of making these elasticity estimations; is that correct?

A. That's correct.

MR. ROSENBAUM: That's all I have at this time.

THE COURT: Mr. Rosenbaum, thank you.

Who next will cross-examine Dr. Brown?

MR. ENGLISH: Good morning, again, Your Honor.

CROSS-EXAMINATION

BY MR. ENGLISH:

Q. And good morning, Dr. Brown.

My name is Chip English, representative of the Milk Innovation Group, which is primarily Class I.

And so I say that in particular because I will focus on Class I issues. And I assure you that both your counsel's additional direct and Mr. Rosenbaum's cross-examination has significantly shortened what otherwise would have been my cross.

So I find my recollection's fading over time, and so I simply cannot recall. Have you testified in prior Federal Milk Marketing Order hearings?

A. I have not.

Q. How does the FAPRI model measure consumer demand for fluid milk?

A. We estimate a double-log specification that looks at total consumption of fluid milk as a function of the retail price of fluid milk, income, and I believe there's also a negative trend term in that equation that's estimated.

Q. A negative trend term meaning what?

A. A variable that's helping describe what's been a

continued decline in fluid milk per capita consumption over the period.

Q. At the bottom of page 2 of your testimony you have this statement: "The fat and solids not fat balances are cleared using wholesale butter and nonfat dry milk prices."

What impacts does that negative Class I trend have on those balance clearings, in your mind?

A. Well, so those -- those milk fat and the skim solids closing identities will always balance. Where -- you know, which products milk fat and skim solids go to will change over time.

Q. And if -- if you agree the Class I demand has a trend that's down, does that volume loss end up in those fat and solids nonfat balances?

A. Yes.

Q. And where is that additional fat and solids nonfat balances end up being sold?

A. In other manufactured products.

Q. Does it end up in the export market?

A. Certainly some of it could, yes.

Q. On page 3 of your statement, the very top, there is a representation of Federal Milk Marketing Orders and other federal policies.

Does that mean that the Federal Milk Orders are taken into consideration in the model?

A. That is correct.

Q. And do you know what the USDSS model is?

A. So I'm not familiar with it in detail. But, yes.
Q. And do you know that it does not take into consideration the existence of Federal Milk Marketing Orders?
A. That's my under- -- my general understanding, yes.
Q. If FAPRI is a representation of Federal Milk Marketing Orders and its underlying policies, do the results of the model tend to reinforce the status quo?
A. No. I think what the representation is, is really how we get from wholesale dairy product prices all the way back to farm level milk prices through the set of formulas that we have that determine minimums along the way.
Q. You don't think there's some circularity built into the model based upon the existence of the existence -- sorry, let me start over -- circularity built into the model if you are applying the Federal Order policy?
A. I don't think that when you think about applying Federal Order policy it changes the behavior relative to changes that one wants to make. It just imposes the constraints that come with operating under a Federal Milk Marketing Order.
Q. So looking at page 3 of Exhibit 422, your PowerPoint, you say, "There's a state-level development on the supply side, but demand for dairy products and fluid milk occurs nationally."
Is the demand for fluid milk really national?
A. So I think one could argue that there's

differences as you move around the country. Unfortunately, it's hard to find the data necessary to add that complexity to the model. And so, thus, that's the reason for the structure that you see.

Q. To the extent you know anything about the USDSS model, does it not implicitly take into consideration the differences -- or the differences in fluid milk demand?

A. I'm not aware.

MR. ENGLISH: Your Honor, could we provide a copy of an exhibit to the witness? It's Exhibit 384, which is American Farm Bureau Federation 5B, the maps they introduced last week.

THE COURT: Yes. So I'm going to ask that the record copy be provided to the witness while I get my copy.

Tell me again the exhibit number, please?

MR. ENGLISH: It's Exhibit 384.

THE COURT: 384. Let's go off record just a moment.

(An off-the-record discussion took place.)

THE COURT: We're back on record at 11:06.

Mr. English, the witness and the Judge each have a copy of the Exhibit 384, AFBF-5B, as in boy.

MR. ENGLISH: Thank you, Your Honor.

BY MR. ENGLISH:

Q. So, Dr. Brown, I probably suspect you haven't seen this document before; is that correct?

A. That would be correct.

Q. Let's turn to Figure 3 for a moment.

And so this has been admitted into evidence by American Farm Bureau Federation, and according to them, it purports to be the difference between current and the National Milk Producers Federation proposed Class I differentials.

Do you see that?

A. I see what they have said, yes.

Q. And do you see that they have used a color code such that the more red an area, the greater the difference between the current and National Milk in a positive direction -- I'm sorry. I apologize.

Do you see that that -- actually, it's the green that is the highest from the current to the proposed, correct?

A. That's what the graph shows.

Q. But do you also see a fair bit of red increases in the West? Do you see that?

A. Yes.

Q. I assume from what you have told us, that your model takes into consideration the increase in the Class I differentials throughout the whole country, correct?

A. That is correct.

Q. And to the extent some of those increases, say, in the Upper Midwest at $1.25, are in areas where there's a very low Class I utilization -- do you know that, for instance, that the Class I utilization in the Upper Midwest is around 6%?

A. Yes.
Q. And to the extent you increase the Class I differential in that part of the country by $1.25, that increase -- most of that increase milk is going to go somewhere other than Class I, correct?
A. Correct.
Q. And -- and that ultimately will have an impact on the prices as you show.
If you look at page 17 of Exhibit 422.
As I understand it, page 17 is the impacts of the higher class of differentials, correct?
A. That is correct.
Q. And while you don't actually show the Class I differentials here, I understand, because you are keeping consistency around charts, all the formulas for Class I mover, Class II, Class III, and Class IV, are lower in every single instance, in every single year, with the increase of Class I differentials, correct?
A. That is correct.
Q. And by definition, the fact that the Class IV price, for instance, just using one example of 2023, is down $0.25, is because taken by itself, the Class I differential increase will mean the Class IV prices are going to end up going down from the baseline, correct?
A. That is correct.
Q. Which, taken to the next statement, means that production changed in such a way that Class IV dropped by $0.25 per hundredweight, correct?

A. Additional milk supplies came on the market and lowered the Class IV price.

Q. And whatever your conclusions about dissipating rapidly for dairy farmers, the bottom line is, as to Class I differentials, the impact taken by itself was down, whether it was 2023 or 2032, correct?

A. I'm sorry, ask that question again, please.

Q. Looking at table -- looking at the table on page 17, and going to your ultimate conclusion that the changes in producer prices will rise in the short-term but dissipate -- that increase will dissipate in the longer-term, nonetheless, Class IV is down across the board in every single year, correct?

A. Yes, that is correct.

Q. To what extent do you take into consideration the cost to Class I handlers when decisions are made by others to voluntarily associate with the pool or disassociate with the pool, which impacts the level of the payment they have to make into the producer settlement fund?

A. So we try to have that representation in our Federal Order piece of the model. Depooling can certainly be troubling for us to handle in a modeling framework. So it's a simplification, probably relative to some of the things that we have seen of late.

Q. And do you understand the problem I was trying to get at, is that while the Class I processor may have an announced Class I price, if depooling occurs such that the payment to the pool increases, that the actual price the

producer -- that handler has to pay would exceed the Class I price?

A. I understand.

Q. And you believe that is taken into consideration in your model?

A. I do.

Q. I want to discuss, ever so briefly if we can, the issue of elasticities. The only cross-elasticities --

THE COURT: Say it again?

MR. ENGLISH: Sorry.

BY MR. ENGLISH:

Q. The only cross-price elasticities I see that you perform as shown in Exhibit 422, page 5, are for American cheese and other than American cheese, correct?

A. You are correct.

Q. And going back just very briefly to some of the questions Mr. Rosenbaum asked.

That means you have not performed any cross-elasticities for fluid milk with, say, bottled water, correct?

A. So there are currently no cross-elasticities in that fluid equation, but it is total fluid consumption.

Have we looked at alternatives in the specifications over time? Absolutely, yes.

Finding those alternative specifications where cross-elasticities seem to help us, I have not, in an annual kind of analysis, found anything that I felt more comfortable with.

Q. In any event, the last year for which you have done the analysis as reported here was 2018, correct?

A. Last year for the estimation of some of the parameters that run the model, that is correct.

Q. And you try to keep them consistent.

So, for instance, you say you drop off the bottom year and add new years, correct?

A. So it's an evolution, not a revolution.

Q. Right. Okay.

But the evolution, as I understand it, is 1998 to 2018; is that correct?

A. So it's currently -- we're estimating over 1988 to 2018.

Q. Just give me one second. As promised, I greatly shortened my exam, and I thank you for your time. And let's -- let's get the official version of 384 back to USDA.

MR. ENGLISH: I thank you for your time, Dr. Brown.

THE COURT: Who next has cross-examination for Dr. Brown?

CROSS-EXAMINATION

BY MR. SMITH:

Q. Good morning, Dr. Brown.

A. Good morning.

Q. I'm Dan Smith with the Maine Dairy Industry, representing the Maine Dairy Industry Association. I -- I'm extremely sensitive to not belaboring the hearing

process.

The purpose of my exam is two parts: One, just clarify some methodology issues; and second, the primary purpose is to see if there's a way to equate your calculation of the all-milk price with a calculation on the Federal Order producer statistical uniform price, whether there is some possible way to do that. Again, now I understand that those are big methodological issues, not looking to get too deep into it, just to the level that we can for purposes of the hearing.

A. Okay.

Q. So starting on page 4 of your Exhibit 421, just if you -- if we might, we're on page 4, second paragraph in the fourth paragraph. If you could just give kind of a working definition of what you mean by exogenous data and your stochastic baseline development.

A. Yes. So exogenous data would be modeled -- sorry -- would be data that the model does not project. It would -- in some ways you could think of it as outside assumptions that would be made in the model.

If you took the dairy model by itself, corn prices, soybean meal prices, hay prices, alfalfa prices, would all be exogenous. From there, income. So what drives domestic demand is general income trends. We'll have, then, deflators involved as well. On the export side, we would talk about things like exchange rates.

So it's, again, those -- those data streams that we're using to drive the set of endogenous, or variables

that the model predicts, that that, for me, is this exogenous model description for you.

Stochastics, I always struggle with the --

Q. Let me just -- with regard to the exogenous data, where does the Class I -- the class prices in the class utilizations, are they considered to be exogenous data in the model then?

A. They are not endogenous to the model.

Q. Did I say "endogenous"? I meant, ex- -- ex- -- are they considered to be exogenous?

A. No, they are not.

Q. They are --

A. Endogenous.

Q. -- endogenous?

A. Yes.

Q. Meaning that you don't predict them --

A. No, no, meaning I do predict them.

Endogenous are things that the model predicts. Exogenous, things outside of what the model predicts.

Q. So the class prices, you are predicting the changes in the class prices over time and changes in utilizations over time?

A. Correct. So if you looked at -- if you looked at Table 2 on page 5, you would see, you know, Class II, Class III, Class IV, those are predicted.

Q. So even the data -- those data for 2022 are predicted data from the model as it has moved in the past to that, rather than the actual ones?

A. So we'll use actual up until the current data, and then the model, forecasting forward, will predict those.

Q. So over time you replace the predictions with the actual?

A. Absolutely.

Q. Okay. Got it. That's very helpful.

Now, if you could move to the stochastic baseline, what that function is.

A. Yes. So the second question, harder, I think, for me to describe very well, so I'll do my best here to help.

So, number one, I always -- we often start with this deterministic baseline, so point estimate. So I predict the price is X in this year. That is the deterministic process.

The stochastic process, as we describe it, then says, you know what? All that exogenous data, we know there's a distribution around that exogenous data, so let's go draw from different exogenous factors.

So I always go, for me, the weather is one of the easy ones. So if it's dry, we know we get higher feed costs. So we're going to draw from the distribution of what weather looks like as a way to add a distribution around milk prices.

So if weather is dry, we know milk yields are probably less. All else equal, that gives us a higher price, so we're on this side of the distribution. And we're doing that 500 times.

Sometimes I go, think of it as we're running 500

unique other outcomes based on this conditioning draw from the distribution of exogenous variables. And in some cases, we may decide we're going to draw from the error terms of some of the equations. Remember, we tend to do OLS estimation for those equations, so we know those OLS equations have errors associated with them. We'll take a random draw out of that distribution of those error terms as well.

So if I think about demand, you know, we know it's driven by own-price, cross-price, and income. That's kind of our basic economic logic. Yet, we know there's also this other consumer taste in preferences. We don't -- we don't have a good measure of that, so we know that still probably lies out there in the error term, so maybe we're going to draw from that error term on some of the consumer demand equations.

I say "maybe." We -- this is a little bit of us choosing which of those exogenous events we want to draw from. It gives us a stochastic outcome that we feel is wide enough for what we're trying to get accomplished.

But -- but that process, again, randomly draw -- now, we hold correlation, so we know that some of these variables that we're drawing from exogenously have correlation between them.

So if I draw a -- if I draw a -- I'm trying to think of a good example here. If I draw weak income, that's going to be potentially correlated with some of the other macroeconomic effects I'm drawing from. So I want

to make sure that I keep that correlation in the error draws as well.

And so that's -- that's a simple explanation of what we go through in developing our stochastic baseline.

Q. And then that result is 500 individual projections that you then plot out and then devise some sort of mean or -- or of that?

A. So we'll look at the mean. We'll look at the distribution of those. Oftentimes you will find that we're reporting the mean of the stochastic outcomes, just because trying to find other ways to report that data gets complicated, and it -- I don't think it always illuminates as well.

For me, the stochastic process really helps me identify the times where the bet's not equal. It's not a normal distribution when it's all said and done.

Q. And the net result is Figure 1, correct?

A. Correct.

Q. Okay. Okay. And in between there, a final kind of clarification question -- general.

On page 9 of your testimony at the bottom, you indicate that -- with regard to the Class I differentials, but it seems to be an issue with a structural design of the model.

"The Class I differential changes are analyzed on an order-by-order basis."

And this is more the point: "At the supply side structure, the model only includes state-run supply and

incorporates how each state is affected by the numbers."

So does that -- does that mean that the model is structured not to include the different Federal Order pool data and the impacts on Federal Order pooling in -- in the calculation of changes in milk production over time; is that correct?

A. So that is not correct. It will incorporate that, going from state by state, so I need to go this state's delivering to which orders.

Q. Okay.

A. And that's the connection between order by order. And then what I'm saying about a state all-milk price, those price linkages exist in the model.

Q. So translation: Milk production in the state of Maine goes -- stays instate, goes to Massachusetts. The model captures both of those supply changes. And if -- in an order where production in one state goes among many orders, that's captured as well?

A. That is correct.

Q. Okay. Okay. Moving now to your summary dairy baseline table on page 5.

The first category is milk supply. Milk production in 2022 is the actual data now, right? You have captured for the year?

A. It is. There may have been a slight adjustment. So remember that this was done in mid-2022. USDA probably didn't have its final milk production --

Q. So we're essentially dealing with actual --

(Court Reporter clarification.)

THE WITNESS: So when you look at 2022, it was the most current reported USDA data in mid-2022. I won't say there hasn't been revisions that USDA's made to that final data between when this was done and today. They will be minor, but think of it as 2022's history.

BY MR. SMITH:

Q. The reason for my interruption -- and I apologize -- the qualification, the main point is actual data?

A. Yes.

Q. Okay. So we have, in milk production pounds total, 226.4 billion pounds of milk. And obviously, that's a lot more than the Federal Order.

So if you could just -- the -- the -- identify the volume, if you can, that's pooled milk versus non-pooled milk?

A. So I don't have that data sitting in front of me, so I'm not sure I can illuminate too much further. I recognize there's a lot of milk outside Federal Orders, but I don't remember the exact.

Q. Do you have a ballpark of what it is or --

A. I don't have a ballpark.

Q. Okay. Okay. Okay. So then moving to the second category on the summary table, and this is more of the gist of my questions, I'm trying to calculate out how the model devises the all-milk price from -- which is the last line of the second category, from the minimum FMMO class

prices.

So you have, in that category, you have the mover, and then the Class II, Class III, and IV prices. If you -- if you -- for 2022, again, you know, with your qualification real data here -- I mean, not real -- actual data, not projected, the all-milk price at $24.85 is greater than the calculation of any of those individual prices. So obviously, a statistical uniform blend price, however you characterize it, is not just drawn from those prices. There is more -- are more data included in there, and if you could just identify what those are to begin. And you don't have to get too deep, just basically how we're going to get to the all-milk price.

A. Yeah. So we will see minimum blend prices by order. And, again, we're going to then map from those minimum blend prices to the state all-milk prices.

It's not a one-for-one. No linkages exist there. And for states that have delivering to multiple orders, we're going to try to incorporate that into what ultimately becomes a state all-milk price, to the U.S. all-milk price that you see here, it's a weighted average by production in each of those states to some -- I shouldn't say some -- but to average to a U.S. all-milk price estimate.

Q. So there have to be other data besides just the prices in there.

Class I differentials, I would assume, are additional?

A. And -- and, yes. And we're going to look at the -- you know, how much is -- is different class utilization that affect, then, ultimately what translates into a state all-milk price.

Q. But would there also be state over-order prices included in there?

A. So not explicitly. As much as I might like to have more over-order price data, it's a little limited in terms of what I have available to me publicly to use. And so, just remember, it's not a one-to-one mapping from the Federal Order prices to the state all-milk prices. So we at least indirectly allow for those things, for those kind of over-order premiums to exist.

Q. And regulated and market, same issue?

A. Correct.

Q. So then the primary driver of the -- how you net out a positive -- a higher all-milk price then -- then the regulated prices would be the Class I differentials across the orders?

A. That -- yes. That would certainly be critical, yes.

Q. And that's enough to account for the nonregulated milk in the system as well?

A. As best -- as best we can do it in the model.

Q. Okay. Okay. So now to the final table on page 22 of your statement, which is the change from the baseline accounting for all of National Milk's changes. And here I have -- I do have a question that's more a bit of a

challenge, I would have to say, as opposed to primarily trying to understand.

In the first category, you show, which has been described previously, the increase in milk production over time is one-tenth of a billion pounds, 100 million pounds, correct? 100 million to 200 million pounds. And so for 2023, at 100 million pounds were against 225 billion pounds of milk, right? That's -- that's the net change; is that correct?

A. Very small change. You are correct.

Q. So -- but the -- the net result to the classified price is quite significant. So if you could just explain how an increase -- so the basic dynamic that you described at the beginning of your testimony is that the supply and demand dynamic we're involved with is that an increase in milk production is going to result in a decrease in prices.

So how does the 100 million pounds of increased milk production against total production of 225 billion, even if you account for that's not all regulated milk, how do we -- how do we have a drop of the Class II price and the Class IV price $0.74 a hundredweight?

A. Yeah, so I think you have to look back at each of the individual five of those --

Q. Yeah.

A. -- to make that kind of calculation.

And -- and I was just looking here for a minute. So from a Class I differential increase, you know, for

example, in 2024, a $0.31 decline in the Class II price. If you looked at Class I mover, it's an $0.08 lower, in this case, Class II price. So you got to look at those individual outcomes to -- to make that conclusion.

Now, again, how do we get a $0.09 increase, let's say, in 2023, in the U.S. all-milk price when you see the class price is declining? It is higher Class I differentials. That is part of the answer to that question.

Q. So -- and I tried to do that. And it seems if you add up the differentials barrel price, those net increases, I'm not sure it totals out, that's the only thing. We have to take the model for what it is, but if that's the explanation, okay, that's the answer to the question that I posed. Thank you.

A. Yeah.

Q. Okay. So then final question and back to the beginning. So if we have a calculation of all of the changes that National Milk is proposing in aggregate, results in the change in the all-milk price 2023, $0.09, moves down to $0.02, and then back up to $0.03, that's the net run of the model total, correct?

A. That is correct.

Q. So if you could just, to the extent that you can, how does that equate to the calculation of a statistical uniform price, a producer pay price under the Federal Order? That's my last question.

A. Yes. So, again, I think it's very similar in

terms of the calculation. Again, we're looking at, for each order, the Class I through Class IV price is the utilization in those prices to come up with what I would call a uniform blend price, translating that, then, into those state level all-milk prices to come up with what happens in each of the states.

Q. Is that the work back through the states to get to a calculated price for the -- an order that includes those states?

A. Yeah. So I think so. Sorry for not being clearer in my response here.

Q. No, no.

A. But we're talking about going from wholesale prices and working our way back all the way to what's then ultimately state all-milk prices through the Federal Order set of formulas that -- that, again, generates the connection between wholesale product prices at the national level and what we're saying about state all-milk prices.

Q. So the point being that the model is not just a calc- -- is not just running the calculated blend price, it's accounting for the downstream sales, and then that feeds back into the price calculation?

A. It is. And in a simplified fashion, yes, it is.

Q. Okay. Thank you very much.

MR. SMITH: That's all I have.

THE COURT: There's no cross-examination of Dr. Brown?

So this is very fundamental, but I just want to make sure I understand this before I invite questions from the Agricultural Marketing Service.

When I look at your Exhibit 421, page 6, and at the top of the page it refers to the 2024 Stochastic U.S. All-Milk Price. I don't have that figure completed, but I looked at your slides where it is completed; is that correct?

THE WITNESS: Those should be the identical.

THE COURT: All right. I'm just going to approach you, if I may. So I'm looking at your slides, and I find page 8, the picture that I don't see on the testimony on page 6.

Do I have an imperfect copy?

THE WITNESS: You do have an imperfect copy.

THE COURT: I wonder if the record copy is perfect.

MS. TAYLOR: Your Honor, we did notice that earlier, and we have asked National Milk to provide the record copy with the colored print of the graphs so they show up. I believe we have an extra copy to give you so that you have that, and the record copy is correct.

THE COURT: Mine is not only lacking color, it's lacking --

MS. TAYLOR: It's lacking ink.

So what's online is correct, the record copy is correct, and we'll make sure you have a correct copy.

THE COURT: Very good. That's -- that's --

there's one other, just to make sure. If you will turn to page 9 of your testimony, page 421. Mine isn't nearly as helpful as yours.

THE WITNESS: So, again, we're missing -- yeah.

MS. TAYLOR: We'll fix it.

THE COURT: All right. Good. As long as the record copy is complete, I'm happy. But, I mean, yes, I want one of my own. All right.

Is there anything further then before I turn to the Agricultural Marketing Service questions?

There is not. So I invite questions by Agricultural Marketing Service.

CROSS-EXAMINATION

BY MS. TAYLOR:

Q. Good morning, Dr. Brown.

A. Good morning.

Q. Thank you for being here today. It seems like this hearing is bringing out all of the dairy economists around the country. You are not the first one to speak, and I don't think you will be the last one here to testify, so I do appreciate you coming out to offer evidence into the record.

A. Thank you.

Q. Our job at USDA, since this is your first hearing, is to kind of ask questions to clarify what you did and make sure we understand the terms so we can go back and use this in decision-making. And we can't call you later and ask you a question to define something, so now is our

only opportunity.

With that context, I'm going to try and keep things logical, and I might flip back and forth between your two exhibits just to make sure I asked all the questions on the same topic.

So I will first start on page 2 of your testimony, which is Exhibit 421. And in that, you talk about how your FAPRI model is a structural economic approach.

And I was just wondering, can you define what you mean -- it means for a model to be structural in nature?

A. So I think in that description it is what are the important decision points contained in the -- that are part of the dairy industry, and let's make sure we model that structure with individual equations that represent the underlying structure as best we can of the industry.

Q. Okay. So looking at the totality of the --

A. Correct. Think about it as a system of equations trying to provide the results, not just an individual piece of what's going on in the industry.

Q. Okay. And on that page, and you talked a little bit with Mr. Smith on state-level prices and how that feeds into Federal Order prices, and you talk about that on page 2.

I wondered if you could speak a little bit more about that relationship in the model. And another question I had was, in particular for states that might be in multiple orders, how did you account for that?

A. Yeah. So the second part of your question, states

in multiple orders, we were looking at the most available data to us about where a particular state's milk was headed, and we incorporate that in coming up with their state all-milk price estimate. So if I'm a state X and 50% of my milk is going in Order 1 and 50% is going in Order 2, we'll take the weighted average of those two to come up with what ultimately then drives that state all-milk price.

Not ideal, but that's the best -- because again, we're in a situation where, then, some of those states would have had unregulated milk as well. We're still trying to drive off of what we have kind of calculated as the best estimate of where that milk's being delivered.

We're calculating those order blend prices to then come up with, how do I want to push those into state all-milk prices? I wish I had over-order premiums in some cases. Back in the old days that might have been a little more readily available than it is today.

So you are really then talking about linkages that you hope have enough flexibility to account for what we know is, in some cases, over-order premiums that change over time. But we -- it's the toughest, one of the toughest parts of trying to close that model down is to get from what we're doing on Federal Order prices to ultimately the state all-milk prices that drive the supply side of the model.

Q. Okay. Later on in the page you talk on the demand side of the model about equations for American-type

cheese, other than American cheese, butter, nonfat dry milk, fluid milk products, and milk fat and solids not fat used in other products.

Just had a question on the protein side of things. There's not a separate protein equation?

A. There was not. So we are balancing on milk fat and skim solids only in what we do.

Q. Okay. And then turning to the next page 3, and I think you talked a little bit about this with Mr. English. You say that Federal Orders are represented in the model.

Just wondering if you can elaborate on how that's done, and does that include things such as pooling provisions, order boundaries, other things other than just, you know, class prices?

A. So we're really just trying to map those class prices through. So our representation of Federal Orders are fairly elementary relative to how they might operate. I have looked at times of whether we could do more on the supply side to actually talk about milk supplies in each of the Federal Orders, but the state-by-state approach seems to have been, you know, the best approach for us thus far. It's where, again, I would love to see more data available to make the linkage from national demand through the orders to what's happening state by state, but we just don't have -- in my mind, have enough of that actual USDA reported data to make all those conditions that I might want to make in a perfect model.

Q. Uh-huh. I think our economists can be sympathetic

with trying to model Federal Order provisions.

Let's see. Later down the second paragraph here on page 3 of your statement, you say, talking about exports, and they're estimated as a function of the difference between world and domestic dairy product prices. And given changes in dairy product exports, world prices are --

(Court Reporter clarification.)

MS. TAYLOR: I apologize.

BY MS. TAYLOR:

Q. Your second sentence says, "Given changes in U.S. dairy product exports, world dairy prices are allowed to adjust."

And I -- could you just elaborate on how that works?

A. Yeah. So we have a couple of things at play here.

And so, number one, we have estimated reduced form equations for the quantity of U.S. dairy product exports leaving the U.S., and those depend primarily on internal versus world prices and exchange rates.

But at the same time, we also have, in the FAPRI system, a global dairy model. So I'm able to go in and shock that model by changing the amount of U.S. exports of dairy products and saying what's the impact on world prices as a result of that. So you almost impose the behavior of the global system to give us a representation of when we say, hey, under this scenario, we want to export more or less products, that we get the world

response that our global model would give us had we incorporated it in.

We don't still stochastically do the global models at this point, it's just another level of detail, but that -- that's the way we're trying to mimic what's happening in the rest of the world as trade becomes more and more important for the U.S. dairy industry.

Q. So, for example, if the U.S. government decides to change policy and to encourage more exports to be -- to go out of the country and had a goal, you could say, if we actually met this goal and exported X amount, this is what would happen, I can forecast what would happen to prices?

A. Correct.

Q. Let's see. Okay. I want to turn to slide 4 of Exhibit 422, your Table 1. I think it is also on page 3 of your testimony, 421.

You talked a little bit about the elasticities that are in the model.

Can you define what is a short-run and what is a long-run in elasticity?

A. Yeah. So thank you for that.

So short-run would be the annual response on the supply side. So if we looked at that Table 1 on page 3 of the written testimony -- and, again, I'll take the -- what we labeled as the south states. It's a .05 elasticity in the first year.

So what we know is, the long-run -- so when I say long-run elasticity, it's at -- when all the adjustments

happen. So this is taking the lag-dependent variables. So in our cow number equations, we say cow numbers in this period is a function of last period's cow numbers and then economics.

That lag-dependent variable, you take one over that lag-dependent variable, multiply it by the short-run elasticity, that's your long-run elasticity.

It actually, then, just multiplies those -- that effect through time to tell you the ultimate long-run response. And so that's why it's larger, because the lag-dependent variable is going to feed through -- a change in cow numbers that you make the first year feeds through in what your year two looks like, and keeps feeding through.

Q. It's dynamic in that way?

A. That is correct.

Q. Another just point of information I wanted to get on the record. It looks like your supply elasticities appear to be relatively inelastic.

And just if you might explain why that would be given the current structure of the industry?

A. Yes. I might even add to relative very inelastic, and I think I said inelastic so that we got it correct.

But I think when you look at the structure today, you know, we have a pretty big capital investment on a lot of these operations. And when I think about kind of aggregate supply response, if you will, when somebody builds a nice new big dairy milking facility, that

facility has to be milked at 100% efficiency, probably, if it's going to last long-term.

If that facility gets in financial straits, that individual producer might have to exit, but somebody else is probably going to milk in that facility because the bank that held the loan against it is going to try to sell it for some portion of the original investment to get as much back out as they can, and we keep milking cows in it.

So I would argue as we become more capital-intensive in the -- in the investment end, buildings and facilities to run a dairy operation, the individual supply response may not look all that different, but the aggregate supply response is becoming much less responsive, because once we make the investment, it doesn't go away.

Q. So carrying that thought forward, you know, you look through all the results that came out of the model, and it seems to be -- and I'll generalize -- it's a shock in the beginning, the first year or two, and then it moderates over time.

And based on what you just said, I would say, well, that's because maybe somebody goes out of business, but somebody comes in and, you know, milks cows, and cow numbers keep going up, because there's so much capital involved.

So I mean, can I draw that conclusion from what you just said as to maybe why we see things seem to always -- in your analysis, the results really do moderate

in the long-run?

A. So perhaps, Erin, that's -- that's a part of the answer to the question. But I'd also say, you know, you are making these shocks, you are getting response to those shocks. And over time, unless you are doing some policy change that -- that makes the market not come to an equilibrium, or an equilibrium different than if you were completely without policy, we're going to tend to try to drive back towards that longer-run equilibrium to -- to the point you were trying to -- I think trying to make here, I'll say, I think it's changed behavior of how we respond on the supply side a lot, in that when there's good returns, there's money available to expand operations fairly quickly, and when it's tough economic times, at best, we swim sideways.

We aren't seeing the same reductions historically in milk supplies that we would have seen in periods of tough economic times, as maybe we did in the past. So I -- I think that has a lot to do with why we see a supply side, again, that's much more inelastic.

Why do we see -- why do we see the effects washed away? To me, that's the industry still just adjusting to the changes in policy. And as long as the policy itself doesn't inflict long-term change that you can't undo, you move back toward that long-run equilibrium.

Q. Okay. Thank you.

In your table you have a fluid milk elasticity of negative .12, and I think I just wanted to make sure I

gathered from other cross-examination, that's an inelasticity that's in your FAPRI model based on your long-term work in that model.

And you haven't seen any new data or information yet you are comfortable with that would cause you to change that estimate?

A. That's correct.

Q. Let's turn to slide 7. Actually, let's turn to page 6.

I wrote a note that I heard you say, in response to some question, and I -- I think I got it correct, you said if you were forecasting, you wouldn't use models like this.

So I wrote that down, and as to why do you say that?

A. So I -- I think it's tough to have -- so if I was really good at this and the model that I have together today was a perfect forecasting tool, I wouldn't be here. I would be retired somewhere.

Q. On a beach.

A. I never -- on a beach, not in cold weather. So -- so thus my flippant response to, I wouldn't use the model to forecast. I don't trade on the CME based on what this model says because that would certainly get me in trouble at times.

Any model that we have is a simplification of reality. When you have an industry that's as inelastic as the dairy industry appears to me to be both on supply and

demand, it just means very small errors in what you might think about supply or demand can translate into pretty huge shifts in prices. So just about the time you are projecting prices higher, they go lower.

Now, do I think it's a good way to think about this longer-term baseline approach? Yes.

Do I want to be a fairly accurate forecaster? Yes.

I think part of that is, then, how do you get expert opinion in to help the model behave or perform even better in constructing that baseline?

Our baseline review process has gone on ever since I started in FAPRI in 1987, and it is a very behind-the-scenes, down-and-dirty, all the experts that we can find to say, what have we done wrong? What's the model not performing very well? And we get beat up sometimes about things that maybe it hasn't done so well.

But that process of constructing, to me, then, distinguishes it from a forecast. Just trying to get a -- and I want an accurate representation of the future as best I can do it, so that when I take that yardstick and then measure the scenarios, I feel comfortable with the change, because that's really what I'm after at the end of the day. When I peel that piece of policy or change that piece of policy, is the change still accurate? Or if I want to put it into percentage terms, is it somehow biased because of the baseline that I chose? I want to avoid that as best I can.

Q. So better to look at it in maybe the direction and the magnitude rather than the number?

A. Yeah. I don't disagree with that assessment of -- I'm happy to get the direction, and I hope I have a pretty good shot at the magnitude. But direction is as important as anything here.

Q. Okay.

MS. TAYLOR: So, Your Honor, I have a bit more, and it's about noon. So I'm wondering if we might just go ahead and take a break, before we get into the details of other scenarios, for lunch?

THE COURT: Now, our farmer witnesses are still waiting to testify, correct?

Mr. English, will everything be fine if -- if --

MR. ENGLISH: I don't know how much USDA still has, but I think if we start by midafternoon, the statements aren't very long from the dairy farmers. I think we're going to be okay.

MS. TAYLOR: Yeah, I'm not going to go excessively long by any means. I'm just looking at the time and thinking it would be an accurate time.

MR. ENGLISH: I continue to believe we're going to be okay, Your Honor. One of the dairy farmers -- I'm not going to try to stretch this out, but Mr. Sumners says he just has to be on the road tomorrow by noon, whereas Mr. Carson and Mr. Shockey have to be on the road by, you know, 5:30. So they are the only ones that absolutely have to get on today. I would like to get all three of

these witnesses, essential witnesses, on.

I have a pretty good sense of how long these things take. I think we're going to be fine.

THE COURT: Good. All right. I think this is a wonderful time to take our lunch break. Please be back and ready to go at 1:00 p.m.

We go off record at 11:59.

(Whereupon, the lunch recess was taken.)

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WEDNESDAY, DECEMBER 6, 2023 - - AFTERNOON SESSION

THE COURT: Let's go back on record.

We're back on record at 1 o'clock.

Is there anything preliminary to the Agricultural Marketing Service continued examination?

There is nothing.

You may proceed.

BY MS. TAYLOR:

Q. Welcome back.

A. Thank you.

Q. I want to turn to slides 7 and 8, and this corresponds to the text, I think, that's on page 4 of your testimony, which is Exhibit 421.

So slides 7 and 8 look at deterministic and stochastic, and I was wondering if you could tell us the difference between the two.

A. Yes. So the deterministic baseline, I often say, well, that's the point estimate. Year by year, it might be considered what's your best single point estimate of what the future looks like. And I -- I describe that as the deterministic process. Single point, year by year of all the important endogenous variables.

Stochastically, page 8, then says, we know there's some distribution around that point estimate. There are risks and uncertainties that we're not going to capture in an economic model. So I want to draw from those risks and uncertainties. I do want those draws to be correlated, so when I think about the factors that are outside the model

that could make milk prices higher or lower, I want to draw from a set of those in a way that -- that they do stay correlated. Some errors won't be very correlated; others will be very correlated.

This is an opportunity to look at how policy, then, works across a spectrum of potential outcomes. Low milk prices, high milk prices; low milk supplies, high milk supplies. I think when you pick a single point estimate, you are open to missing some of the nuance that happens when we're talking about policy that might be one-sided or the other.

And so when you look at the stochastic graph that's on page 8, you know, so number one, I'll first say, you look at that cumulative density function, and if I would have -- would have put it as a probability density function, it would look very normal, frankly. It would look pretty bell-shaped.

That doesn't mean that we still can't use that information in a way of, as I change policy, is that policy outcome also distributed in some normal fashion or is there a tail to it that matters?

In the things that I have analyzed, you know, here's where the higher-of versus the average plus $0.74, the discussion needs to look at the range of outcomes.

I think when the 2018 Farm Bill was being developed and folks decided to move to the average plus $0.74, they did not expect the volatility that we saw after that period of time that made that move not seem

very palatable for producers.

I don't think there's a single formula one can pick that's going to work perfect in all times, but being able to at least analyze across that says, hey, there are times where using the higher-of may be the higher -- may give us a higher return.

I think the other point here is more volatility that we have tended to see in markets. Now, maybe we're not going to see the same volatility that we saw during the COVID period in recovery, but I want to know how policy works in those volatile periods of time because I think it makes better policy for us at the end of the day if we think about all of the potential implications across a lot of different market outcomes.

So although we call this a stochastic baseline, I sometimes, you know, will say, it's 500 alternative runs that look at changes from what's the most likely or deterministic baseline that gives us that kind of fuller explanation when you think about it from a Farm Bill perspective.

Again, government costs very rarely is equally distributed. You are working on one tail or the other. And back in the day where all of us were only doing deterministic baselines, one could, if you will, game by setting parameters that weren't triggered deterministically, and when you do it stochastically, you get a better flavor of what that looks like.

Q. Okay. Speaking of the volatility you just

mentioned, we have heard a lot of testimony over this entire hearing about what everyone seems to be, like, what kind of shifts around 2017, where you saw more volatility in the market, and that seems to have continued.

And for your analysis, looking back historical, on historical data, there's not a lot of data, you know, on this current time period.

So I was wondering if you could, and I don't know, talk about, just react to that, that information that's been provided to us, and how that impacts, or wasn't able to impact your analysis?

A. So I think there's a couple of things at play here that -- to discuss under that scenario.

So number one, when we're looking at estimating parameters over a long historical period, have we somehow missed the true response in either supply response or demand response from the parameters that we have estimated? I -- I worry a lot about that particular issue, to the point that we spend a lot of time looking at alternative specifications that shorten up the estimation period. I'm going to give up degrees of freedom that I want statistically to see how my parameters adjust if I shorten the period.

I haven't seen anything that yet makes me go, yeah, we fundamentally need to work on this. I'm not convinced I'm to the finish line of that work. I'm -- I was -- I don't think that finish line ever exists. These models always will adjust.

For me, to the -- to the volatility, I have said a few times now -- so we have had a lot of what people will dub black swan events that have affected the industry, and I don't want to downplay that I think we have had some that we could have never predicted. However, I think the structure of many of our ag industries, dairy included, has become less responsive on both supply and demand.

And I say that because you stand those supply and demand curves straight up and down, for those of us that are economists, and all of a sudden small changes in supply or small changes in demand gets big swings in prices.

I don't want to confuse the black swan events with what I think is a continued structural shift that makes us generally less responsive as participants in the industry. And I think policy has to -- to account for what I believe is a little less responsiveness for -- by both sides of this industry today.

Q. So maybe I could summarize in a non-Ph.D. economist way: Everyone's getting used to the volatility, so they don't react as quickly maybe as they would have at this point?

A. And probably don't have the flexibility to react as quickly as maybe in the past. Again, I'll go back to the supply side. Once I'm invested in that facility, frankly, I have no choice but to milk in it at 100%.

This idea that, oh, you know, it's -- economics are worse, I'm going to milk at 90%. I think most

everyone would say that doesn't work in the operation, so I got to go at it full bore. And then, if I financially come to the end of the rope, it's not like that facility goes away. It's -- it's likely resold, as long as it's still somewhat modern, and it's milked in again.

I think you could say the same kind of capital intensive nature occurs almost at every segment along the way of the dairy industry, so I think all these -- all that just points, again, to a lot of this straight up and down, and so we miss the volatility that we're going to continue to see as we move ahead.

And I think it's important as we think about any kind of reform to the Federal Order system that we understand that we're likely going to deal with more volatility and not less, and that's important to make sure whatever -- wherever we end up, we think about it as it relates to volatility.

Q. Okay. I was wondering on page 8 in your slide, this is the stochastic baseline, if you could just walk through kind of what exactly the graph is showing us.

A. Yeah. Yeah. So thank you for letting me try to be a little more layman in terms of what I talk about.

So if you think about this line, right? So, in fact, that line has 500 dots to it, and you just can't see them because they are so close together. So it's the 500 different outcomes sorted from lowest milk price to highest milk price.

If I take what's labeled on the horizontal axis as

51, observation 51, that tells you 10% of my observations of milk prices roughly occurred at $16 or less. All right? So there's a 10% chance we could be below $16. Every single one of those gives us, then, ten percentiles, if you will. So when you get to 251, that's going to roughly give us back the average that we saw on the deterministic side.

It also says there's a tail up there, the last 10% on the very right-hand side of my -- of the graph that says milk prices could be $25 or higher.

Now, I think some look at those tails and go, those tails are too big. We have never seen almost $10 all-milk. When we got almost $26 in 2022, it made my right-hand tail at least look a little better. I want tails that are bigger than what we have actually experienced because I know there's probability outside the ends.

Now, if we have $11 all-milk, I bet that goes with $2 corn. So what's the likelihood of $2 corn happening in front of us? Probably not big, either. But it just reminds me to say, you know, feed costs matter in terms of what the milk prices are that we get back out of that scenario.

But that -- that graph is meant to represent here, sorted from the lowest price to the highest price, the different levels of milk prices we're looking at when we examine this on a stochastic basis.

Q. Okay. Thank you.

And then do you have confidence intervals around the results that you show for each of the different runs?

A. So we don't have confidence intervals around those. So we don't draw on everything we can draw on. So when I say a stochastic baseline approach, it's somewhat a subjective stochastic baseline approach. I'm picky, the things that I think are most important to draw from in terms of the exogenous data. That has been by working through drawing on different things, what's important to draw on. And if I draw on another variable, how much does that increase the distribution?

If I was going to be critical of what we have done, those confidence intervals should grow as we go through time, because we're less certain about price projections in 2032.

Well, I'm certain about one thing in 2032, they will be wrong. But the fact that as we go through time, those confidence intervals, if I was to try to calculate them, should go higher, and we don't tend to see that out of the approach that we have taken.

Q. Okay. All right. I wanted to turn to -- let's see. Let's go to slide 10.

So we have heard a lot of talk over the course of the hearing, again, some people estimate that the National Milk changes in Make Allowance would result in a $0.50 impact in the first year, and your analysis would forecast a $0.30 impact.

I think I know why, but for the record could you

talk about why would we see this difference?

A. Yeah. So I actually opened my written testimony to page 12 as well to go along with this discussion.

And so at the very bottom is an easy answer to that question. If you just put the Make Allowances in, you are right about the 50-some-odd cents. But when you look at Table 4 at on page 12 of the written testimony, you will see in 2023, for example, cheese prices are $0.02 higher. So the already beginning of less supplies of milk generates higher wholesale product prices, offsets the simple calculation of what happens when you increase the Make Allowances.

Q. Okay. So the $0.50 is just looking at the one piece of the puzzle, where your analysis is looking at --

A. It's the response to that single piece of the puzzle. How do all the market participants respond to then what's the start of the shock of increasing the Make Allowance? And we get product prices that move higher as a result, so it moderates those impacts.

Q. So I want to turn to the discussion on the barrel cheese proposal, which is on slide 11, and I think the written part starts on page 7.

And you talk about, you use the relationship between the block and barrel cheese prices between 2000 and 2022. Kind of, as I mentioned before, you know, we have had evidence in the record of how those prices have become much more volatile than, say, the last six to eight years.

And so I am wondering if you could just opine a little bit about how what that might mean in reality versus maybe what the analysis is showing us?

A. And so it's a good question. I would probably turn to page 12, the slide that looks at the change in the Class III price scenario, let's baseline for a minute to say, when you think about the last few years, you're probably at the right side of that -- of that figure, so not at the full. And so if one wanted to cut down to the more current period where we have seen a bigger difference, I think I would start to describe it by looking at the right-hand side of that figure to get a better reflection of the impact.

Q. So on slide 13 you were talking about the Class I mover. And in your discussion, which is on page 8, your written testimony, you talk about how the differences since 2020 between the Class III and IV prices have tended to be more extreme.

How would you define extreme in how you have used it?

A. So I guess just bigger differences between Class III and Class IV. We have seen more times where they maybe haven't moved in a similar direction, more of late. And I think when you look at the graph that's on page 14 of my presentation -- so, again, let's -- let's stop long enough to -- what the heck does that gold line really mean that's there?

So when we looked at the 500 outcomes in 2024

only, it would say in some cases, it's a Class III price that runs nearly $6 below the Class IV price, and in other cases, the Class III price that's running $6 above the Class III price. So those tails I think is where we have been finding ourselves more often as we've looked at the last few years.

I'm not sure whether -- I say that is -- those extremes continue in front of us or not, but I want to know how picking a Class I mover is affected depending on where I'm at in that distribution of Class III versus Class IV. My hunch is, had we done this kind of work ten years ago, there would be a lot less variability in this line in the difference between Class III and Class IV prices than what's sitting here today for the analysis.

Q. So could we think of it as though -- because things are getting more volatile, we will see less normal distributions of outcomes as you do an analysis like this, because it's taking that volatility and variability and it's showing up in the tails?

A. So I -- I don't know that I can, with the model, give you the answer to that question. My gut tells me that, yes, we probably do see that variability where we get things moving differently, a little less in lockstep than maybe what we have seen historically. But from a modeling standpoint, I'm not sure that I have anything that really addresses that question very well.

Q. Okay. Can I ask why you -- the lines are at $1.48 and minus $1.48?

A. So it's the $0.74. So if we think about what the current --

Q. Oh.

A. -- about what the current average plus 74, it tells us, you know, where do we get outside of where -- so within the bands of minus $1.48 to plus $1.48, the average plus $0.74 would return a higher Class I mover, get outside those bands, the higher-of would return a higher Class I mover.

Q. Okay. Thank you. Our Class I mover discussion was so long ago, that I forgot that 1.48 was important.

So if I move to slide 15, and this is where you have these bar charts, can you just tell me what the numbers on top of the columns, the bars represent?

A. Yes, sorry. So those are the Class I mover prices on average for each of the bins of 100 outcomes. So in the case of bin 1, so these would be the lowest Class III less Class IV prices, of the difference between Class III and Class IV. The Class I mover under the average plus $0.74 would have returned 17.54 on average across those hundred observations, whereas under the higher-of it would return $18.68 per hundredweight.

Q. And just so I want to make sure we're clear. When you say the "lowest," it's the lowest of the number of observations. So if we go back to that chart, it would be the first hundred in that distribution?

A. That is correct. It's lined up. So the first hundred of this previous chart would equate to those

average Class I movers.

Q. Okay.

A. And the same bins go across. Sometimes I think it's easier for folks to understand the binning of let's do a hundred at a time instead of all 500. These charts really tell the same story.

Q. Yep. These look at the averages.

Would there be a difference if we looked at the median? Or -- and I think you talked a bit in some discussion about why you chose to look at averages versus a different method, but just curious about that.

A. So they will be different. I don't see them significantly different in most cases. I mean, you can really turn back to a slide like 14 and say, how normally distributed are my outcomes? They are fairly normally distributed. I think it's going to give us a mean and median that are very close to each other in that case.

Q. Moving to the updating the skim solids component that's on slide 16.

I just want to be clear. I think you mentioned it. You just looked at the initial change. You were not able to look at any subsequent changes National Milk has proposed?

A. That is correct.

Q. I wanted to spend a bit on the Class I differentials to kind of understand what you did.

So when I look at this chart on slide 17, it has the same categories to be consistent with the other

charts. Well -- well, first I see the Class I mover as lower, so I'm curious about that.

But as -- as a follow-up, I'm guessing that the all-milk price at the bottom reflects the differential increases that aren't necessarily reflected in these other four categories, and I wanted to see if I was correct or not about that?

A. So you are correct. And, again, when you see a U.S. all-milk price in 2023 that's $0.17 higher than the baseline under that scenario, you know the Class I differential increase was enough to offset what were lower Class I mover, Class II, Class III, Class IV.

And so perhaps I -- I should have changed and put a Class I milk price in that top row so it was a little clearer about what -- what's happening, but Class I differentials increase enough that you are offsetting now.

Again, why are these class -- minimum class prices moving lower? When you have $0.17 higher all-milk price, you get some supply response to that, so additional milk supplies push those regulated minimums lower. And to me, this is yet another reason why when you are doing this system approach, you recognize that there's -- the first step, right? Raising Class I differentials. But that has implications to producers in terms of additional milk supplies. And that simultaneity of finding the new equilibrium is what this modeling process, I think, is best at doing.

Q. Okay. And these numbers on here, just to make

sure everybody -- the record's clear, they are not point in time. They are average, 500 -- the average of 500 different observations is what gets you this, for example, negative $0.22 in the Class I mover in 2023?

A. Yes. So we could probably pull out one of the 500 and show a little different result than the average of the 500. But, yes, these represent the average of the 500 outcomes.

Q. So our Class I differentials, as you know, are county specific.

So I was just wondering if you could expand on how are you -- how did you account for that in the model?

A. Yes. So I go order by order and -- and tried to figure out what an average Class I differential change was for each of the orders based off of the county information that National Milk supplied to me. That -- that's my starting point, since I don't do county-by-county kind of information.

Q. Okay. On page 10 of your statement you have a sentence in there, let me see if I can find it. It's right in the middle of the page, and it reads, "The combination of the five individual changes are nearly linear, but some of the interactions between the five individual changes result in some very minor non-linearity."

So could you expand on what you mean there?

A. So in simple terms, if I looked at the very last table in the PowerPoint presentation, so page 18, if I

took the average of the first five lines, if I was completely linear, I would get this -- the overall change in the U.S. all-milk price, putting them all together.

And I think just as you layer them on one at a time, it's not completely linear, so you -- how you pick and choose which of the -- these five you might want to analyze, you will get slightly different answers. I just wanted to make sure I made the point that, you know, pretty much the model's linear so it doesn't matter, but there's a little bit of nuance there that we have some non-linearity. We have endogenous variables that are divided by other endogenous variables. It creates a little bit of non-linearity in the model.

To some comments that I think were made off the record late yesterday about models blow up. Non-linearity is a great way to have a model that does not behave very well when it gets into extreme outcomes.

Q. I have heard that many times from our economists in the Department, so I understand that. Okay. Thank you.

I wanted to ask you a couple of other questions that aren't necessarily based on your direct testimony. But I wanted to talk about -- and you mentioned it a little bit -- about how when the mover discussion happened with the 2018 Farm Bill, nobody thought what would -- you know, we would have a pandemic or whatever and things would turn out the way they did with that change.

So I guess the question is, considering all your

observations, I mean, what sort of conditions aren't -- maybe aren't we foreseeing now that would result in -- that's a pretty loaded question, but you are up here, so I'll ask, right? So we have recent experience of things not necessarily turning out for some parties the way they wanted, and because we didn't think something would happen, so...

A. And I think it's equally important to remember, when we first went to the higher-of, I don't think anybody truly understood the potential positive implications from a higher Class I mover. I think we glossed over a little bit of what the higher-of really meant to us at the end of the day. What are we missing?

I often say, could you please ask me in 2032 what the formula should have been for the Class I mover? I will know with certainty what we should have done. All right?

So now, this is, how do we create something that most avoids some of the things we didn't like going through COVID? And I don't have a good answer to that question. I'm glad this is one for AMS to get to grapple with as they look ahead. And I would just remind everyone that the crystal ball is not always clear when you are trying to figure out where those markets move in front, just at least to acknowledge that we need to look at these over a range of potential outcomes is important. And everybody in the industry is going to like outcomes that I think help us reduce some volatility that we have tended

to see.

Q. You mentioned that you think some people -- some of the positives, what you determined positives in the change in the mover, got lost.

Wondering if you could expand on that thought -- lost in the discussion?

A. Yes. So I guess my point being raised back when we were doing reform in 2000, I think it was almost a foregone conclusion, oh, we should use the higher-of III and IV for the mover. And I'm not sure we did the same kind of backward-looking, what would that have meant historically. And so I think we underestimated the potential bump we got when you got to pick the higher of the two. Some might have said, well, that's pretty close to the average of the two, and it's been anything but that. And it's gotten more volatile. It's gotten even where it's even much more important about whether you are using the average over the higher-of.

But I -- I -- I always go hindsight is going to be absolutely 20/20 in this case. And here's another one where, although I think a few of us might have suggested some very outlying observations that folks should have thought about during the 2018 Farm Bill, that decision was probably made before we could -- and -- and many people weren't focused on just how wide those price differences could be, because they hadn't really happened historically very often. And I remind myself of history is not necessarily a good predictor of the future.

Q. We have a number of proposals that are being offered with delayed implementation, one of those being a Make Allowance proposal that would phase in. There's also talk of delaying implementation of changes because of risk management, to take that into account, that people use more risk management.

So I wanted to ask based on your experience, your opinion on how a delayed implementation could alter expected results, and does the fact that you know there's going to be a change a year from now, and you -- let's say as an example, and you know what that change is, are you able to -- would you expect people to moderate their behavior that then might kind of moderate actually what happens because they have had more time to adjust?

A. So if you give people more information that they can make better decisions for longer-term, absolutely they are going to start to thinking about ways they can adjust to what's coming in front of them.

If you think about this idea of stepping into change, sometimes I say, well, perhaps that affects the path. It's a little less bumpy out of the gate, you know, you look at the results of the scenarios I have run, the biggest effects are what? Year one results.

So if you think about ways to implement them across time, maybe you smooth that out a little bit. But it doesn't affect, frankly, where the long-run side of this comes out, it just affects the early path for me in terms of thinking through what that means.

Q. My last question, and it's been discussed with other cross-examiners about your elasticity assumptions in your model. And we talked a little bit about that. Just wondering if you might talk a little bit about how changes to your elasticity assumptions would change the results. I mean, as you mentioned, everyone makes assumptions, and you can find numbers -- but I don't want to say that word, that's not what I mean by any stretch -- but you pick a number and you get a result.

A. So I generalized in a couple of ways. So if -- if you tend to have models that are more elastic, you are going to get less price response as adjustments try to happen. You're going to need a bigger product, a bigger supply change, or a bigger demand change to try to get balance. The more inelastic you are, the bigger the price change you get for a given level of supply response. So it's critical. It's critical to the answer to the question.

Let me say, again, that as economists we all live in a little bit of a soft science world. I -- I do not throw stones at anybody that -- that, you know, might necessarily approach this idea of what are the correct elasticities differently. But I think it is impossible to point to one study to say, this is the right elasticity, without a lot more scrutiny over time.

So I -- I do like this idea of, I want to look across the literature to see what everybody is saying about elasticities as I look at what our model says

relative to what else is out there in the literature. But this is -- this -- the results that you see today are very much driven by the elasticities that we have sitting in the model.

I'm happy that they look mighty close to what the Economic Research Service does in their own model, because those two models look awful familiar, and perhaps some discussion with AMS staff in the past that have built these kind of models, they also seem to be somewhat consistent. Now, maybe we're all wrong with those elasticities, but -- but it gives me a little bit of hope when we're all trying to do some similar things that we tend to find similar answers.

Q. I think that's all from AMS.

MS. TAYLOR: Thank you for your time today.

THE WITNESS: Thanks.

THE COURT: Mr. Rosenbaum.

CROSS-EXAMINATION

BY MR. ROSENBAUM:

Q. Steve Rosenbaum, International Dairy Foods Association.

I would assume that the emergence of a new competitor might have -- in anything -- might have a material effect on elasticities for a given product, correct?

A. The industry is always going to be adjusting, yes.

Q. But, I mean, there can be some new form of competition that a particular segment in the industry has

never faced before that all of a sudden becomes a real competitor, right? That could happen?

A. I suppose that scenario could play out.

Q. Did you -- have you read the 2023 study that was published by three authors, including one from USDA, that basically concludes that, for example, plant-based beverages are a substantial competitor to fluid milk, and studies that concluded otherwise have -- have failed to, if you will, address the real competitive world that milk now faces?

A. So, yes, I'm aware. This is to my point of, I like to look across all the different studies that are out there. That's one that, again, would be worthy of including, but I want to look at the range of what's out there as I think about what's appropriate elasticities.

Q. I mean, I assume that if you looked at any study done more than -- I'm going to pick a rough number -- ten years ago, probably would have been no contemplation of plant-based beverage competition. Would you agree with that?

A. That is certainly one of the new things that we face as we think about competition relative to fluid milk.

Q. Let me -- and your ultimate conclusion is the National Milk proposals would raise all-milk prices modestly; is that fair, when you consider all the factors?

A. Modestly in the early period, but very modestly as you go further out in the analysis period.

Q. But, I mean, that -- the reason for that result,

in part, is the Make Allowance changes they are making, correct? I mean, that's one of the factors that you are including in your ultimate conclusions, right?

A. So my analysis is analysis of their proposals, yes.

Q. Right. Okay. So I'm not suggesting, you know, you did this, but, I mean, it certainly was open to them to pick a Make Allowance proposal that would come up with a rough result like this if that's what their goal was, right?

A. So perhaps I -- it's -- I think it is a good opportunity to say, you know, when this work all started, it was about one or two phone conversations between me and Jim Sleper and Peter Vitaliano with National Milk, that they said, "Hey, we want you to analyze; here's the assumptions we want you to make." That was the last time I heard from them until I delivered the results.

So it wasn't a, "Hey, let's look at these Make Allowances, and then maybe I'm going to give you a different set." I only had one set of Make Allowances to look at at that entire time --

Q. But I mean, they are -- they are --

MS. HANCOCK: Your Honor, if he could just not be interrupted and let him finish his answer.

MR. ROSENBAUM: I thought he was finished.

BY MR. ROSENBAUM:

Q. Go ahead if you have more to say.

A. So, again, this wasn't a hunt-and-seek approach

to, run this first set of scenarios; hey, we might want to give you a different set of Make Allowances. Those were one-and-done, if you will.

Q. Right. I mean, obviously, they are Ph.D. economists themselves, right?

A. Yes.

Q. Okay. So I mean, my question is, if they -- if someone came to you and said, "We want you to run some scenarios and we want you to include a Make Allowance of X, and the Make Allowance, as has been discussed, is going to be the cap on how much a dairy processor can receive" -- because everything over the cap they have to pay the farmer -- "and we want you to assume a Make Allowance that represents a materially lower amount than the actual cost of making the product," would that strike you as a reasonable thing to do?

A. So I think the response here is, we can run through the model alternative assumptions for things like Make Allowances. We have equations that try to predict how milk allocation unfolds as you run different Make Allowances. It's not the model's objective to say, well, this is good policy or bad policy. It's really just to quantitatively assess the impacts, and that's really what I have been trying to provide in my work back to National Milk.

Q. And so to follow up on that, there's no suggestion here that the Make Allowances that underlie the results you achieve --

(Court Reporter clarification.)

BY MR. ROSENBAUM:

Q. There's no sense in which the Make Allowances that you are using in your models are appropriate or not, correct?

A. There are assumption changes that I'm making to see what the impacts on the industry is from alternative Make Allowances.

Q. And I mean, do you, as a -- as an agricultural economist, have a view as to whether Make Allowances should, in fact, reflect the average cost of producing the product?

A. I -- so I think the difficulty in this discussion is what is the average cost of Make Allowances, and part of what the discussion is here about what's appropriate. Given that we haven't changed them for decades, perhaps that's the reason why we need some adjustment.

But that -- that, to me, is -- is the important piece of the puzzle of what I bring as the quantitative assessment without saying, I advocate for these or I don't advocate for these. This is what the model generates that I have used for a long period of time to look at a number of policy alternatives.

MR. ROSENBAUM: That's all I have.

THE COURT: Agricultural Marketing Service microphone on, please.

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CROSS-EXAMINATION

BY MS. TAYLOR:

Q. I just have one quick question as we noticed going through this.

I'm on any of your results tables, and under wholesale prices it says, "Nonfat dry milk" --

THE COURT: Slow, slow, slow, please.

MS. TAYLOR: I get so excited.

BY MS. TAYLOR:

Q. It says, "Nonfat dry milk, AA."

What does the "AA" stand for?

A. So I think that's a misquote -- or a mistake in the determination of what that nonfat dry milk price is. It's an old double Grade A price --

Q. Okay.

A. -- but not what we're using today. It just got left over on the left-hand side.

Q. Okay.

A. We're using survey prices.

Q. Okay. So the other ones have "CME" after them.

A. Yeah, yeah. So they all should suggest survey prices, not --

Q. Oh, NDPSR prices?

A. Yes. My -- my -- thank you for clarifying. That's my mistake.

Q. No problem.

MS. TAYLOR: That's all I have. Thanks.

THE COURT: Ms. Hancock.

MS. HANCOCK: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MS. HANCOCK:

Q. I just have a couple of questions, Dr. Brown.

There was some discussion about when you ran your model results in January there might have been some changes after that in the 3100 counties that came out of the model results.

Can you opine on whether those changes would have had any material effect on the model results as you have run them?

A. So I think it would depend on the magnitude of the results, but I -- I guess I probably wouldn't expect big changes from what I saw in the set of Class I differentials that I ran.

Q. I want to -- Mr. Rosenbaum talked with you about Exhibit 424, and that's the March 2022 U.S. Agricultural Market Outlook.

I'm wondering if you could just give us a little bit of context to know, when do you start compiling the information that gets reported in that March of 2022 report?

A. Yeah. So we actually really start that development process in about October of 2021.

That would be first to construct a preliminary baseline; that would occur in November.

In December, we tend to then have a review from other ag economists, other stakeholders about that

long-term baseline.

We will then come back in early January and run the final baseline. That first cut of the final baseline would be a deterministic process.

And then after that is finished in January, we come back in February and we'll talk about adding the stochastic component to the baseline.

And then make that delivery to Congress sometime in early March.

Q. And if we look at page 63 of Exhibit 424, you're reporting in this March of 2022 report, you have an all-milk price that's reported for 2021, and then forecasting in 2022, and then forecasting out until 2031; is that right?

A. That is correct.

Q. And so when you are running those numbers, you don't yet know what 2023 is going to be yet; is that fair?

A. And that is correct. We were running this in 2022, so 2023 was purely a forecast almost 12 months into the future when this was done.

Q. So you forecasted, at least in Exhibit 424, a baseline of $20 for the all-milk price for 2023; is that right?

A. That's correct. We did pretty good.

Q. It turned out it was a little higher than that, though; is that right?

A. So -- so 2022 actually got higher. We would have ended up 2022 with in excess of $25 all-milk prices. So

remember, we were in 2022 when we were making that '22 forecast, so we weren't very good with the current year. We did much better in 2023.

Q. Okay. So 2022 ended up being more than $3 higher than what you have included in Exhibit 424?

A. That's correct.

Q. And is that one of the numbers that was updated with National Milk when you were running the modeling for National Milk?

A. Yeah. Yes. So when you look at the graph of the deterministic milk price that's on page 7 of the PowerPoint presentation, you now see 2022 sitting nearly $25 per hundredweight, which was really getting us much more close to what the current situation was, or that we thought it was going to be for all of '22, and we were doing this baseline in July of 2022.

Q. So at anytime when you were having conversations with National Milk, Dr. Vitaliano and Mr. Sleper, or anyone else with National Milk, did anyone at National Milk ever provide you any subjective input that you should include in the baseline?

A. No.

Q. And so was the only input that you received was to make sure that whatever baseline you used was the most updated and accurate based on objectively measurable numbers?

A. That is correct.

Q. At any time did you ever cherry-pick data or

disregard any data or model results because it was unfavorable to National Milk or its proposals?

A. No.

Q. As you sit here today, do you have an understanding as to whether National Milk tried to use a Make Allowance to drive an outcome in the model results?

A. I do not.

MS. HANCOCK: Your Honor, I don't have any further questions. With that, we would move for the admission of Exhibits 421 and 422.

THE COURT: Is there any objection to the admission into evidence of Exhibit 421, also NMPF-60?

There is none. Exhibit 421 is admitted into evidence.

(Thereafter, Exhibit Number 421 was received into evidence.)

THE COURT: Is there any objection to the admission into evidence of Exhibit 422, also marked as exhibit NMPF-60A?

There is none. Exhibit 422 is admitted into evidence.

(Thereafter, Exhibit Number 422 was received into evidence.)

MS. HANCOCK: Thank you for your time, Dr. Brown.

THE WITNESS: Thank you.

THE COURT: Mr. Rosenbaum.

MR. ROSENBAUM: Your Honor, at this point I would like to move into evidence Hearing Exhibit 423, which is

IDFA-Exhibit 59, and Hearing Exhibit 424, which is IDFA-Exhibit 60.

THE COURT: Is there any objection to the admission into evidence of Exhibit 423, also IDFA-59?

MR. HILL: This is Brian Hill from the USDA. I would prefer if this was admitted with their witness, Mr. Brown. As it appears, 423 does include information from the USDA, but there's also some manipulation of the USDA's numbers, and so I think that deserves some cross-examination.

THE COURT: Mr. Rosenbaum, your response?

MR. ROSENBAUM: Well, I think, Your Honor, your consistent ruling has been that if people put in government evidence and it can be replicated by others, that you have admitted it on that ground.

I will repeat, as I said before, Mr. Mike Brown is one of the people who prepared this document, and he will be a witness and be able to explain it further, if anyone wants him to do that, or I may ask him myself. But having said that, I do think this qualifies for admission at this time.

THE COURT: I disagree. When I looked at the others, for example, those that MIG presented, and I looked at the legend, I felt that I could do those calculations myself if I needed to, to determine whether the added material was accurate.

I have no such confidence in this one. I really will need your witness.

MR. ROSENBAUM: All right, Your Honor. We'll put it in through Mr. Mike Brown.

THE COURT: Thank you.

So I agree with you, Mr. Hill, and I will defer my decision with regard to Exhibit 423 until we have further evidence, which I expect to be soon.

And with regard to Exhibit 424, also IDFA-60, is there any objection to the admission into evidence?

There is none. Exhibit 424, is admitted into evidence.

(Thereafter, Exhibit Number 424 was received into evidence.)

THE COURT: Now, is there anything further before I allow Dr. Brown to step down?

There is not.

I thank you very much. I appreciate your being here. I am honored that you gave us what you give Congress.

Now, Mr. English.

MR. ENGLISH: Your Honor, as -- my name is Chip English for the Milk Innovation Group.

As discussed this morning, the next witnesses we would propose to be Mr. Joe Carson and Mr. Joe Shockey.

Mr. Carson is with United Dairy; Mr. Shockey is a dairy farmer who ships to United Dairy. And we have done in the past a couple of different panels, and I have a number of documents, all were submitted last night, to have marked.

THE COURT: So we'll go off record in just a moment, but I want to make sure while we're on record that our next exhibit will, in fact, be 425. Yes.

So with that as our starting point, Mr. English, we'll go off record while these are marked and distributed.

We go offer record at 1:56.

(An off-the-record discussion took place.)

THE COURT: Let's go back on record.

We're back on record at 2:05.

Mr. English, I have marked exhibits in front of me. Do you want me to tell you what I have?

MR. ENGLISH: Or maybe I can tell you what I think you have?

THE COURT: That would be excellent.

MR. ENGLISH: You have United Dairy-001, which I believe has been marked as Exhibit 425.

THE COURT: Correct.

MR. ENGLISH: Which is the testimony of Joe Carson.

(Thereafter, Exhibit Number 425 was marked for identification.)

MR. ENGLISH: You should have United Dairy-002, which I believe has been marked as Exhibit 426, which has a 2023 September map JPEG label. And it has -- so a framework of parts of Pennsylvania, Ohio, Kentucky, West Virginia, Virginia, and shaded areas of North Carolina, South Carolina, with some stars and circles that --

THE COURT: Correct.

MR. ENGLISH: -- will explain it.

(Thereafter, Exhibit Number 426 was marked for identification.)

MR. ENGLISH: You should have United Dairy-003, which I was believe has been marked 427, which is another map that says "map for me," and it has sort of portions of Michigan, it has parts of the Great Lakes, over the Atlantic Ocean, down through Tennessee and South Carolina, and then a listing of some plants that the witness will explain.

THE COURT: Plants that what?

MR. ENGLISH: That the witness will explain.

THE COURT: Ah, good. That's correct.

(Thereafter, Exhibit Number 427 was marked for identification.)

MR. ENGLISH: You have United-004, which has been marked as Exhibit 428, which is an Excel spreadsheet, not created by MIG, labeled "Change Versus Current," with -- again, we'll have the witness explain, but basically listing Michigan plants, Indiana plants, Ohio, Kentucky, Pennsylvania, West Virginia, Maryland, Virginia, North Carolina, and South Carolina.

THE COURT: Correct.

(Thereafter, Exhibit Number 428 was marked for identification.)

MR. ENGLISH: You have -- that's the last United Dairy.

You then have Shockey, S-H-O-C-K-E-Y, 001, which is the testimony of Mr. Joseph Shockey, DVM, Exhibit 429.

(Thereafter, Exhibit Number 429 was marked for identification.)

THE COURT: I did not realize that Dr. Shockey is appearing. Wonderful and correct.

MR. ENGLISH: And then finally, you should have Shockey-002, which is exhibit -- should have been marked as Exhibit 430, which is his own map, similar but different from the map -- from one of the maps from Mr. Carson, showing portions of what I would call the Midatlantic and the Eastern Midwest, again, up to the Great Lakes and down to the Atlantic Ocean, down to Georgia. And that has been marked as Exhibit 430, I believe.

THE COURT: Correct. Good.

(Thereafter, Exhibit Number 430 was marked for identification.)

MR. ENGLISH: Now, what I propose doing, Your Honor, to have just a couple limited questions with each, then have them each give their statements, and then I will have some follow-up direct, and then they will be subject to cross-examination, if that's acceptable.

THE COURT: That's fine. Now, both gentlemen are seated here on the witness stand. Which one will you have testify first?

MR. ENGLISH: Mr. Carson will testify first.

THE COURT: All right. Before I swear them in,

which I will do each one individually, I would like them to have a chance to position the microphone so that it is most likely to be comfortable for Mr. Carson. Let's test for just a moment, to see how that works.

If you were just looking at your document and reading it, let's hear how your voice sounds.

THE WITNESS: Testing. Is that good? I have a cold, so sorry if -- I'll try not to fall off too much as I speak.

THE COURT: That's good. Very good. All right.

Then I'm going to swear each of you in. I'm going to start with Mr. Carson, and I want you to state and spell your name.

THE WITNESS: (Mr. Carson) Joe Carson, J-O-E, C-A-R-S-O-N.

THE COURT: Have you previously testified in this proceeding?

THE WITNESS: (Mr. Carson) No.

THE COURT: Dr. Shockey, I want you to state and spell your name, please.

THE WITNESS: (Dr. Shockey) Joe Shockey, S-H-O-C-K-E-Y.

THE COURT: And following your name, looking at Exhibit 429, are the letters DVM.

What does that stand for?

THE WITNESS: (Dr. Shockey) Doctor of Veterinary Medicine from The Ohio State University.

THE COURT: Thank you.

All right. I'm going to swear you in now, both of you together. Would each of you please raise your right hand.

JOE CARSON,

Being first duly sworn, was examined and testified as follows:

JOE SHOCKEY, DVM,

Being first duly sworn, was examined and testified as follows:

THE COURT: Mr. English.

MR. ENGLISH: Thank you.

DIRECT EXAMINATION

BY MR. ENGLISH:

Q. So, Mr. Carson, first, we do not want your personal address. Could you provide a business address for the record, please.

A. (Mr. Carson) 300 North 5th Street, Martins Ferry, Ohio, 43935.

Q. And, Mr. Shockey, rather than what you may have put in your statement, do you have a business address rather than a home address, or is that the business address that is on your exhibit?

A. (Dr. Shockey) The business is beside the home.

Q. So 667 Crooked Run Road is the business address?

A. (Dr. Shockey) Yeah.

Q. And, Mr. Carson, United Dairy is a member of the International Dairy Foods Association; is that correct?

A. (Mr. Carson) That's correct.

Q. You are not a member of the Milk Innovation Group; is that correct?

A. (Mr. Carson) That's right.

Q. But given what you and I might call a long-term history between the two of us, you requested that I handle this testimony today, correct?

A. (Mr. Carson) That's correct.

Q. And you are appearing on behalf of United Dairy, correct?

A. (Mr. Carson) That's correct.

THE COURT: A little more volume, please, for the witness.

Mr. English.

MR. ENGLISH: Thank you.

BY MR. ENGLISH:

Q. Would you please proceed with your written statement, Mr. Carson?

A. (Mr. Carson) Okay. Thank you.

My name is Joe Carson, president and owner of United Dairy, Inc. As a quick background, I'm a 1986 Miami University graduate of business, whereupon I worked for Proctor & Gamble for several years before joining my father in the family business he started back in the late '60s, early '70s. My brother James, a University of Michigan graduate, joined the company in the early '90s, and together we run the business along with our longtime CFO, George Wood.

I'll just add, we are an independent family-owned

business.

We started with one small fluid milk processing plant located in Martins Ferry, Ohio. We have been fortunate to grow the business to three processing plants, Charleston, West Virginia, and Uniontown, PA, as well as Martins Ferry, Ohio -- and this would be indicated on Exhibit 426, what you all have for 426.

THE COURT: So just so the transcript is accurate, tell the transcript how to spell Martins Ferry, Ohio.

THE WITNESS: (Mr. Carson) M-A-R-T-I-N-S, F-E-R-R-Y.

THE COURT: Thank you.

THE WITNESS: (Mr. Carson) We also have eight branch depots throughout the five states, as indicated on the -- by the blue dots on the map. The three plants are regulated under Federal Order 33. The primary geographic areas where our products are marketed are as follows: West Virginia, Ohio, Western Pennsylvania, Eastern Kentucky, Western Maryland, Western and Southwestern Virginia, North Carolina, and South Carolina.

While we distribute a full line of milk, juices, drinks, cultured products, UHT products, and ice cream, we are strictly a Class I fluid milk processor, and therefore, have a major stake in Proposal 19.

United Dairy processes approximately 62 million pounds of milk per month. We service major national grocery chains, independent supermarkets, convenience stores, hospitals, institutions, restaurants, and schools.

These schools should be of concern, as many are in the Appalachia area, where the population is decreasing every year, and our trucks drive into very remote rural mountainous areas that are difficult to access.

As you are aware, NMPF Proposals -- Proposal 19 calls for higher prices to Class I plants, and therefore, to the consumers and the school children in these areas, which should be a major concern to USDA, as well as the constituents and their representatives in these states.

As a note, we participate in the monthly USDA bids for food banks, and as a company, have made the decision several years ago, I'll add, to invest heavily in the automated corrugated packaging area with the intention of packaging for USDA several years ago. To date, we have supplied over 3 million units to the USDA Food Bank program, mostly in our region of the country.

Our three plants are all located in Federal Order 33 and have similar differentials which have been in place for almost all of my career. Charleston, West Virginia, is 2.20 differential; Martins Ferry is $2 differential; and Uniontown is $2.30.

THE COURT: And the 2.20, that's also a dollar denomination; is that correct?

THE WITNESS: (Mr. Carson) Yes, that's right.

THE COURT: Now, you are turning to page 2 of Exhibit 425, correct?

THE WITNESS: (Mr. Carson) Correct.

THE COURT: You may resume.

THE WITNESS: (Mr. Carson) Our milk supply comes mostly from independent producers located on average within a 175-mile radius from our plants. They vary in size from smaller 50-cow farms to 500-plus-cow independent farms. We supplement our raw milk needs with several co-ops and work well with the local milk shed to help balance the supply.

When milk is tight, as it tends to be in the fall, the market will adjust through increases in Class I over-order premiums. When there is an abundance of milk, typically Class I premiums decrease. United has had no problem getting milk as the over-order premium ensures movement to the processing plants that need the milk.

I would like to point out that any change in the current differential structure would be a major problem for my company. We have lived with the current differentials for many years, and our farmers know what to expect from us. Also, our customers have programs and pricing in place, including contracts, based on this current cost structure.

United does not believe the current system should change, but any deviation from what it is in place should absolutely be equal to all Class I plants, whether it be cooperative, proprietary, or private family-owned. Failing to do so would lead to major disruptions in market chaos at farm levels, to the marketplace, and ultimately to the consumers.

I would like to stress the following points in

opposition to NMPF Proposal 19:

The current differentials have attracted plenty of milk for our customers, and ultimately our schools and local consumers. United services over 500,000 children in over 1400 school buildings from Columbus, Ohio, School District, south and east in Ohio, Eastern Kentucky to Southwest Virginia and West Virginia. In times of need, if farm milk is short, we pay to get the raw milk to our plants in the form of higher over-order premiums. In my 35-year career, we have never shorted a customer for a lack of milk because the premium system works.

Drastically adjusting differentials is not the answer to attract milk to far away milk sheds, because the market premiums will take care of that. When I read the Federal Order system is broken or archaic, my first thought is, they aren't taking into account how the market over-order premiums work, as they certainly have worked through the years for my company. They have evolved over time, and they adjust when there's too much or too little milk in certain milk sheds, enticing milk to where it needs to go.

THE COURT: And I just want to make a small change on our record copy to conform with what you have just told us. We're in the paragraph number one that you just completed reading, and on page 2, the fifth line down in that paragraph, you inserted the word "milk."

So I'd like you to read the sentence beginning with the end of the fourth line, read that sentence again,

"in times of need."

THE WITNESS: (Mr. Carson) In times of need, if farm milk is short, we pay to get the raw to our plants in the form of higher over-order premiums.

THE COURT: So when you read it the first time you inserted after the word "raw," what word?

THE WITNESS: (Mr. Carson) "Milk."

THE COURT: And that's what I would like us to insert on the record copy. All right.

And now, are you ready to move to your paragraph that has a number 2?

THE WITNESS: (Mr. Carson) Yes.

THE COURT: You may.

THE WITNESS: (Mr. Carson) United has been fortunate to survive in a segment of dairy that shrinks 2 to 4% each year for the last 20 years or so. So much has changed. The family unit is smaller, people eat their meals out, on the go, and don't sit down for dinner and pour a glass of milk. Same with breakfast, as cereal sales are down double digits the last five to seven years. Alternative beverages such as almond and soy milk have also severely cut sales of Class I fresh milk.

Basically, Class I sales are down and forecasted to be down -- I'm sorry. Class I sales are down and forecasted to continue to drop, so now NMPF wants to increase costs another $2 a hundredweight on average? This makes no sense.

Higher prices for consumers for milk will just

slow down the sales even more. Milk is not 100% inelastic, contrary to popular belief. Perhaps it is between 2 and $3 a gallon at retail, but not $5 a gallon.

My experience is when milk reaches these heights, the Class I fluid plants suffer, as does the consumer, especially those that can't afford the current higher price of everything: Gas, electricity, their mortgage payments. Staples like milk should not be arbitrarily -- should not arbitrarily be raised to suit the needs of the large co-ops who, in turn, would be the only beneficiary of their proposed changes. This, of course, should not be at the expense of the consumers, especially those residing in the rural areas of Appalachia.

Number 3: United has competed with the co-ops, and prior to the 2019, 2020 bankruptcy, the Dean Food plants, for many years. Independent family-owned plants have shrunk mightily in the last 35 -- in the 35 years that I have been involved in managing United Dairy. While we have been fortunate to survive and grow, thanks to our customer base and our over 500 employees, 70% of which are union, the proposal by NMPF would be the death now of our company. I cannot stress this more.

Attachment 2 --

MR. ENGLISH: Is that now Exhibit 427?

THE COURT: Thank you.

So instead of Attachment 2, it's actually a separate exhibit, Exhibit 427.

MR. ENGLISH: Is that correct, Mr. Carson? Do I

have the right one?

THE WITNESS: (Mr. Carson) Yes.

Attachment 2 shows the location of fluid milk plants in our region, mostly Federal Order 33 pool plants, but also several other fluid milk plants we compete with in surrounding Federal Orders, Orders 1 and 5 specifically.

THE COURT: Now, Attachment 3, Mr. English, if you will help us.

MR. ENGLISH: I believe that is Exhibit 428.

THE WITNESS: (Mr. Carson) Correct.

THE COURT: All right. So Attachment 3 is what your statement reads, so you could just say "Attachment 3" and then say "Exhibit 428."

THE WITNESS: (Mr. Carson) Okay.

Attachment 3, Exhibit 428, is a chart that shows the disparity and inconsistency of Proposal 19 as it relates to United Dairy's three processing plants. This is shown on a per hundredweight and per gallon basis.

As you can see, United Dairy's costs increase compared to every other competitor plant in our region. In fact, as per the IDFA/MIG study on differentials, United Dairy's three plants would receive the highest increases in the country. This proposal is completely unfair and blatantly gives an advantage to our competitors.

The NMPF proposal raises our Charleston, West Virginia, plant, which is the last HTST fluid milk plant

in West Virginia, by $2.50 a hundredweight, an increase of 130%. Also, our two northern plants would increase by 110% and 120%, respectively. This is much higher than the cooperative plants that we have competed with through the years.

United's Martins Ferry, Ohio, plant has a proposed differential increase of $2.40, while most all other plants in Ohio increase only by $1.70. The DFA Springfield plant would gain a $0.06 per gallon advantage over our plant, and we definitely compete with them in Columbus, Ohio, and surrounding areas for business.

What happened to keeping plants that compete at the same levels? Wasn't that the NMPF decision-making process, per Dr. Erba's testimony? The same applies to our Uniontown, Pennsylvania, plant that competes in the Pittsburgh, Western PA markets.

The DFA Sharpsville, PA, plant gains $0.20 per hundredweight on our PA plant and $0.50 a hundredweight on our Martins Ferry, Ohio, plant on the border. This proposal is simply an attempt to make United Dairy uncompetitive with the co-op plants. There would be no benefit to the farming communities around us or to the farmers that ship to us in the long-run. Without our plants, the cost to the farmers to ship their milk elsewhere would increase, as they would have to drive more miles to the next Class I plant.

And please understand, we would not be able to pass on those higher increased these higher costs to our

customer base without the risk of losing them. Therefore, we would need to try to absorb them, which would be economically not possible, or risk passing along higher market increases that co-op competitors aren't experiencing.

In the end, adoption of NMPF's proposal would seriously threaten the viability of our company.

To reiterate, there will be no benefit to the farmers that currently ship to United Dairy, and without our plants being financially sound and able to operate profitably, I only see market turmoil for my independent farmers who ship to us. One such supplier, Joe Shockey, is a great farmer who has shipped to our plants for many years. He is here today with me and will be sharing his own thoughts on how Proposal 19 will impact his farm.

BY MR. ENGLISH:

Q. You want to read your summary first or you want him to read his statement first?

A. (Mr. Carson) Whatever you want.

Q. Why don't you finish your statement first, just for clarity in the record.

A. (Mr. Carson) NMPF Proposal 19 has no merit. It is purely a market share grab that targets competitors' Class I plants unfairly. The Mideast Order as more than enough milk to support the dairy industry, and any geographic shortages of raw are handled by over-order premiums to the farmers. United has never had a problem attracting milk for production, and when supplies are

tight, we pay more for the milk to attract the supply.

The last thing Class I milk needs is higher prices. Higher prices would slow the consumption even more than changing consumer trends and habits, exacerbating the decline. This adds more pressure to the long-term viability of the Class I plants, which will eventually lead to less plants and less outlets for farmers' milk.

Proposal 19 also puts an undue burden on United Dairy's consumer base, which is demographically poorer, declining population throughout Appalachia, with higher retails for staple items like fluid milk.

Therefore, it is my recommendation that this proposal be rejected outright and the current Federal Order differentials be left as is.

Q. Thank you, Mr. Carson.

Mr. Shockey, will you now provide your statement?

THE COURT: And before we go there, Mr. English, I would just like us to make the same change where the word "raw" is, and if you want us to add "milk" --

THE WITNESS: (Mr. Carson) Sure.

THE COURT: -- we will. This is on page 4. It's the second paragraph, second line, and we're going to insert the word "milk" right after the word "raw."

So would you read that sentence again?

THE WITNESS: (Mr. Carson) The Mideast Order has more than enough milk to support the dairy industry, and any geographic shortages of raw milk will handled by

over-order premiums to the farmers.

THE COURT: Very good. All right.

Now, Mr. English, you may do what you were doing.

BY MR. ENGLISH:

Q. Thank you.

Dr. Shockey.

A. (Dr. Shockey) My name is Joe Shockey. I am testifying today on behalf of our dairy family farm, and hopefully the generations that follow us, so they have an opportunity to be part of the dairy food supply chain in this unique part of the United States without any unnecessary burdensome or unintended consequences to modify the Federal Milk Marketing Order pricing system, specifically in regards to the county-by-county milk pricing differentials. They say this is an unprecedented opportunity. Let's not mess around. Let's get it right.

I am a veterinarian and a dairy producer who graduated from Ohio State University. My brother and father are also graduates of the College of Veterinary Medicine. I met my wife at Ohio State, and she is the dairy program manager for the State of West Virginia, adhering to all the regulatory requirements of the PMO/IMS. She is originally from Lane County, Ohio, which is a leading milk shed nationally.

When my father was a younger man, there were dairy cows all over the Mid-Ohio River Valley. That was a different era and the men were cut from a different cloth, having returned from World War II. These dairies began to

fade in the 1980s as there was a generational shift and the decline has continued locally just like in other parts of the U.S.

Many leaders in West Virginia were willing to let dairy permanently fade away. We have less than 25 dairies statewide, but have immediate opportunities where over a billion pounds of milk will be necessary annually to supply Mountaintop Beverage and the United Dairy network.

Why does United Dairy Charleston, $2.50; United Dairy Martins Ferry, $2.40; and Mountaintop Beverage, $2.30, have the highest proposed differential increases of any other processors in the expanded region?

Why does Kroger Newark pay less for milk than the United Dairy in Martin Ferry, where they are the same distance from the closest and leading milk shed near Sugarcreek, Ohio, a $0.40 per hundredweight proposed difference, yet both about 65 miles away, and both share in the I-70 corridor, both supply West Virginia marketplaces. Who, then, has the advantages, and why was this proposed?

DFA Sharpsville, Pennsylvania, is 100 miles from Sugarcreek, while United Dairy, Martins Ferry, Ohio is only 70 miles, yet Sharpsville has a $0.50 per hundredweight differential advantage in comparison. How does this make sense to give the DFA cooperative processing facility in Sharpsville, a milk lower differential, when under the current order Sharpsville was $0.10 per hundredweight higher?

Another head scratcher is Reiter DFA Springfield --

THE COURT: Now, would you spell Reiter for us?

THE WITNESS: (Dr. Shockey) R-E-I-T-E-R. And this is in Ohio, Springfield, Ohio, which is 150 miles from Sugarcreek, and would have a milk differential advantage of $1, at $3.70, over United Dairy Charleston, which is 170 miles away, that would have to pay $4.70, and then have to compete for contracts in West Virginia and Southern Ohio given no other processors are in this region to provide milk to these communities.

We are blessed in West Virginia to now have these two trusted and respected dairy processing partners. The state of West Virginia has been on a ten-plus year journey to strengthen and rebuild the Appalachian dairy industry, which includes all of West Virginia, parts of Ohio, Pennsylvania, Maryland, Virginia, and beyond. It hasn't been easy, but persistence pays off.

Look at the map, which is the Exhibit 002.

THE COURT: Now, let me just look. So this is also Exhibit 426. Yes.

Pardon? Oh, this is the Shockey-002, yes, not the United Dairy 002. Thank you.

So I'm now looking at Exhibit 430. Thank you all.

Would you start again that sentence.

THE WITNESS: (Dr. Shockey) Look at the map, Shockey-002, and the nutritional gap that would be created if we lost more processing capacity in or near West

Virginia.

USDA needs to consider the strong likelihood of a nutritional gap that would be created if Proposal 19 results in the loss of local processing capacity in or near West Virginia. Who would consistently step up to deliver milk to our schools in the coal fields in the middle of winter? How far would this milk have to travel to reach various C-marts and dollar stores, which are the primary retail sources of milk in many rural communities of Appalachia?

Nutrient-dense food deserts are real in Appalachia. An hour-plus drive to a grocery store with fresh fruits and vegetables is not uncommon. I am deeply concerned that Proposal 19, with the updated milk differential prices, will, over time, place our processing partners at an unfair disadvantage to the other dairy processors in the expanded region. The differential map should not create winners and losers by state or zip code, but with modification allowances that are sensible to have an equal opportunity in any given region that benefits more dairy producers and thus the consumers, we hope to continue to purchase nutritious and delicious dairy foods like milk. Let's find ways to inspire the next generation of milk drinkers. Let's increase Class I sales.

Who would have thought West Virginia would be a hub of dairy invasion? I'm looking at this from the inside out, while many of you are looking at this from the outside in.

Please feel free to reach out to me. Please come visit us in West Virginia and let's look at the bigger picture of poverty, low-educational attainment, poor caloric choice, nutrient-dense food insecurity, which is not to be confused with readily available alcohol, tobacco products, recreational drugs, sugary drinks, and salt-laden foods, which leads to chronic disease and poor health outcomes, beginning in the childhood years, continuing into adulthood.

West Virginia is a state that is continuing to lose population, so part of this journey has been to promote the jobs and economic development of dairy food processing and distribution activity to better feed ourselves and others. This represents over a thousand high-wage-scale jobs with great benefits. We hope this triggers smart and strategic milk production across Appalachia.

West Virginia is a centralized location on the eastern seaboard that can provide competitive advantages with shorter, straighter freight lines to not only high population centers, but also to rural and isolated communities. West Virginia is the third most forested state in the nation, and can provide more paperboard packaging and shipping pallets, clean, fresh water, and even the energy to power facilities, while also being the seed stock for milk packaging vessels like gallon jugs or some of the more innovative packaging designs.

Think of how some of the larger metropolitan areas

in bordering states have more population than our entire state and the cost associated with this comparatively. If Proposal 19 is adopted as is, it will raise the price of milk to consumers in Appalachia who can least afford it, trigger logistical challenges of dairy food products, encourage more people not to consume milk because of lack of availability or their own-price sensitivity in comparison to other beverages, and reduce the positive trajectory we are trying to create for the entire dairy community where milk creates jobs, all kinds of economic activity, better health outcomes, with increased educational attainment.

A unique part of West Virginia is its geography, highway networks, and how the majority of our population is in bordering counties of other states, think Martinsburg, Morgantown, Wheeling, Parkersburg, Huntington, Charleston, and Beckley.

MR. ENGLISH: Slow down.

(Court Reporter clarification.)

THE WITNESS: (Dr. Shockey) A unique part of West Virginia is its geography, highway network, and how the majority of our population is in bordering counties of other states, think Martinsburg, Wheeling, Parkersburg, Huntington, Charleston, and Beckley. West Virginia is honestly like five different states, more closely resembling the closest bordering state.

Maybe this was by design so some of the other processors connected to the cooperative networks could

cherry-pick larger population areas in West Virginia near interstates, while neglecting to serve areas along country roads, a song that West Virginia fully embraces.

The term "Mountain Dew Mouth" is synonymous with West Virginia, Appalachia, because milk is not always available for our children and their dental preventative care and health.

Please give consideration to broader impacts of milk differentials, processor association, and market accessibility. When I last checked, nearly 85% of the milk in Federal Order 33, Mideast, was cooperative milk, and the proposed milk differentials are squarely making independent milk in the West Virginia, Appalachia, a target that produced for independent processors that provide finished product all across Appalachian.

If we lose our processing capacity, with full confidence, we will have to discontinue dairying, as our neighbors were first forced to join various milk marketing agreements over the years, and the additional hauling and cooperative costs put them out of business.

Milk typically doesn't flow north, so our milk would be forced to travel nearly 300 miles south. Please give greater consideration to the uniqueness of our state and how we can work together for the entire dairy food supply chain.

The $0.50 milk differential as proposed would not begin to cover the fuel cost alone on this distance, taking our milk further south. As stated earlier, milk

does not typically flow north or west, and this would be at a loss of revenue to our family business and future dairy farm families considering relocation to West Virginia and the immediate region to take advantage of the ever-increasing processing capacity. If the producer differentials are going to be modified, please modify them in an equitable way based on this testimony today that doesn't pick winners or losers.

Thank you.

BY MR. ENGLISH:

Q. Thank you, sir.

So my questions on additional direct are going to be primarily for Mr. Carson, but Dr. Shockey, feel free, if you wish to weigh in, I may add at the very end.

I want to focus a fair bit on both your testimony about the locations of your plants relative to your competitors.

I want to start with the plant in Charleston, West Virginia, which you -- I believe you have tuned in to some parts of the hearing, correct?

A. (Mr. Carson) Yes.

Q. You have not deciduously, you know, spent your entire life in the last four months doing nothing else?

THE COURT: Your voice is dropping.

BY MR. ENGLISH:

Q. You have not spent the last five months exclusively, you know, paying attention to every day, correct?

A. (Mr. Carson) That's correct.
Q. But you are aware that Charleston, West Virginia, has, for whatever reason, been labeled an anchor city by National Milk Producers, correct?
A. (Mr. Carson) Yes.
Q. And the Class I differential that they have chosen to propose to USDA for that operation is $4.70, correct?
A. (Mr. Carson) Yes. That's correct.
Q. And that's the same as the model, correct? Charleston is the same as --
A. (Mr. Carson) Yes, I think so.
Q. Yeah.
Are you aware that -- so Martins Ferry is in Belmont County, Ohio, correct?
A. (Mr. Carson) Yes.
Q. Are you aware that the number that National Milk chose to propose for that location in Ohio is $0.30 higher than the model?
A. (Mr. Carson) Yes.
Q. And are you aware that for your plant in Pennsylvania, that's located in Fayette County, or Fayette; is that right?
A. (Mr. Carson) Fayette.
Q. Fayette.
And that National Milk proposes, from the model, to increase the differential for that by $0.15 per hundredweight over the model, correct?
A. (Mr. Carson) Correct.

Q. Now, you mentioned Sharpsburg [sic].

Are you aware that National Milk proposes lowering the Class I differential from the model number by $0.20 to $4, correct?

A. (Mr. Carson) Sharpsville?

Q. Yes. Sharpsburg -- or Sharpsville. Yes, Sharpsville.

THE COURT: Which one?

MR. ENGLISH: Sorry. Give me one second.

THE COURT: Okay.

THE WITNESS: (Mr. Carson) Yeah, it was --

MR. ENGLISH: Sharpsville.

THE WITNESS: -- there was a $0.20 deviation from the model.

BY MR. ENGLISH:

Q. So -- but it was down, it was a down deviation, correct?

A. (Mr. Carson) Right. Right. Decline.

Q. So that's a decline of $0.20, and your plant in Uniontown went up $0.15, for a combined change of $0.35 per hundredweight, correct?

A. (Mr. Carson) Versus the model.

Q. Versus the model.

And you also compete --

A. (Mr. Carson) Can I just interrupt?

Q. Yes, absolutely.

A. (Mr. Carson) I just want everybody to know we're -- the first column, current differential, that's

our current differentials that are in place. That's not anything to do with the model, just so there's no confusion.

Q. And that's part of why I'm doing this, because Exhibit 428, which you prepared, didn't put the model numbers in, right?

A. (Mr. Carson) Right.

Q. So I'm clarifying by going through just a couple -- I promise not very many examples, but I want to go through a couple of examples, including some that you yourself, you know, have brought up.

Are you aware that for Clark County, Ohio -- you compete against a plant in Clark County, Ohio, correct?

A. (Mr. Carson) Right.

Q. That National Milk had proposed a $4 level, and then Dr. Vitaliano confirmed this week that is actually $3.70, correct?

A. (Mr. Carson) That's correct.

Q. Which is $0.10 lower than the model, correct?

A. (Mr. Carson) Correct.

Q. Which for your Martins Ferry plant is a $0.40 swing, correct?

A. (Mr. Carson) That's right.

Q. And you have indicated in your testimony, and helpfully provided your charts that you compete, you -- I don't want your precise number, but you do sell what you would consider to be a significant amount of packaged milk into the Order 5 marketing area, correct?

A. (Mr. Carson) That's correct. If you look on Exhibit 426, you will see one of the branches there which is one of our larger branches in Roanoke, Virginia, that's in Order 5. We also have distribution into the North and South Carolina states, which is Order 5. And we also sell supermarkets into the Southwest Virginia market, which is Order 5.

Q. And speaking about your distribution into North Carolina and South Carolina, we heard earlier this week and last week that National Milk has proposed 40 to $0.60 decreases from the model for sales into those markets that you have listed on Exhibit 428, correct?

A. (Mr. Carson) That's correct.

Q. So there you are in West Virginia, and the proposal deviates from the model unhelpfully to your north in Sharpsville, correct?

A. (Mr. Carson) That's right.

Q. Unhelpfully to your west in Springfield, Ohio, correct?

A. (Mr. Carson) That's right.

Q. And unhelpfully southeast to North Carolina and South Carolina, correct?

A. (Mr. Carson) That's correct.

Q. All against the model results, correct?

A. (Mr. Carson) That's right.

Q. You have also indicated on Exhibit 428, gallon conversion, correct?

A. (Mr. Carson) That's correct.

Q. A conversion to gallons?
A. (Mr. Carson) The last three columns are the -- what the hundredweight conversion would be to gallons.
Q. And that's because, while you buy milk in raw form in hundredweight, you sell it to your customers in gallons, correct?
A. (Mr. Carson) That's correct.
Q. What does a $0.06 per gallon difference between your operation and your competitors to the north, west, and southeast mean for your business?
A. (Mr. Carson) Well, $0.06 a gallon means everything. We have survived 35 years of this business, and before I came, 20 years with my dad running the business, and there were many, many years where we didn't ever make $0.06 a gallon. It is a low margin business -- high volume, low margin. We're -- if we make 1 or 2%, we're happy. But we have to make a profit in order to survive. We have to make a profit in order to put capital back into the business. And these -- these hits we would take versus our competitors would be absolutely unsustainable for our company. We would -- we would risk losing business, and we would not be able to survive. And $0.06 a gallon is just almost astronomical in our business.
Q. So you indicated in your testimony you have over 500 employees?
A. (Mr. Carson) That's right.
Q. But you have fewer than 1,250, correct?

A. (Mr. Carson) That's right.
Q. So you would be a small business under the SBA definition, correct?
A. (Mr. Carson) Correct.
Q. Dr. Shockey, is your farm a small business as defined by the SBA?
A. (Dr. Shockey) Yes.
Q. Dr. Shockey, you have indicated that if your customer, United Dairy, goes out of business, you will end up having to ship your milk to the south, correct?
A. (Dr. Shockey) Correct.
Q. And you said that 300 miles is a pretty costly endeavor, correct?
A. (Dr. Shockey) Yes.
Q. And as it happens, National Milk is proposing lowering the Class I differentials in those locations which will, you know, not exactly help pay for your haul, correct?
A. (Dr. Shockey) Correct.
Q. Mr. Carson, you have indicated that you buy from cooperatives, correct?
A. (Mr. Carson) Yes.
Q. And that you pay premiums on your milk purchased form the cooperatives?
A. (Mr. Carson) Yes.
Q. Do you pay a fuel surcharge?
A. (Mr. Carson) Yes.
Q. There has been a fair amount of cooperative

testimony that they are unable to routinely charge premiums.

Is that your experience?

A. (Mr. Carson) My experience is, and it's not been forever, dealing with the DFA in our area, is we sit down once a year and do a price for the year. That price is basically in place for the year.

Q. Have you ever told them no?

A. (Mr. Carson) Well, yes, if we have other milk.

Q. Mr. Gallagher testified yesterday that processors have levers to pull to pass along cost increases to customers.

Is that your experience, routinely?

A. (Mr. Carson) No.

Q. He testified that you have other levers to pull to adjust.

Do you know of any such levers that you can just for cost increases?

A. (Mr. Carson) Listen, if you allow me. This is the whole reason I'm here.

If my costs go up $0.06 a gallon to a shared customer, a large customer that I share with a cooperative because of different regions, I cannot raise my price $0.06 a gallon unless all my competitors, including the co-op, go up too. So it just puts me in a situation, I either have to absorb $0.06, which I don't have with that customer, or I have to take the increase when my competitors aren't getting that increase and risk losing

the business, which is what would happen.

So this is -- this is what happens in the business. I have been doing this for a long time. Once you lose a major customer, it puts increased pressure on the plant. If you lose enough of them because you are not competitive, your plant will have to close. And that's not easy either. We have unions; we have contracts; we have pensions; we have responsibilities to employees.

I have done, I betcha, 25 labor contracts in my life. I have never once had a strike. And it's -- this is so upsetting, and I can't even put it into words.

Q. There has been a fair bit of conversation, some of it by economic experts, but you are someone who actually sells milk in fluid form, in packaged form in the marketplace, correct?

A. (Mr. Carson) Correct.

Q. When it comes to elasticity, what do you see when you are out there in the marketplace?

A. (Mr. Carson) My definition of elasticity or whether milk's inelastic is if it stays within a certain range, say 2 to $3 --

Q. A gallon?

A. (Mr. Carson) -- a gallon, if it goes up a dime or goes down a dime, it probably is inelastic. But when it goes up $0.50, $1, and hits certain price points, it absolutely slows down.

And my only experience is, and I talk to buyers about it, we do reviews with our customers, we'll sit down

and say, oh, milk was up this past year. Oh, what -- what do you think that was, or why that was? Well, it's because we put it at 2.99 for the, you know, six months, and people recognized it as a value.

Or they will say, yeah, our milk sales are down or flat, we didn't promote milk, or we didn't -- we kept levels higher than we have in the past. To me, that means it's -- it's not as inelastic as people think.

I'll give you another example. We do business in Pennsylvania. Pennsylvania is no promotions. It's a -- you can't promote in Pennsylvania. It's tier-priced on all the gallons. In the last 20 years when milk got up high enough that whole milk went above $4, myself and the buyers that I deal with saw a drop in sales.

Now, last year we saw it get up, for the first time ever, over $5. Again, a drop in sales. And with the one particular buyer I'm thinking of, said, yeah, we have seen a drop in gallons, we have seen half gallons pick up, but it hasn't made up for the -- for the overall unit decrease -- or gallon decrease, I should say, volume decrease.

So I don't -- you know, there's been a lot -- what I have been listening to a lot of things about inelastic and elastic, I don't claim to be an expert on it. All I know is, if it gets up too high, milk sales will slow down, especially on a big jump. You know, there's times where milk will shoot way up, and if it breaks a $3 mark, a $4 mark, a $5 mark, it slows down or there's a trade

downward.

And in our area where we do business, there's a lot of old people. And if you think people, these older people are going to waste milk, they trade down, and they say to themselves, oh, I don't want to pour any milk down the drain. I don't want to waste it.

It's -- so maybe it's unique to our area, but this is what I have seen in my career.

Q. Do you have an alternative solution to propose to USDA for Class I differentials as opposed to what National Milk has proposed?

A. (Mr. Carson) Well, I think the co-ops should reverse everything. They should take the higher differentials and give me the lower ones.

Q. Why is that?

A. (Mr. Carson) Well, I don't know. Actually, my -- here's my -- my recommendation is, as it is in my testimony, I don't think we should do anything with differentials. Because any variance is going to be a problem, unless it's fairly instituted countrywide. If you all decide that Class I should go up by whatever, then just make sure every Class I plant gets the same amount.

Q. And at a minimum, if you are going to rely on the model, you ought not to deviate from it in such a way that you in West Virginia take it every way, you're squeezed to the north, west, and southeast, correct?

A. (Mr. Carson) Yeah. I mean, it's all right on the chart. I'll be glad to walk through it with anybody

afterward. I don't want to waste everybody's time but...

Q. Well, in terms of USDA, the only communication you are going to have with USDA is on the record, so are there any individual numbers that you and I didn't go over that you want to go over? I was trying to use examples.

A. (Mr. Carson) Just real quickly, if you look at Ohio, everybody's $1.70 higher. Kroger is $2, and we're $2.40. And we're closer -- in the DFA testimony they link Sharpsville with Columbus, and actually Martins Ferry, Ohio, is closer to Columbus. And yet ours was 4.40, and Sharpsville is what.

Q. $4.

A. (Mr. Carson) $4. I mean, it's kind of like that all across the board. And like I said, I -- I'm not going to say, you know, it was on purpose, but it feels like it was. And -- but if nothing else, at least I got to come and state my case for my employees, for my farmers, for my family. And I just think the whole thing -- the whole proposal should just not be -- not be adopted.

Q. Thank you, Mr. Carson.

Dr. Shockey, do you have anything to add?

A. (Dr. Shockey) I'm trying to raise my family in the state of West Virginia, and we milk cows. I want to have that opportunity for my children to continue the family farm.

Q. Thank you.

MR. ENGLISH: Your Honor, at this time this concludes the direct examination of United Dairy Joe

Carson and Dr. Shockey, and I move admission of Exhibits 425, 426, 427, 428, 429, and 430.

I thank you gentlemen for your time.

THE COURT: I could go through cross-examination before I act on these exhibits, but I think I will go ahead and see if there's any objection to their admission at this point rather than waiting for cross.

So is there any objection to the admission into evidence of Exhibit 425, which is marked United Dairy-0001?

MR. HILL: Your Honor, I would -- obviously, I don't have an objection, let me start by saying that. But I want to make sure that we caught the changes that we had on these. I'm not sure if they were done on the record copy, the mentions of Attachment 1 on Mr. Carson's first page. I'm not sure that they -- we now know that those are Exhibits 426. And then the mentions of Attachment 2 and 3 on page 3, which we now know are 427 and 428.

And I think on Dr. Shockey's statement, on page 2 he mentions, on the sentence, the first full paragraph on page 2, look at the map, and then I think he said 002, and we now know that that is Exhibit 430.

So I wasn't sure if we wanted them inserted on the record copies or not.

THE COURT: You know, it would be a good idea, and I didn't do that. The only changes I made were just insert "milk" in a couple of places, and I do think those would be very beneficial to change on the record copy.

Why don't we take a -- let's see, it's 3:10. Let's take 10 minutes. Come back at 3:20.

And then in the meantime, would you work with your people to point out the ones you know of, and then we will make sure on the record that we got them all.

I really appreciate your astuteness and care, Mr. Hill. All right.

You may move around, and please be back and ready to go at 3:20 p.m.

(Whereupon, a break was taken.)

THE COURT: Let's go back on record.

We're back on record at 3:20.

Mr. Hill, do you want to read into the record the changes that have been made on the record copy?

MR. HILL: Yes. On Exhibit 425, in the second full paragraph, in the places where it says "Attachment 1," which is the third line of the second paragraph, and the fourth line in the second paragraph, we're inserting "Exhibit 426."

And on page 3 of the same exhibit, Exhibit 425, in the sixth line of the paragraph marked "3," where it says "Attachment 2," we are inserting "Exhibit 427," and three lines down from that where it says "Attachment 3," we are inserting "Exhibit 428."

The final change is on Exhibit 429, on page 2, on the first full paragraph where Dr. Shockey said "look at the map," we are inserting after that, after the word "map," "Exhibit 430."

That is the extent of the changes that we have.

THE COURT: Thank you very much. I think that's very good to have gotten those captured on the exhibits themselves.

Is there any objection to the admission into evidence of Exhibit 425?

There is none. Exhibit 425 is admitted into evidence.

(Thereafter, Exhibit Number 425 was received into evidence.)

THE COURT: Is there any objection to the admission into evidence of Exhibit 426?

There is none. Exhibit 426 is admitted into evidence.

(Thereafter, Exhibit Number 426 was received into evidence.)

THE COURT: Is there any objection to the admission into evidence of Exhibit Number 427?

There is none. Exhibit 427 is admitted into evidence.

(Thereafter, Exhibit Number 427 was received into evidence.)

THE COURT: Is there any objection to the admission into evidence of Exhibit Number 428?

There is none. Exhibit 428 is admitted into evidence.

(Thereafter, Exhibit Number 428 was received into evidence.)

THE COURT: And I mention that those exhibits are also marked as United Dairy-1, United Dairy-2, United Dairy-3, and United Dairy-4.

Is there any objection to the admission into evidence of Exhibit 429, which is also Shockey-1?

There is none.

(Thereafter, Exhibit Number 429 was received into evidence.)

THE COURT: Is there any objection to the admission into evidence of 430, which is also Shockey-2, 002?

There is none. Exhibit 430 is admitted into evidence.

(Thereafter, Exhibit Number 430 was received into evidence.)

MR. HILL: Just to be clear, Your Honor, you did admit Exhibit 429, correct?

THE COURT: Exhibit 429 is admitted into evidence. Thank you.

All right. Now, Mr. English, these witnesses are available for cross-examination?

MR. ENGLISH: Yes, Your Honor.

THE COURT: Thank you.

Who would like to go first?

CROSS-EXAMINATION

BY MS. HANCOCK:

Q. Nicole Hancock with National Milk.

Good afternoon to the both of you.

A. (Mr. Carson) Good afternoon.
Q. My first question, Mr. Carson, maybe I could start with, do you believe that we should have a Federal Order at all?
A. (Mr. Carson) Yes.
Q. What's the benefit that you see from the Federal Order system that it provides to the dairy industry?
A. (Mr. Carson) Well, I think it -- well, it's supposed to get an orderly marketing of milk and get milk to all parts of the country, correct?
THE COURT: No, you asking her to affirm whether that's correct is not the appropriate way to go. Your sentence was excellent, but you don't need to ask her if that's correct.
THE WITNESS: (Mr. Carson) Got you. Got you.
And I think it -- for the most part, it does that. There's probably situations where there's too much milk in some parts of the country and too many consumers in other parts of the country. But through what has been traditionally the market premium, over-order premium system, you know, it's been able to handle that situation.
BY MS. HANCOCK:
Q. Okay. And you're able to get your supply of milk today because of the Federal Order system; is that right?
A. (Mr. Carson) Yes.
Q. And I think you said that you pay an over-order premium to your dairy farmers; is that right?
A. (Mr. Carson) Yes.

Q. And is that always or sometimes?
A. (Mr. Carson) Well, it's different for -- depending on who we're dealing with. So we deal with three or four different co-ops and -- but we have mainly independent retail- -- majority of our milk is independent retailers. So, you know, it's all -- would be slightly different, I guess.
Q. Do you have any independent dairy farmers who exclusive supply to you?
A. (Mr. Carson) I'm sorry, I couldn't hear what you said.
Q. Do you have any dairy farmers that -- independent dairy farmers that exclusively supply to you?
A. (Mr. Carson) You mean by contract?
Q. By contract or by practice.
A. (Mr. Carson) Well, I don't know if "exclusively" would be the right word. We have farmers that have shipped to us through several generations, especially ones that are close by, so -- but we don't have the, like, exclusive contracts, like, where you can't ever go ship somewhere else. We don't have that.
Q. And do you pay those independent dairy farmers an over-order premium?
A. (Mr. Carson) Yes.
Q. And then your relationship with the co-op, you tend to use them to backfill when you need additional milk?
A. (Mr. Carson) Well, I don't know if I would say

"backfill." Historically speaking, we have bought from the co-op in two different ways, and it's mainly Dairy Farmers of America, although I go back into the '80s and '90s when it was MMI and some other entities.

Number one, our Virginia base, everything we sell into Virginia, which two of my plants ship into Virginia, all the milk that comes to us is from the co-ops. And it could be DFA, it could be Maryland, Virginia, it could be -- there's, you know, a couple others.

Currently, we're buying more milk from Dairy Farmers of America, especially in our Charleston facility because we have grown, and we actually work pretty well with them, so I -- I can also say there have been times where we have not bought from Dairy Farmers of America or bought from the co-op.

Q. You pay the co-ops over-order premiums as well?

A. (Mr. Carson) Yes.

Q. And fuel charges as well?

A. (Mr. Carson) Yes.

Q. Or I should say fuel surcharges as well?

A. (Mr. Carson) Yes.

Q. And the same for the independent dairy producers, do you pay them the fuel surcharge as well?

A. (Mr. Carson) I don't -- I'm not going to get into that.

Q. Are they responsible for covering their own fuel?

A. (Mr. Carson) Yeah. They do their own hauling.

Q. Okay. And I notice that on your website it says

that you pull in milk from within a 100-mile radius, but in your testimony on page 2, you describe that it's 175-mile radius.

Is that just that as the milk --

A. (Mr. Carson) That's just my marketing director not having the right number in there for the website.

Q. Okay. And then is it true, then, with the consolidation of dairy producers, that you have had to go further away to pull your milk in?

A. (Mr. Carson) Yes, I would say that's true.

THE COURT: Wait until her voice dies down and is silent, because you don't know if she's finished yet.

THE WITNESS: (Mr. Carson) Okay.

THE COURT: Okay.

BY MS. HANCOCK:

Q. And you describe, at least on your website, that you pull milk in from West Virginia, Ohio, Western Pennsylvania, New Jersey, Virginia, North Carolina, and Kentucky.

Is that all still the accurate territory that you pull milk in from?

A. (Mr. Carson) I think that's a little outdated on the New Jersey part.

Q. So you no longer pull milk in from New --

A. (Mr. Carson) No.

Q. -- Jersey?

A. (Mr. Carson) No.

THE COURT: Okay. She is talking, you are

answering, the court reporter doesn't know who to capture, the question or the answer.

BY MS. HANCOCK:

Q. It's an awkward conversation.

So my last question was, you no longer pull milk in from New Jersey?

A. (Mr. Carson) Correct.

Q. And where do you now get it from? What replaced that supply that you used to have that came in from New Jersey?

A. (Mr. Carson) I -- I'm not aware.

Q. Okay.

A. (Mr. Carson) I don't know.

Q. Fair to say, though, that you have had to go into a broader territory to pull milk in?

A. (Mr. Carson) Yeah. But the only thing I would say is that depends on whether our volume's up or down.

Q. If the price differentials are increased in your area, would it result in a decrease in over-order premiums that you would have to pay?

A. (Mr. Carson) Probably not.

Q. How do you know that?

A. (Mr. Carson) Well, because I have kind of thought about it, and I don't think it would have any effect on the over-order premium.

Q. Do you have -- I want to look at the map that you have in Exhibit 426.

Do you have that in front of you?

A. (Mr. Carson) This one?
THE COURT: Yes.
BY MS. HANCOCK:
Q. Does Hood have a plant in Winchester?
A. (Mr. Carson) Hood?
Q. Yes.
A. (Mr. Carson) Winchester, Kentucky?
Q. Yes.
A. (Mr. Carson) I don't think.
Q. Or --
A. (Mr. Carson) I think it's Kroger.
Q. Oh, does Kroger have a plant there?
A. (Mr. Carson) Yes.
Q. And you didn't have that listed on your competing plants?
A. (Mr. Carson) Oh. Yeah, we don't really compete.
Q. Do you know what they supply?
A. (Mr. Carson) Their own stores.
Q. What about in Winchester, Virginia, is there a Hood plant there?
A. (Mr. Carson) I'm sorry?
Q. Is there a Hood plant in the Western Virginia?
A. (Mr. Carson) Hood? No.
Q. Or Winchester, Virginia, there's not --
A. (Mr. Carson) Winchester Farms?
Q. There's not a Hood plant in Winchester, Virginia?
A. (Mr. Carson) Oh, oh. Up north? I don't have it marked on my sheet. But, no, we don't compete against

them.

Q. So there is a plant there, but you don't compete against them?

A. (Mr. Carson) Yes. I'm not 100% sure, but I think it's one of their big aseptic plants.

Q. Do you sell any aseptic products?

A. (Mr. Carson) No.

Q. Milk?

A. (Mr. Carson) No, we don't sell any or produce any.

Q. What about Shamrock, does Shamrock have a plant in Verona?

A. (Mr. Carson) I believe they do. Again, that's an aseptic plant. I only listed fluid plants.

Q. You don't -- you don't compete for -- with either one of those plants?

A. (Mr. Carson) Not really. Not when you think about what we sell.

THE COURT: What was the spelling, Ms. Hancock, of that last one you said?

MS. HANCOCK: Shamrock? Verona? V-E-R-O-N-A.

THE COURT: Thank you.

BY MS. HANCOCK:

Q. Dr. Shockey, I want to ask you a little bit about your production.

Where -- tell me again where your farm is located?

A. (Dr. Shockey) We are located in the Mid-Ohio River Valley. You might be familiar with Parkersburg,

West Virginia, which is just south of Marietta, Ohio, and Charleston, West Virginia, which is our state capital. We are equidistance along the I-77 corridor in the Ravenswood/Ripley area between Charleston and Parkersburg.

Q. And how far is that that you have to -- that you have to --

A. (Dr. Shockey) 40 miles. And we feel blessed that we are less than ten miles from four exits of I-77.

There's a lot of jokes out there about West Virginia. They are not all true. Some of them are. But we don't live up some random hill or holler. We are right beside the interstate, and our milk can go 40 miles to our processing.

Q. And so you said 40, 4-0; is that right?

A. (Dr. Shockey) 40, 4-0.

Q. Okay.

A. (Dr. Shockey) That's pretty close in the grand scheme of things.

Q. I would agree.

And does the -- do you get your hauling costs covered for transportation of your milk?

A. (Dr. Shockey) We have to pay that as a producer. We have contracts with the hauler.

Q. And do you know how much those costs have increased over the last --

A. (Dr. Shockey) 20 years ago when I was in vet school and we would sit in those farm transition meetings as those larger dairy units were popping up around

Columbus, the veterinarian told us that's not something that you share outside of a small circle.

Q. Okay.

A. (Dr. Shockey) Does that make sense?

Q. It does make sense.

Is it --

A. (Dr. Shockey) And -- and I would ask for a prayer because our rates have recently increased. There was some retirement of our hauler. And our hauler, just a few weeks ago, was in a terrible accident. He was laying in a ditch, face down. He would have drowned in the milk had he not been rescued by good Samaritans. He's been in the hospital in a coma, and he is recovering. But please keep this man in your prayers.

Q. Very sorry for that.

It's fair to say that over the last 20 years, your hauling costs have increased like all the other input costs that go into running a business?

A. (Dr. Shockey) Yes.

Q. Is it fair to say that over the last 20 years, the margins in operating a dairy farm have thinned out considerably where there's a lot of pressure on the farms in order to stay in business?

A. (Dr. Shockey) We have less farms all the time. When my father was a young man, I believe our country had over 600,000 dairy farms. When I was in high school, 100,000. I won a free pizza in vet school when I answered 74,291 dairy farms. I think I'd just read the Herdsman

the day before.

That number is below 30,000 right now. Take out the Amish, the Apostolic, the Mennonite, there's very few farms producing our nation's milk. If I'm not mistaken, six states produce about 62% of the nation's milk.

When I was in vet school we always used to joke it was the race to milk 9 million cows. Is that where we want to go with this industry, one dairy milking 9 million cows?

Q. And that's part of the pressure that you are feeling when you are asking about preserving the legacy so that you can pass on your dairy farm to your family; is that right?

A. (Dr. Shockey) I don't want to force them, but if they want to do it, I hope they have the opportunity.

Q. You, at least, want it to be available for them to choose; is that fair?

A. (Dr. Shockey) Yeah.

Q. But in order to do that, it has to be profitable to operate a dairy farm so they can have a way to provide for their families?

A. (Dr. Shockey) Yeah. We have been fortunate that we have remained in business when many can't.

Q. You talk about on page 3 of your testimony that if the producer differentials are going to be modified, that you would like them to be done in an equitable way.

I'm wondering if you could tell me what that would mean for you to be done in an equitable way?

A. (Dr. Shockey) No, I'm not an economist, I'm trained as a veterinarian. I have the dairy farm. No disrespect to the economists that are here, but I feel like if you took a box of crayons to some elementary school kids and asked them to color the maps county by county, they could have come up with something that was more equitable.

From the testimony that was shared by Mr. Carson, I mean, they tried to pick winners and losers, and they are trying to make my state a loser. I feel like I'm being attacked.

Q. And so you want to make sure that, as a dairy farmer, that the places that you deliver your milk to are treated fairly amongst all of the handlers; is that right?

A. (Dr. Shockey) Within a given region, yes.

So, again, our state's unique. The Eastern Panhandle is closer to New York City than our state capital of Charleston, West Virginia. It's a bedroom community to Washington, D.C. It's very unlike the coal fields. So pick some counties and go to the state that borders them. It's more like that.

So when I say "equitable," make it make sense for the region, the part of the state that has processing partners so there's competition. Competition is good.

Q. You have in your testimony on page 3 that a $0.50 milk differential as proposed would not begin to cover the fuel costs alone on the distance for you to deliver your milk.

Do you recall that testimony?

A. (Dr. Shockey) Yes. And that was in reference -- as I was reading those, I could've written that a little bit better. That would be if our milk had to go approximately 300 miles south to that Greensboro, North Carolina, High Point, North Carolina, area. And that's not accounting for the tolls we'd have to pay on the West Virginia Turnpike. It's an 88-mile stretch of road from Charleston to the state line in Virginia. All these costs add up.

Q. Are you able to share what it would take to cover your hauling cost for the 40 miles that it -- that it takes now for you to deliver your milk?

A. (Dr. Shockey) Could you repeat the question?

Q. Yeah. I'm just putting it in the context of this $0.50 milk differential that you are talking about here that you said wouldn't be enough to cover your fuel costs.

Can you tell us, for the amount of miles that you have to cover to deliver your milk today, what it would take to cover all your hauling costs?

A. (Dr. Shockey) It only makes sense that the closer you are to the processor, the less costs you have.

Q. Do you -- have you quantified that though?

A. (Dr. Shockey) I don't have a number for you today.

Q. Okay. And have you done any analysis as to what it takes for the milk hauling costs in any of the regions where you supply milk?

A. (Dr. Shockey) Not in the broader picture of this.

MS. HANCOCK: Okay. I thank you both for your time.

THE WITNESS: (Dr. Shockey) Thank you.

THE COURT: Other cross-examination before I invite questions from the Agricultural Marketing Service?

I see none. I invite the Agricultural Marketing Service to ask questions.

CROSS-EXAMINATION

BY MS. TAYLOR:

Q. Good afternoon.

A. (Mr. Carson) Good afternoon.

Q. Thank you both for joining us today to put some testimony and evidence on the record.

I think I'll start with Dr. Shockey, if that's all right.

I think you mentioned that your farm was between Charleston, and I wrote it down somewhere, and Harpersburg [sic].

Can you -- can you -- and so you're 40 miles from the Charleston plant; is that correct?

A. (Dr. Shockey) Correct.

Q. Okay. And how many cows do you milk approximately?

A. (Dr. Shockey) I have gotten so busy with economic development and trying to raise a family of four and win the state soccer championship, so it's hard to milk cows when you are not there. But just a few months ago we were

shipping like 12,000 pounds a day.

Q. In your statement on the first page towards the bottom, you mentioned Sugarcreek in relation to the DFA Sharpsville plant and the United Dairy plant in Martins Ferry, Ohio.

And so I just wanted to know why you -- I can't say I know all of my geography, but I'm learning a lot in this hearing -- so why -- why did you point out Sugarcreek? Why is that important for us to know?

A. (Dr. Shockey) That is Tuscarawas County -- please don't ask me to spell it because I have to look every time I do it myself. But since I was a young boy, that was always a respected dairy community. There's a road called Ragersville Road. There's a lot of milk that goes through there. And sometimes we find inspiration as we go along in life. It's close to I-77 as well. It's north of Cambridge, Ohio.

And there was a time I would invite West Virginia state leaders, I said, "Let's go get an ice cream cone at the Dairy Queen, and let's count the milk trucks that are traveling our interstate system. Why does our food have to travel so far? Why couldn't it just come to West Virginia for this processing capacity to create jobs?"

But, again, just since I was a little boy, there's a lot of milk from there, and that's a leading milk shed for Northeast Ohio. It's a good reference point.

Q. Okay. That's very helpful.

That's in regards to milk supply and how -- what

it costs plants to procure a local milk supply, and that's why you drew our attention to that?

A. (Dr. Shockey) Yes.

Q. Thank you. And I just like to summarize typically when I hear testimony from farmers, and I do appreciate you putting this on.

You made a number of unique points that we hadn't heard yet about food deserts, as we call them at USDA, and nutritional gaps, et cetera, so I do appreciate you adding that point to the record.

And so what I gather generally your statement is talking about, while there's 85 -- and this is on the last page of your statement -- according to your statement there's about 85% of the milk on Federal Order 33 that's co-op milk, so there's only about 15% that would be independent supply.

But that independent supply, in your opinion, it sounds like it's pretty heavy in West Virginia, and it's important to make sure that's considered in keeping those farms and your independent processors competitive so that you can keep that vibrant industry as you described?

A. (Dr. Shockey) Yes.

Q. Okay. Thank you.

Okay. I want to turn to Mr. Carson, if I may.

For your three plants, and I'm looking at the map you provided, which is Exhibit 426, and I think these blue dots are the eight branch depots that you referenced in your statement; is that correct?

A. (Mr. Carson) Yes.
Q. Okay. Can you just explain for the record what a branch depot is?
A. (Mr. Carson) A depot or distribution point would be a location where milk is taken mostly in bulk from a plant and then redis- -- put on to -- received at that dock, and then redistributed on local routes in that region.
Q. All in packaged form?
A. (Mr. Carson) In packaged form.
Q. Okay. And so when I look at that distribution, that distribution network, and then I look at Exhibit 430 -- and I want to be sure what I'm seeing on 430, because you had a little back and forth with Ms. Hancock.

These aren't -- is it -- are these all the plants in this area or just the plants that you believe you compete with?
A. (Mr. Carson) No. It's -- it's just plants that we felt affected, like, competitor plants. They have plants in the Mideast Order. But we're also on the border of 33, so we compete in area 1, for example, which is east of Pennsylvania. We also compete in the south in Order 5.
Q. So --
A. (Mr. Carson) And also, Order 5 swings around into Kentucky, and we have a branch depot real close there. So we actually sell milk into Order 5 in the Kentucky area.
Q. Yeah. So if I'm looking at -- if I kind of look

at your branch depots and these maps, I see them in this general Ohio, Pennsylvania, Kentucky, kind of that border states on the west side, but on this I see plants all the way up in Michigan.

So how far out do your depots go?

And I ask these questions, it's very important for us to understand --

A. (Mr. Carson) Well, we sell -- okay. It's probably not the best way, maybe I didn't explain it very well. But we sell milk up into Cleveland, up into Detroit. We sell milk in most of Ohio, not all of Ohio. We sell milk east in Pennsylvania. We sell milk south. I tried to say it without getting into so specifics in the beginning of my testimony of kind of where we go.

So these plants around here would be somewhat -- I'm not sure saying competitors in all cases, but they affect our markets. Okay? That would be the best way to say it.

Q. Okay. So if I'll use as an example, you might not compete directly with those plants in Michigan, but they are competing with some of your other competitors, maybe in the Ohio --

A. (Mr. Carson) Yeah --

THE COURT: Whoa. Whoa.

MS. TAYLOR: Sorry. Your Honor is doing a great job keeping our record clean, which we all appreciate, especially USDA, when we have to go back and read all of this and figure out what the Secretary -- and recommend to

him what he should do. So that's why she's stopping us like this, of which I'm very appreciative.

THE COURT: So --

MS. TAYLOR: So I'm going to finish my statement, and then hopefully Mr. Carson will answer. Sound good?

THE COURT: Yes.

BY MS. TAYLOR:

Q. Okay. So I wanted just to give an example.

The plants in Michigan, you don't necessarily compete directly for sales with them, but those plants compete maybe with other plants in Ohio, which you do compete with, if that makes sense?

A. (Mr. Carson) Yeah. That's one way of looking at it, almost indirect.

Q. Uh-huh.

THE COURT: Now, this is a good time for you to add anything else you would like to explain this situation.

THE WITNESS: (Mr. Carson) I think -- I think my testimony in my direct was pretty much covered the plants that we're directly affected by.

BY MS. TAYLOR:

Q. Okay. And I'm going to get into that in a second.

So -- and one of the reasons -- I know this seems kind of really detailed, but it's important for us to understand those -- plant-to-plant equity on that -- on this very micro level so we can go back and figure out what -- what do we do with all this information. So you

are the best person to tell us about that.

A. (Mr. Carson) Okay.

Q. So I wanted to ask, if I'm looking back at Exhibit 426, and you have your three plants and your eight depots, could you talk about what plant services what depot? So this is very specific -- it's very specific, if you are willing.

A. (Mr. Carson) No problem.

Out of Martins Ferry: Zanesville, Lancaster, Marietta, and Portsmouth.

Fairmont pulls from both Uniontown and Martins Ferry.

And Charleston would have Zanesville, Beckley, Roanoke, and actually a little bit of Portsmouth, but I won't get into that.

Q. Okay. Thank you. Let's see.

And then if you could add for your fluid plants, what plant -- what orders are they typically regulated on?

A. (Mr. Carson) All three of my plants are in Federal Order 33.

Q. Do they have sales in other orders, even though they are not regulated?

A. (Mr. Carson) Yes.

Q. And what's that reach?

A. (Mr. Carson) I would say it depends. But Federal Order 5, we have a pretty decent amount of milk we sell down there between the Carolinas and the Virginia and Kentucky. It's not enough to check every month to see if

we go rise above the 50%, but I would say it's probably more than 25%.

Q. Okay.

A. (Mr. Carson) And then Uniontown does sell milk east into some Federal Order 1.

Q. Okay.

A. (Mr. Carson) Again, same thing would apply, it's not enough to check all the time, but it's probably over 20%, something like that. I don't know specifically.

Q. Okay. Thank you. That's helpful.

You mentioned in some testimony, Virginia base. And I know they have their own state order of some kind of base with a program.

Can you just, for the record, kind of maybe explain your understanding of how that program works, just so we're clear about that?

A. (Mr. Carson) So if you sell -- if you want to sell a customer in Virginia, you have to buy the equivalent amount of raw milk from Virginia -- Virginia co-ops basically.

Q. Okay.

A. (Mr. Carson) So if you sell 100 pounds, you will get the equivalent back through their market, you know, Virginia Commission. If you sell a million pounds, you -- it's up to the commission to give you the milk. And it's -- I mean, as far as I know, it's only ever been cooperative milk. And I don't mean specifically DFA, I know they are one of them, but it's Maryland and Virginia,

and there's three or four different co-ops.

Q. So the milk you sell in Virginia doesn't have to be Virginia milk necessarily, it's just, buy the equivalent of that milk and --

A. (Mr. Carson) No, it's Virginia milk.

Q. Oh, it is?

A. (Mr. Carson) Yeah.

Q. Okay.

A. (Mr. Carson) I mean, there might be at a time where if they can't get it to you, maybe they get it through some other means. But I would say that's probably not the -- that would be more the exception.

Q. Cleared up my understanding of that program.

A. (Mr. Carson) Yeah.

Q. Thank you.

And is it -- would it be correct that that Virginia milk goes through your Charleston plant, since it's the closest plant?

A. (Mr. Carson) Most of it. But we also have some sales into Virginia from our Uniontown, into that northern area.

Q. Okay. Okay. I'm turning to the second page, and you have talked about how you have independent producers and some co-ops.

Would you be -- can you talk about maybe the breakdown of that, just percentage-wise? Do you have 75% independent milk?

And if I'm asking a question you don't want to

answer that's totally fine, just let me know.

A. (Mr. Carson) It's over 50% is independent.

Q. Okay.

A. (Mr. Carson) It's been as high -- in say the last ten years, it's been as high as 75.

Q. Okay.

A. (Mr. Carson) I mean, so just depends.

Q. Okay. So that varies?

A. (Mr. Carson) I'm sorry.

Q. It varies annually or monthly?

A. (Mr. Carson) I could not hear you.

Q. It varies? Your percentages vary?

A. (Mr. Carson) Yeah, it varies on a lot of things, because we don't have a staggering amount of sales. So if you get a customer and you need milk, you bring milk in. Sometimes, you know, it's going to vary, or if you lose a customer it could vary, so...

Q. And you talked about your premiums. Sounded to me like they were kind of seasonal premiums.

Would that be correct?

A. (Mr. Carson) I think the easiest way for me to explain it without getting too into our personal relationships, is -- is in our -- in -- for my company, we need to have a partner for the summer, because we do a lot of school business. So that's taken into account when we do -- you know, when we work with co-ops.

Q. Okay. And you talked about your -- and I'm looking at the second full paragraph on page 2. Your

customers have programs and pricing based on the current cost structure.

And I -- I'm not asking for any confidential information, but -- well, the question I do have is, are -- Federal Order prices are monthly.

A. (Mr. Carson) Right.

Q. So is that accounted for in how you price to your customers?

A. (Mr. Carson) Yes, I would say mostly now.

Q. Okay. So I wanted to talk a bit about Charleston, which I do appreciate, as Mr. English will tell you, all the maps everyone has put onto the record to help us orient ourselves.

For your Charleston plant, and you are talking about the plants that you compete with, and how the proposed differentials under the -- 19, your differential increases and everybody else's in relationship to where you currently stand is less.

What we have heard on the record about why that was offered in Proposal 19, and we went back to look to see, okay, what was the reason, was that generally costs are more to supply that area because it's mountainous was one of the reasons, and it's harder to supply the west side of the state, which it looks like, I would consider Charleston in the east side of the state.

A. (Mr. Carson) It's kind of in the central.

Q. Okay.

A. (Mr. Carson) But I know what you mean.

Q. But -- so that --that's the reason that, you know, if I could sum up on the record as to why the Charleston differential was justified, it came out of the model. It wasn't adjusted down because it's harder to supply that area.

I just want to get your take on how you think the difficulty is to supply that plant, in -- in response to that?

A. (Mr. Carson) Well, for example, in Charleston, if I ship milk, which I do, down into the Charlotte market, which is the growing market, it's all interstate the whole way down. And the terrain down through there, it's not like -- completely that much different than in our Charleston market. So we -- we have a differential of $2.50 added on, whereas if I wanted to go to ship milk down into Charlotte, down into that Winston-Salem area or the High Point area, I think their -- theirs went up $1.80.

Now, if it was $0.10, $2.40 or something, I probably wouldn't -- you know, it would make more sense to me. But that's -- you know, that's like, $2.50, 1.80 -- $0.70. I mean, these are major, major differences --

Q. For that milk --

A. (Mr. Carson) -- from where we sit now to where this proposal is. It's a massive amount of disparity.

Q. So for that milk that you ship, packaged milk that you're shipping in Federal Order 5; is that correct?

So those Federal Order 5 plants, under the current

system, pay a -- on top of the differential, pay an assessment for transportation assistance to bring milk -- raw milk into the area.

Does your plant have to pay that assessment for any milk that you ship down into Order 5?

A. (Mr. Carson) We -- you mean like a transportation credit?

Q. Yes.

A. (Mr. Carson) No, we don't have any.

Q. Okay. You talk about how, in your opinion, the differential increases -- and we'll leave aside -- I want to leave aside for the moment to the impact to your plant itself -- but you talk about how you do not think it will help producers in your area.

So I wondered if you could expand on why you think that is the case?

A. (Mr. Carson) Well, what I'm saying mostly is -- is -- I mean, if we're left uncompetitive, roughly $0.06 a gallon, we wouldn't disappear immediately, but we would most likely lose business or become very unprofitable if we tried to absorb some of this. And over time, we would really struggle, and that just would not benefit any farmers, because our volumes would be decreasing. These farmers would have to go find somewhere else to ship.

Now, you know, maybe there's a plant near, but maybe they don't want to ship to that plant, or maybe they have to go, and in Joe's case, 300 miles to a plant. You know, my plants are different. We have different

competitors around.

And Charleston, you know, would be the toughest scenario because there's not a lot of other plants around.

Q. Right.

A. (Mr. Carson) Pittsburgh has multiple plants.

Q. Okay. So I want to stay on that topic, and I want to turn to Exhibit 428.

And so this is your chart. And on the top one I just want to make sure it's clear for the record in your labels of the rows, can you just define what MF, UT and CHAS stand for, so everyone's clear?

A. (Mr. Carson) Can you say that again? I'm sorry.

Q. Sure. On the top of your chart in your labels for the different columns, excuse me, the seventh column over says "versus MF."

A. (Mr. Carson) Martins Ferry.

Q. Okay. I just want to make sure it's clear --

A. Okay.

Q. -- what those labels are.

A. (Mr. Carson) Okay. Got you. You're right.

Q. So could you say UT and then --

A. (Mr. Carson) Versus Martins Ferry, versus Uniontown, versus Charleston.

Q. Okay. Thank you.

And I understand how you did the computations, but what I really -- what we really want to know is, because you are talking a lot about equity between competing plants, is -- I know as a system your plant competes with

a lot of these plants, but if I'm looking individually at your plant, kind of like, what areas do those plants -- what other plants, what areas do those compete in directly, if that makes sense?

A. (Mr. Carson) Okay.

Q. Because as I look at it, I can't imagine --

A. (Mr. Carson) No, it's very -- I'm just going to say it, it's going to be very hard to explain it all --

Q. Well, and --

A. (Mr. Carson) -- precisely.

Q. -- I don't want any proprietary. But, for example -- and I have no idea if this is true -- but let's say your United Dairy plant in Martins Ferry --

A. (Mr. Carson) Okay.

Q. -- does that compete with the Pittsburgh plants, for example? So if we --

A. (Mr. Carson) Yes.

Q. -- wanted to --

A. (Mr. Carson) -- it does. It's one -- it's less than an hour to Pittsburgh --

Q. Okay.

A. (Mr. Carson) -- from Martins Ferry.

Q. And does -- and so that's kind of what I'm looking at.

A. (Mr. Carson) Yeah. Okay. All right. This is -- would be the best way to do it.

Q. Okay.

MR. ENGLISH: And you are starting to talk over

each other again, so for the benefit of the court reporter. You're both doing great. But I just think -- I was looking at the court reporter's face, so I think --

THE WITNESS: (Mr. Carson) What you can probably do, would be the best thing, is if you went up towards Cleveland and draw a line over towards the "N" in Lancaster, around Cincinnati, Portsmouth, down to Lexington, Kentucky, which is in the middle of the state. We actually service part of Tennessee, the tip of Tennessee.

And then you go, not the far East Coast and North Carolina, but certainly to that Durham, Raleigh area, Charlotte, and actually have some customers in South Carolina.

Virginia, we don't go anywhere near the beaches. We're not over towards Richmond, but we do go to Lynchburg. We don't go to the far side of Maryland, although we have a distributor in Baltimore.

When we go east from Uniontown, we do some business on the way east, but we also have a good distributor in New Jersey. And I think -- I'm not sure if this will help, but the branches generally are not going to go out super far.

BY MS. TAYLOR:

Q. Okay.

A. (Mr. Carson) They are more for schools. We do a lot of -- all our branches do school business. Some do. Like, Beckley does some supermarkets that I don't -- can't

do directly from a plant.

But in general, the theory has been in our business, if you can serve larger quantities, those come directly from the plants. And then if you have smaller stops on routes, those can also be from your plants to serve your local market, but also, the branches are generally made up of smaller routes.

Q. Okay.

A. (Mr. Carson) Does that --

Q. That's very helpful.

So if we went back and wanted to see, okay, let's look at the plant relationships between Martins Ferry and its competitors, you, at least, gave us the areas which we should be --

A. (Mr. Carson) Right. I mean --

Q. -- looking at?

A. (Mr. Carson) -- fresh milk, fluid milk, still only doesn't travel much further than what DOT hours would allow for. I mean, yes, there are exceptions with overnights, but, you know, you have got a 150-mile, 200-mile one way, you got to get back, you got to deliver the milk, and you got to get back. This is -- we're not like aseptic. We're not like UHT. We're, you know, fresh milk, shorter shelf life. So when we go somewhere, we typically want to get back.

Q. So you are --

A. (Mr. Carson) Not 100% of the time like that, but that's a general rule.

Q. And so a rule of thumb would be 100 to 200 miles?

A. (Mr. Carson) I'd say a couple hundred miles. Let's -- four -- that's basically, you are going out in a tractor-trailer four, five hours, and then you got to come back. So you can only have 11 hours driving time. So, you know, if you have a distributor, you go out, drop the trailer, unhook, come back. You can do it. If you -- or just one big, you know, area with a couple stops, you can go out and come back.

MS. TAYLOR: Okay. That's it from AMS. I really do appreciate your testimony and the detail you provided us.

So thank you both to you and Dr. Shockey for coming.

THE WITNESS: (Mr. Carson) Okay. Thank you.

THE COURT: Now, I want to note that the same fly that bedeviled all the Ph.D. economists, chose these men as well.

Who else has questions?

THE WITNESS: (Mr. Carson) As if it's not hard enough to be up here, I have to fight a fly the whole time.

THE COURT: Who else has questions?

Mr. English, any redirect?

MR. ENGLISH: Chip English for Milk Innovation Group, and I'll try to keep this very quick.

//

REDIRECT EXAMINATION

BY MR. ENGLISH:

Q. I may have misunderstood what happened, but I was paying attention, I thought, to the questions asked by USDA and to your answers. And I thought she asked you a question about getting raw milk to Charleston in terms of what they went back and looked at in the record, and the co-op said it was difficult to get raw milk into Charleston. And while I think your answer was wonderful, I think your answer was about packaged milk moving out of Charleston.

So assuming I may be right as to what was being asked, as I look at a map -- apparently I look at a lot of maps -- Charleston is served by Interstate 64, which goes east/west, correct? Is that correct?

A. (Mr. Carson) Yes.

Q. Interstate 77, correct?

A. (Mr. Carson) Yes.

Q. Interstate 79, correct?

A. (Mr. Carson) Yes.

Q. Do those interstates provide adequate access to the Charleston plant?

A. (Mr. Carson) That's correct.

Q. Do you actually have difficulty getting milk delivered to your plant?

A. (Mr. Carson) No.

Q. Have you ever had difficulty getting milk to your plant, except on an unusual snowstorm day?

A. (Mr. Carson) No.
Q. Thank you.
MR. ENGLISH: I have no further questions.
THE COURT: All right. This will be our last chance to ask questions. Does anyone have anything more?
All right. I see nothing.
Now, just so you understand the rules, and I'm sure Mr. English has explained them to you, you are allowed to say everything you know here in public in the public hearing, then you are not allowed to contact the Agricultural Marketing Service to add something that you wish you had thought of.
So is there anything else that you think is important that you would like to cover before we let you step down?
THE WITNESS: (Mr. Carson) No. Thank you very much.
THE COURT: Thank you.
THE WITNESS: (Mr. Carson) I appreciate everyone's attention. It means a lot.
THE COURT: Let's see here. It is about 4:14.
Mr. English, what do you propose?
MR. ENGLISH: First I'd ask whether the court reporter needs a five-minute break, or more, or none?
The next witness is Mr. Mike Sumners, who has a relatively brief statement, dairy farmer, who has been one of the ones willing, and we are grateful to him for being willing, to wait. But given a dairy farmer, he is coming

ahead of Mr. Hau, H-A-U.

So I have handed to USDA -- I did mention earlier this morning that we had substituted a statement by Mr. Sumners that he made some changes this morning, and so I'd ask that the Trihope Dairy-001 be marked as the next exhibit.

THE COURT: All right. So the next exhibit number is 431.

(Thereafter, Exhibit Number 431 was marked for identification.)

THE COURT: Let's not write it on there until we're sure, but I show 431.

Let's go off record while we're distributing and marking.

(An off-the-record discussion took place.)

THE COURT: Let's go back on record.

We're back on record at 4:20.

Mr. English.

MR. ENGLISH: So, Your Honor, similar, but for a different reason to the last witness, Mr. Sumners, who is a dairy farmer, is not a member of either of the Milk Innovation Group or the International Dairy Foods Association. He contacted us early during the proceedings and asked whether I would provide him assistance.

And so I am calling Mr. Mike Sumners to the stand of Trihope Dairy.

THE COURT: Thank you. And would you spell Trihope for me?

MR. ENGLISH: T-R-I-H-O-P-E.

THE COURT: Thank you. I like the name, Mr. Sumners.

Now, I'm going to swear you in before you talk. Let's test it a little more. Just count down to five.

Would you state and spell your name?

THE WITNESS: Michael Sumners, S-U-M-N-E-R-S.

THE COURT: Yes, thank you. And you did that just right, rather than talk to me, you have to talk to the microphone. All right.

Have you previously testified in this proceeding?

THE WITNESS: No, ma'am.

THE COURT: Then I'm going to swear you in.

MICHAEL SUMNERS,

Being first duly sworn, was examined and testified as follows:

THE COURT: Thank you.

You may proceed.

MR. ENGLISH: Actually, Your Honor, if I may.

DIRECT EXAMINATION

BY MR. ENGLISH:

Q. Mr. Sumners, could you provide a business, not a personal, a business address for the record? And if they are the same, then instead, off the record, provide your address.

Do you have a business address to provide other than a personal address or are they the same?

A. They are the same.

MR. ENGLISH: And, Your Honor, I think in the beginning of the proceeding you asked under no circumstances for him to provide it off the record; is that correct? That's what we used to do in this proceeding.

THE COURT: I don't remember that, but I'm going to be guided by what you think is best.

MR. ENGLISH: Sounds like we don't need to. All right.

THE COURT: Okay.

BY MR. ENGLISH:

Q. All right. Then, in that event, ignore me on that.

Mr. Sumners, please read your statement, which has been marked as Exhibit 431.

A. My name is Mike Sumners. I'm a dairy farmer in Henry County, Tennessee. Harris, the town in Henry County, is 125 miles from Nashville, and 150 miles from Memphis. I milk 800 cows on my dairy farm, Trihope Dairy. I have been a dairy farmer since studying dairy at college in 1981. I started in Williams County, Tennessee, working for someone else, then became partners in the business for about 20 years.

And in 2001, I moved to Paris and bought a farm. And there, 20 years after trying to figure out how I was going to do what everybody else was telling me I couldn't do. I'm currently a member of a small cooperative, but I have been a member of much larger co-op and an independent

through my career.

When in Franklin, which is Williams County, I first shipped milk to Southern Milk Sales. In the early '90s, I switched markets and sold milk as an independent to a plant in Alabama for about four years until a co-op out of Texas offered milk cheaper.

I was able to switch to a Kroger plant as independent until 2001. In 2001, in Paris, I started shipping milk to Old Deans, which became new Deans Foods, then became Morning Star, and then Saputo.

As an independent, I was able to grow from 200 cows to 800 with the relationship I have had with the plant. I became a member of DFA in 2016, and it was downhill from there.

In 2023, with the new co-op and plant agreement, I can see a future. My milk travels 27 miles to the Saputo plant. It's a partially-regulated plant. My milk is not pooled. However, Federal Orders are just as important to me as everyone else in the dairy business. I am able to get a better mailbox price under the new program.

I have attended approximately ten or more of these hearings. I have testified before and appreciate the opportunity to be here.

I'm concerned that Federal Orders have long since gotten to the point where they end up creating winners and losers, rather than dealing with the real issues. For that reason, it has been very hard to listen to much of this proceeding. Instead of letting markets and economics

work, everyone seems to have a plan for how to make the system work for their benefit. I don't envy USDA who has the job to do, but USDA should not be picking sides, and instead, they need to do what is best for the industry.

How do you have a program since 1937 and few, if anyone, understands what it is, what it does, or what it's for? Everyone thinks it's for something different. It doesn't make sense to me knowing that part of the Act is to educate and supply information.

I learned from wonderful USDA personnel, one Tom Franks in Atlanta, Arnold Stallings from Federal Order 5, and others, who were mentors in me understanding this process.

The first thing you should learn is FMMOs do not determine the price of milk, which should be obvious. Nowhere in the calculation is there farm costs. They're in search of a spot unregulated milk price. Three or more farms can form a co-op and do whatever. Most milk buyers can choose not to be regulated. Milk is dumped and sold at prices unrelated to pool obligation values.

I sell Grade A raw milk. I don't sell Class I, Class II, Class III. A plant has to support a milk supplier regardless of how the milk is used. With Federal Orders, they have the same starting price because we pool revenue among plants -- pool revenue among plants in a geographical area.

In the Southeast, the raw milk supply has decreased more than Class I sales have declined, and the

solution from the powers that be is spend more money further from home, hauling milk long distances and consolidating raw milk supply to a few least cost areas of the country, which are subject to change. Maybe that's the goal for some. That is where the program has headed us.

A problem with the system is that raising Class I price with pooling does not answer the need to get milk to the fluid plant. Pooling with mandated large Federal Orders make the problem worse. All dairy farmers have costs, labor feed, energy, and hauling. We don't pool costs, we only pool revenue.

Lower Class I differentials (or at least not higher ones) doesn't mean that milk will not be cheaper --

THE COURT: Now, you read that different from what you wrote. Start again with that sentence and read it the way you want it.

THE WITNESS: Lower Class I differentials (or at least not higher ones) doesn't mean that milk will be cheaper, it still has to be paid for. But pooling dilutes what goes to the dairy farmers shipping to the plant.

I just think we need to do things differently. If you give the dairy farmer like me the ability through transparency to see what is going on, we can negotiate a fair price for milk.

Finally, my views on component pricing are that it doesn't work as currently set up. The PPD is the pool milk. The Class III is not pooled; the value is paid out

first.

After the hearing in early 2023 on transportation credits, I filed a short comment with USDA. I said this, I stand by it when it comes to the National Milk Producer Federation proposal, NMPF proposal: "Doing nothing will give you a much better outcome than the DCMA proposal. Markets can work. How far milk travels is not a performance standard that should be treated special. Dairy farmer location should not be a restriction on milk value. If you decide to make changes, please treat all milk the same."

When I was learning about Federal Milk Orders, you had to learn and understand performance standards. Today we pool, and it is about who gets paid before we do the pool.

BY MR. ENGLISH:

Q. Thank you, Mr. Sumners. I have just a couple questions.

When you indicate that you milk 800 cows, and I'm sure you have heard this question before because you have testified before, are you a small business under the Small Business Administration?

A. No. But that amount, who is paying for my milk, it could. I have been small, but I'm not now.

Q. Which is an indication that you are getting a better mailbox -- that's an indication you are getting a better mailbox price, as you indicate in your testimony, correct?

A. Well, I saw that with the better price for the milk and -- and a better hauling situation.

MR. ENGLISH: I have no further questions for the witness. I guess on his behalf I'll move Exhibit 431 at an appropriate time.

THE COURT: Is there any objection to the admission into evidence of Exhibit 431, also marked as Trihope Dairy-001?

There is none. Exhibit 431 is admitted into evidence.

(Thereafter, Exhibit Number 431 was received into evidence.)

THE COURT: Who will begin cross-examination of Mr. Sumners?

CROSS-EXAMINATION

BY MR. MILTNER:

Q. Good afternoon, Mr. Sumners.

A. Good afternoon.

Q. For the record, my name is Ryan Miltner, and I represent Select Milk.

So I -- I had a question about increasing the Class I differential, and you acknowledge in your statement that you ship to a partially-regulated plant, correct?

A. Correct.

Q. And so even though it's partially-regulated, I don't want necessarily to get into the specifics of your contract with them or your payment arrangements or what

your co-op pays.

But presumably, if that plant pays a higher Class I price, you would expect to receive additional income; am I correct?

A. If the blend price went higher, I would get a better price.

Q. So is your -- what you receive is tied to the blend price in Order 7; is that right?

A. Yes.

Q. Okay.

A. But, of course, that plant doesn't have necessarily a blend price, but there's a blend price announced in Atlanta, and that's -- that's a focal point of what I'm paid.

Q. Okay. I appreciate --

A. But if the blend price didn't raise in Atlanta, even though you have the higher Class I differentials, my price wouldn't change.

Q. And so -- so your -- your focus as a producer would be on whether -- on the blend price impact and less on the Class I price itself; is that correct?

A. Say that again.

Q. As a producer, you're more concerned with the blend price than the Class I price?

A. Well, like I said, I sell raw -- Grade A raw milk. What Saputo does packaging that milk, I really don't know. But if the value in the market price goes up, I am negotiating for a higher price. I mean, they have to

compete for milk. But when you regulate milk on top of milk, it's hard to negotiate the price. You can do that with the Class I differential. You can do that with transportation credits.

I have long believed that higher Class I differentials doesn't solve anything. A higher Class I differential is not about creating a higher price. They are going to have to pay a price for the milk or they won't get the milk. A higher Class I differential is about moving money away from the plant, not moving milk to the plant.

Q. Explain that last sentence so it's clear for the record what you mean by that.

A. Well, if you took it to extreme and, say, put a $10 Class I differential on a plant, you would attract all kinds of milk. Unless that milk was limited some way with the performance standard, it would dilute the pool, and the price would actually be lower because you're going to bring that higher price with historically lower prices.

So it does -- and the milk that comes, it may have advantages in feed costs, labor costs, whatever. And it more than moves the milk on top of you when you may have high costs around these milk plants. And you lose your local supply.

In the Southeast we have had a problem since I started in the business. When I started in the dairy business, you had a support price in California that the California dairy farmers were buying beach houses. At the

same time, there were dairy farmers around me going out of business.

And you could do the same thing with Federal Orders. If you subsidize your manufacturing supply by raising the Class I differentials, you are going to create more commodities that will lower the price, and that price comes all the way back to the fluid plant with the lower price.

Q. Is that --

A. You have more milk. We have been doing it for 20 years. And doing the same thing, I think you're going to get the same results.

Q. And is that because you think that -- or your experience might be that a higher Class I differential causes more milk to associate and pool on the order and dilutes the blend price and moves money out to distant producers?

A. Before Congress passed a law that said you have to have X number of orders, you had a geographical area that was defined, and the Class I differential supported a milk supply.

Now, the Class I differential, they talk about moving the milk in. You need to be high to move milk. It's not supporting the milk supply. The milk supply's far away. And that milk won't move unless you pay market price there, plus hauling.

Now, as a farmer, I buy stuff that's far away. I could do a small amount of it. But if that was my feed

supply was far away, I couldn't make money doing that. And these milk plants, they are asked to support a milk supply. You can't support a milk supply larger than your needs.

The Class I, the Class III, IV price, are formula prices. You take the commodity price, your Make Allowances change over time, and all they are trying to do is make up the difference in the Make Allowance.

I mean, we got Class III and IV overpriced right now. Now, people don't like to hear that, but if you can't make milk at that, the cheese price is going to go up because you will have less milk, less milk, less cheese. And with the Make Allowance so tight, all you get is big plants. Now, if you lucky to live around one of those plants, but if you had to haul your milk to those plants, it's very costly. Or if you lose your plant, that -- that's why you need to deal with true minimum values and let markets work, or you're picking winners and losers.

Q. You haven't said so directly in your statement, but do you -- do you support or oppose increasing the Class I price surface?

A. No.

Q. You oppose it? You -- your preference is that it not be increased?

A. No. It was set too high in 2000.

Q. Okay.

A. In 2000, you had a choice of two Class I surfaces,

and I stayed up all night and read the decision when it come out in 2000, and I was happy to see that recommendation of a lower Class I pricing surface. But like most people think, oh, higher Class I, more money. Not necessarily.

Q. Do you --

A. You had high Class I differential in the Southeast and you lost your milk supply.

Q. Do you have an opinion on any of the other proposals in the hearing that I -- well, I know you do.

Do you want to put on record your position on any other proposals that are under consideration?

A. I'm about given up.

Q. Thank you, Michael.

A. They are going to do what they are going to do.

Q. All right.

MR. MILTNER: I don't have any other questions. Thank you.

THE COURT: Don't give up. If you have got an opinion, we want to hear it.

THE WITNESS: Well, the importance of my opinion is, is if you subsidize the milk supply anywhere in the country, it's going to have a negative effect on you trying to supply a fluid plant. And you talk about these economic models. They did one when they did the California hearing, and it showed it had an effect on the whole country.

Now, we don't know how much of an effect it would

have, but economic models would point you in the right direction to be looking. And the reason why it had an effect was, what California was asking for, was higher prices and mandatory pooling. They didn't get that.

But like back in the '80s when you had a support price, that they were building milk plants to sell powder and butter to the government, and cheese, it had an effect on the whole country. I had to pay $0.50 when I was a young man to help get out of that mess. We had a diversion program. We had a buy program.

In the late '80s they started having a market again. The price of milk was the support price in the '80s. And then the '90s came, and you could actually do risk management because you had a market. There was no need to do a risk management before that because the market was what the government was buying.

But it seems like everybody wants to apply economics to other people, but they don't see it when it's applied to them.

But the Class I differentials, if you left them alone, you have already took out people, and added people, you change them again, you're picking winners and losers. And -- and if you look, the losers are next to the fluid plants, and you're supposed to be running a fluid program.

Yesterday, listening to the hearing driving up here, I thought I was coming to a hauling conference. The milk -- the milk plant that I take to, there's some local

milk going in there. I think there's going to be some more local milk come back in there. But most of the milk travels further than what I drove yesterday.

And -- and the 20 years I have been there, there's been quite a few loads of milk lost because they can do other things besides beating their head against wall. And it -- and it's not necessarily a lot of money. $0.50 could mean either you're profitable or you're not.

And you can't haul milk very far for -- I think it's a penny a mile now. That's 50 miles, and we're hauling milk hundreds of miles. And the further you have to haul it, the less they want to pay the local producers through regulations, and you give the money to somebody that's hauling milk. I don't know any farmer wins. The truck driver wins.

I go to a milk bay most every night, and the long haul drivers, they want to brag about how much money they make. They make more money than the dairy farmer.

So anyway, I guess I'm done.

THE COURT: All right. Let's see who else has questions before I ask for the Agricultural Marketing Service's questions. So who else has questions before I turn to the Agricultural Marketing Service?

No one. I invite the Agricultural Marketing Service questions.

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CROSS-EXAMINATION

BY MS. TAYLOR:

Q. Good afternoon.

A. Good afternoon.

Q. Thank you for joining us today.

You mentioned you're a member of a small cooperative. What's -- can I ask the name of that co-op?

A. Pardon?

Q. What's the name of your cooperative that you are a member of?

A. It's K-Y-T-N.

Q. And how many members does it have?

A. We have eight so far.

Q. Eight. Okay.

You say that, it sounds like you have a leadership position in that co-op?

A. I have -- I'm sorry, I can't hear too good.

Q. Sure. I can speak up. I'm just not trying to yell. I don't want you to think I'm yelling at you.

Do you have -- the way you said that, I asked, do you have a leadership position within that cooperative? Like, a board member, or I'm not sure, I'm just --

A. I'm sorry, I'm hearing the echo with the mic.

Q. Okay. Let me try again on a different question. You ship to Saputo.

A. Yes.

Q. And so is that where all of the co-op's milk goes or just your milk?

A. Yes, all the milk is going to co-op. And there's other co-ops bringing milk in there, too.

Q. Okay. And does your co-op supply any other plants or just the Saputo plant?

A. Just Saputo.

Q. Okay. And then as a cooperative, you can reblend.

Do you all reblend or does the plant pay your members directly?

A. We pay for services, testing, so forth. We know what all these costs are, but there's nothing to reblend.

Q. Basically, they pay you all the same because you ship to the same plant?

A. The plant pays X for the milk. The people that administer the check writing, whatever, pays, and what's left over pays to the producers. No matter what size they are, everybody gets paid the same. Hauling rates are based on what the producer can get the milk to the plant. But everybody's paid the same.

Q. Okay.

A. And when you are -- when the blend price is announced, I know what the price is that I'm going to receive.

Q. Okay. On page 2, in talking about you now ship to Saputo, you say you are able to get a better mailbox price under this new program.

Does that mean under the new co-op arrangement to Saputo? I want to make sure I understand what "new program" means.

A. New program?
Q. Well, program to me as a government person means some government program, so I'm sure that's not what you mean.
So I'd like to know what you mean when you say --
A. My new program.
Q. Uh-huh.
A. It's the agreement that this little co-op has with the processor. It's based -- it's more of a traditional independent supply, but we function as a co-op.
We had -- we hadn't registered with the USDA as a co-op because there's no need. The milk's not pooled. But we are a co-op under Kentucky law.
Q. Okay. I understand. Yeah.
I don't want to be repetitive. I think Mr. Miltner asked a couple of my questions, so let me see.
At the bottom of page 3, you write, "If you give the dairy farmer like me the ability through transparency to see what is going on, we can negotiate a fair price for our milk."
And I'm wondering if I asked the question of, like, what kinds of items would you like to see Federal Orders provide to dairy farmers to help you negotiate that fair price?
A. For me, I can -- with the information you have now, I could probably figure it out. But there's other producers that don't understand the Federal Order system. There's a -- in the Southeast, we got a blend price. You

got T-credits. We're going to have inter-T-credits probably. And all of it comes from milk revenue. But it's earmarked to go do this. It's earmarked to go do that, not necessarily -- and it's different for everybody. They have a hard time figuring out what we do now. I don't think they will ever figure it out.

Q. So with that, I think you are talking about more education to producers so they understand the program and then can go out and negotiate like you have been able to do.

Would that be correct?

A. Well. In business, location is important. And what we're doing is, the further you are from the plant, you are treated differently.

And like I say, we don't know what the costs are from place to place. These large dairies, they got to go out to an area where they can buy enough land to put a dairy, support a dairy, but then they got to haul the milk. We have been doing that for years.

These small dairies that were traditionally around the plants, they got higher costs. The high cost of the plant that goes out to a suitable area to milk thousands of cows, he got transportation costs. So the past several years we -- we -- this large dairy over here, we say, well, we need to haul this milk to the plant, but not the small dairy, he don't get the benefit of that.

Now, these inter-transportation credits that they are talking about that's going to pay a little bit, but

still, it's based on how far you are from the plant. So as you lose your milk supply around the plant, you are going to haul more milk. And they going to have to try to raise the Class I differential, which is not a good way.

Milk supply would be there if it was paid. I been around dairy farmers all my life, and -- and most of the time it just gets too difficult. You got to send your kids to school. They want a life. And if you can't generate enough income to support all that, they go do something else.

And in my part of the world, you can row crop. Row crop is much easier than it is running a dairy operation. So they leave row crop -- I mean, leave dairy and go to row crop. So, you know.

But in my experience, and in most of my career I have been paid I think a fair price. But everybody and -- but my co-op neighbors, they suffered and go'ed away because the Federal Orders did some, but the co-ops did more.

Lots of time they -- you know, deficit markets, they wasn't even paid the Federal Order minimum price. So the -- the co-op collects the money, they make the deal, they haul the milk, and what's left over their members got. And all the members are not treated the same.

So you got Federal Orders not treating the same. You got co-ops not treating the same. You got winners and losers.

When -- of course, when I learned about Federal

Orders, they would preach the all milk's treated the same. That's not true anymore.

Q. Well, I do thank you for your time to come up here today, Mr. Sumners, and your testimony on the record.

MS. TAYLOR: That's it from AMS.

THE COURT: Thank you. Are there any other questions for Mr. Sumners?

I see none.

Have I admitted into evidence the exhibits?

Before you leave me, is there any objection to the admission into evidence of Exhibit 431, which is Trihope Dairy-0001?

MR. HILL: You have already admitted it, Your Honor.

THE COURT: Oh, good. That's already admitted. But just in case, I admit it into evidence.

Thank you so much. It's 5 o'clock. It's really time for us to leave. Do you want to give me a preview of what comes next?

MR. ENGLISH: I think we'll do a little tandem here. We -- proving that I had assumed the role of the mantle of the over-optimistic lawyer, Mr. Hau did not get on today of Maple Hill Creamery. That's H-A-U. His statement was distributed last evening. And he does have an important business meeting at 11 o'clock, and since he was left over from today, and since I don't believe I have an objection from my colleague, Mr. Rosenbaum, we would like to start with him tomorrow. He would be first.

THE COURT: And did you want to pass out any paper copies of his testimony?

MR. ENGLISH: I would rather pass it out tomorrow morning.

THE COURT: All right.

MR. ENGLISH: If people want it tonight, I can give it tonight, but it has been posted.

MS. TAYLOR: I prefer paper. I'm old school.

THE COURT: Mr. Rosenbaum, while Mr. English is distributing some paper copies, let's see, let's give it a number.

Mr. English, it will be 432.

(Thereafter, Exhibit Number 432 was marked for identification.)

THE COURT: And, Mr. --

MR. ENGLISH: 432, it's labeled Hau-001.

THE COURT: Hau-001. Good.

And, Mr. Rosenbaum, if you don't mind the competition of the activity, I'll hear from you.

MR. ROSENBAUM: Yes. I think our next witness then will be -- after Mr. Hau, will be Dr. Balagtas.

THE COURT: Spelled?

MR. ROSENBAUM: B-A-L-A-G-T-A-S, Balagtas.

THE COURT: B-A-L-A-G --

MR. ROSENBAUM: -- A-T-A-S. I'm sorry, I put one too many A's in there. It's B-A-L-A-G-T-A-S. Dr. Balagtas.

MR. ENGLISH: And then the next witness, Dr. Mark

Stephenson. He will be providing comments. He is coming as a neutral observer on NMPF 19, providing comments. I think he's been monitoring the hearing and received from yours truly questions that have been asked by USDA and others about the model. And that was -- was electronically uploaded at 8:30 this morning.

I do not have paper copies with me, I apologize. You will have them tomorrow, but it was uploaded at 8:30 this morning. And so Dr. Stephenson would follow Dr. Balagtas as the third witness.

MR. ROSENBAUM: And then finally, if we have time tomorrow, Mike Brown would be the fourth witness tomorrow. And I do have paper copies of his testimony, which I'll distribute now, if that makes sense.

THE COURT: I think that would be great.

MR. ROSENBAUM: Okay. He has a -- Mr. Brown has both a written testimony and as well as a PowerPoint, and I have them both in paper format. They were both posted late yesterday. But I'll go ahead and hand out the paper copies now.

I do not have Dr. Balagtas yet, but we'll post that this evening.

THE COURT: All right. Then we'll skip over his, and I'm going to assign Mike Brown --

MR. ROSENBAUM: Your Honor, Dr. Balagtas will have both a written statement and a PowerPoint, so we need to assign two -- leave two numbers blank for him.

THE COURT: I'm not going to leave numbers blank

if I don't have a document.

MR. ROSENBAUM: Okay.

THE COURT: So --

MR. ROSENBAUM: And we can number them out of order.

THE COURT: So what you are going to distribute now, though, we'll put a label on, we'll give one of Mike Brown's documents 433 and the other one 434.

MR. ROSENBAUM: And, Your Honor, 433 which will be the first number for him, that will be, as I handed out right now, his written testimony, and that's IDFA Exhibit 57.

THE COURT: 57. IDFA-57 is Exhibit 433.

(Thereafter, Exhibit Number 433 was marked for identification.)

THE COURT: And Exhibit 434?

MR. ROSENBAUM: That will be IDFA Exhibit 58, which is a PowerPoint.

THE COURT: IDFA-58, which is a PowerPoint.

(Thereafter, Exhibit Number 434 was marked for identification.)

THE COURT: Let's go off record while those are being distributed.

Off the record at 5:06.

(An off-the-record discussion took place.)

THE COURT: Let's go back on record at 5:07. I'll wait until tomorrow for my copies, so as long as the participants who will be looking at it tonight have

theirs, I'm happy.

I'm looking at Exhibit 433, IDFA Exhibit 57, and Exhibit 434, IDFA Exhibit 58. Good.

If there's nothing else, I'm going to put us in recess. Is there anything else?

I see nothing. I'll see you all at 8:00 in the morning.

We go off record at 5:08.

(Whereupon, the proceeding concluded.)

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STATE OF CALIFORNIA)
) ss
COUNTY OF FRESNO)

I, MYRA A. PISH, Certified Shorthand Reporter, do hereby certify that the foregoing pages comprise a full, true and correct transcript of my shorthand notes, and a full, true and correct statement of the proceedings held at the time and place heretofore stated.

DATED: January 21, 2024

FRESNO, CALIFORNIA

MYRA A. PISH, RPR CSR
Certificate No. 11613

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