

NATIONAL FEDERAL MILK MARKETING ORDER PRICING FORMULA HEARING

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

Before the Honorable Jill Clifton, Judge

---000---

Carmel, Indiana
January 16, 2024

---000---

Reported by:

MYRA A. PISH, RPR, C.S.R. Certificate No. 11613

1	APPEARANCES:
2	FOR THE USDA ORDER FORMULATION AND ENFORCEMENT DIVISION, USDA-AMS DAIRY PROGRAM:
3	Erin Taylor Todd Wilson
5	Brian Hill Michelle McMurtray
6	FOR THE MILK INNOVATION GROUP:
7	Charles "Chip" English Ashley Vulin
8	FOR THE NATIONAL MILK PRODUCERS FEDERATION:
9 10	Nicole Hancock Brad Prowant
11	FOR SELECT MILK PRODUCERS, INC.:
12	Ryan Miltner
13	FOR INTERNATIONAL DAIRY FOODS ASSOCIATION:
14	Steve Rosenbaum
15	FOR THE AMERICAN FARM BUREAU FEDERATION:
16	Dr. Roger Cryan
17	000
18	000
19	
20	
21	(Please note: Appearances for all parties are subject to
22	change daily, and may not be reported or listed on
23	subsequent days' transcripts.)
24	
25	00
26	
27	
28	



TRANSCRIPT OF PROCEEDINGS January 16, 2024 NATIONAL FEDERAL MILK MARKETING ORDER PRICING FORMULA HEARING

		<u> </u>
1	MASTER IN	D E X
2	SESSIONS	
3	TUESDAY, JANUARY 16, 2024	PAGE
4	MORNING SESSION AFTERNOON SESSION	10,444 10,557
5	AT THROOM SHOPTON	10,337
6	000	
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20 21		
22		
23		
24		
25		
26		
27		
28		



1	MASTER INDEX	
2	WITNESSES IN CHRONOLOGICAL ORD	ER
3	WITNESSES:	PAGE
4	Sally Keefe:	
5	(Continued)	10 440
6	Cross-Examination by Ms. Hancock	10,448 10,455 10,468
7	Cross-Examination by Ms. Taylor	10,408 10,470 10,482
8	Recross-Examination by Ms. Hancock	10,490 10,587
9	Sally Keefe:	10,30,
10		10,496
11	Cross-Examination by Ms. Hancock	10,514 10,557
12	Cross-Examination by Dr. Cryan	10,557 10,579
13		10,599
14	Dr. Mark Stephenson:	
15	Direct Examination by Mr. English	10,609
16	000	
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		



				-
1		MASTER IN	1 D E X	
2		INDEX OF EXHIB	BITS	
3	IN CHRON	OLOGICAL ORDER:		
4	NO.	DESCRIPTION	I.D.	EVD.
5	444	Federal Register Note		10,444
6	445	Hearing Notice		10,445
7	446	MIG-64D	10,448	10,494
8	440	MIG-64		10,493
9	441	MIG-64A		10,494
10	442	MIG-64B		10,494
11	443	MIG-64C		10,494
12	447	MIG-15	10,495	10,606
13	448	MIG-15A	10,496	10,607
14	449	MIG-15B	10,496	10,607
15	450	MIG-15C	10,496	10,607
16	451	MIG-16-Corrected		10,608
17	452	MIG-16A	10,608	
18	453	MIG-16B	10,608	
19				
20		000		
21				
22				
23				
24				
25				
26				
27				
28				



1	TUESDAY, JANUARY 16, 2024 MORNING SESSION
2	THE COURT: We're back on record on 2024,
3	January 16th. It's a Tuesday. This is day 44 of the
4	proceeding.
5	I'd like first to take any preliminary matters
6	that anyone would like to mention now, and also do
7	preliminary matters later if you'd prefer.
8	MS. McMURTRAY: Good morning, Your Honor.
9	Michelle McMurtray, M-I-C-H-E-L-L-E; McMurtray is
10	M-c-M-U-R-T-R-A-Y, on behalf of the Agricultural Marketing
11	Service.
12	We just wanted to enter two preliminary exhibits.
13	Marked as Exhibit 444 we have the notice that went
14	in the Federal Register of the reconvened hearing.
15	Marked as Exhibit 445 we have the posting on the
16	Department of Agriculture's website to give notice of the
17	hearing.
18	And we are entering those just to make sure that
19	they are on the record to show that we complied with the
20	regulations.
21	THE COURT: Is there any significance in the
22	number 444 for the exhibit and day 44 of the hearing?
23	MS. McMURTRAY: Just a happy coincidence.
24	THE COURT: Is there any objection to the
25	admission into evidence of Exhibit 444?
26	There is none. Exhibit 44 is admitted into
27	evidence.



(Thereafter, Exhibit Number 444 was received

1	into evidence.)
2	THE COURT: Is there any objection to the
3	admission into evidence of Exhibit 445?
4	There is none. Exhibit 445 is admitted into
5	evidence.
6	(Thereafter, Exhibit Number 445 was received
7	into evidence.)
8	THE COURT: Are there any other preliminary
9	matters?
10	Dana Coale.
11	MS. COALE: Your Honor, Dana Coale, Dairy
12	Programs.
13	Just a couple of things now, just a couple of
14	things for the record with regards to scheduling, Your
15	Honor.
16	We are reconvening today, Tuesday, January 16th.
17	We will go through Friday, January 19th, and we will need
18	to conclude on Friday approximately around 3:30, 3:45. So
19	to put everyone on notice, we will not be going until
20	5:00 p.m. on Friday.
21	And then we will reconvene at 8:00 a.m. on
22	January 29th, and we will conclude the hearing I hope
23	everybody heard that conclude, Your Honor, by 5:00 p.m.
24	on February 2nd.
25	Are there any questions on that?
26	Thank you.
27	THE COURT: Thank you so much.
28	Mr. English.



MR. ENGLISH: Good morning, Your Honor. Chip English.

I'm here to report that Mr. Rosenbaum, counsel for IDFA, was trying to get here last night. His flight was cancelled. He expects to be here by midmorning. He has expressly stated that we can move forward.

I would note that Ms. Keefe is on the stand, and if somehow she's done by that time when he gets here, he may have some additional questions for her, and we would need to bring her back. So I just want that to be on the record. But the most important thing is he expressly says we may move forward.

THE COURT: Thank you.

I'm delighted at the full house we have here today. I imagine many of you have experienced weather problems wherever you originated your travel, and I'm just glad that so many of you are in place.

I have one preliminary matter. Normally I break for lunch at noon. Today I'm breaking for lunch at 12:45. So for those of you who have planned a different lunch hour, I apologize, but that will work better for our schedule today.

Is there anything else preliminary to the witness resuming testimony?

I see nothing. I would like the witness again to state and spell your name.

THE WITNESS: Good morning.

My name is Sally Keefe, S-A-L-L-Y, K-E-E-F-E.



2.

2.1

1	THE COURT: Thank you. You remain sworn.
2	SALLY KEEFE,
3	Having been previously sworn, was examined
4	and testified as follows:
5	THE COURT: Ms. Vulin, if you will identify
6	yourself.
7	MS. VULIN: Ashley Vulin for the Milk Innovation
8	Group.
9	THE COURT: Thank you you may proceed.
10	MS. VULIN: Thank you, Your Honor.
11	Just before we make Ms. Keefe available for
12	cross-examination, we had some housekeeping matters, some
13	corrections to her exhibits, and we would like to address
14	those now just so that everyone has the complete and
15	accurate exhibits before cross-examination resumes. So if
16	we could just take a quick break to pass those out right
17	now.
18	THE COURT: Yes. Let's go off record at 8:15.
19	(An off-the-record discussion took place.)
20	THE COURT: Let's go back on record.
21	We're back on the record at 8:17.
22	Ms. Vulin.
23	MS. VULIN: Thank you, Your Honor.
24	So we distributed three documents. I'd like to
25	start with the first document, which is a new document,
26	but it was discussed on the record at the end of your
27	testimony, Ms. Keefe, and and we had promised to
28	provide it in written form in order to aid everyone's



1	understanding of those numbers. So that would be MIG
2	Exhibit 64D, as in dog. It is a single-page with two
3	charts on it.
4	Your Honor, I believe it should be given
5	Exhibit 446, and we would ask that it be thus marked.
6	THE COURT: Yes. I have marked Exhibit 446, which
7	is also Exhibit MIG-64D, like David.
8	(Thereafter, Exhibit Number 446 was marked
9	for identification.)
10	DIRECT EXAMINATION (Cont'd)
11	BY MS. VULIN:
12	Q. And as I said, we had discussed that these
13	numbers on the record last time.
14	But, Ms. Keefe, can you just tell us what we are
15	looking at here in Exhibit 64D?
16	A. Absolutely. So the easiest way to understand
17	Exhibit 64D is to pull out Map 7 and look at the legend.
18	And you will see on the legend of Map 7 there's a gray box
19	for negative \$1 to negative \$0.75 for that bucket, and
20	there are three counties in that bucket. And so
21	continuing on through all of the colors and counties, we
22	get to a total of 3,108 counties and
23	Q. If I may, you say "Map 7."
24	That's in MIG-64A, which is also Exhibit 441,
25	correct?
26	A. Yes, that's correct.
27	Q. Thank you.
28	And you are referring to the chart on the left



- A. That's right. So the table on the left has the -- is the same colors, and it shows you the number of counties that are each color in the map.
 - O. Thank you.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

And what does the table on the right show us?

- A. So the table on the right shows us the number of counties that are within plus or minus \$0.25, 1,818, and then it shows those that are below that on the negative side or above it on the positive side.
 - Q. Thank you.

And just kind of a unique feature between these two, given the \$0.25 ranges, there's a slightly different range for the table on the right than we see for the colors and the counties broken down on the left.

Do you see that there? Which goes from \$0.49 to \$0.25.

- A. That's correct.
- O. And why is that?
- A. So the buckets or bins on the table on the left match the buckets or bins for the map, and those bins and buckets are exactly 25 data points. And so to do plus or minus \$0.25, zero is one of your points, and so that bin would be 51 points or values. And so we have the little table on the right to help make that more clear.
- Q. In order to capture the \$0.25 or the quarter negative and positive?
 - A. Exactly.



1 Q. Thank you.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

So then if we could please turn back to that Exhibit 64A, which is Exhibit 441, and turn to page 15. We have also circulated MIG Exhibit 64A corrected.

That is the same box-and-whisker chart?

- A. That's correct. So MIG Exhibit 64A is a replacement to page 15 of Exhibit 441. And these were simply cosmetic corrections to make the colors and bars and markers for the average appear -- well, hopefully appear easier to read, so the colors would be consistent. And there had been on the original one bar that was green that should have been orange for Order 131, and that has also been corrected.
- MS. VULIN: So, Your Honor, if it's all right with you, I would propose just replacing that page 15.

 BY MS. VULIN:
 - Q. Is all of the substantive data the same in the corrected version versus the version that was originally introduced?
 - A. Yes. There were no -- this is strictly cosmetic formatting to make it print better and show up better on the screen.
 - THE COURT: So I just want to do whatever is easier for everyone to follow. Will it be easier for you if I give it a new number?
 - MS. VULIN: To avoid having multiple versions, I would propose we all just rip out page 15 and stick this one there to replace it so that we have just got one



1 complete packet. Since it's -- like we said, it's -- like 2. Ms. Keefe said, it's really just cosmetic changes to help with the printing and the visual digestion of the 3 4 information as opposed to anything substantive. MS. TAYLOR: We would replace it on the website. 5 6 It might have already been replaced. 7 MS. VULIN: I believe it's been submitted, but I'm 8 not sure it's been replaced. 9 It will be today. MS. TAYLOR: 10 MS. VULIN: Okay. Great. 11

If there are no objections from anyone else, that would be how we propose handling it.

THE COURT: All right. Ms. Vulin, I see no objections, and the Agricultural Marketing Service has indicated that they will be able to deal with the online version as well as the paper copies. So your proposal that MIG Exhibit-64A corrected replace page 15 of Exhibit 441 is acceptable.

MS. VULIN: Thank you, Your Honor.

BY MS. VULIN:

O. And then one more corrected exhibit.

If we could please go to MIG Exhibit 64C, which is also Exhibit 443.

Ms. Keefe, remind us what this exhibit is, and can you identify for us what corrections were made.

A. Absolutely. So Exhibit 64C is a list of fluid plants, and it shows -- it's the comparison of the Class I differentials from the model, Proposal 19, and has some



12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

calculations that show the difference between Proposal 19 and the current, Proposal 19 and the model average, things of that nature.

And so if you look on the left of corrected 64C where it says "row," in -- the first correction happened on page 2. And in Row 332, I fixed a typo. Saputo had appeared twice and should only be there once.

And then I corrected the county code on Row 419 and 2897. The operators of those plants let me know that the county was listed incorrectly in the original 64C.

And then in Rows 1300 and 2717 I marked plant closures.

- Q. That was also information you received after you had submitted the exhibit?
 - A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

MS. VULIN: So, Your Honor, likewise, we would recommend that given that Exhibit 64C was intended to be an accurate and complete list of the fluid plants by county, that we merely replace Exhibit 443 as originally submitted with Exhibit 64C corrected.

THE COURT: Will that procedure work for the Agricultural Marketing Service?

MS. TAYLOR: Yeah. The whole document? Yeah.

MS. VULIN: Correct. The entire document would replace the original version.

THE COURT: And is there any objection from anyone as to that procedure?

There is none. This document that you have given



1	me today, I'm going to write on it Exhibit 443. It is
2	also shown as Exhibit MIG-64C-corrected. And it this
3	document that I'm looking at today will replace the
4	previously submitted Exhibit 43 excuse me
5	Exhibit 443, both the paper copy and the online.
6	MS. VULIN: Thank you, Your Honor.
7	BY MS. VULIN:
8	Q. Just our last housekeeping item. Exhibit 440,
9	which is MIG-64 in your written testimony, I understand
10	you had two typo corrections to that document, correct,
11	Ms. Keefe?
12	A. Yes, that's correct.
13	Q. So if we could go to page 4, please.
14	A. So
15	Q. The second to last line.
16	A. Uh-huh.
17	Q. What should be corrected there?
18	A. So on page 4, the second to bottom line where it
19	says "USDA," that should say "the USDSS."
20	Q. So the sentence would read, "The USDSS has been
21	used in the past to develop Class I differentials"?
22	A. Yes, that's correct.
23	MS. VULIN: Your Honor, we'd ask that the record
24	copy reflect that change, please.
25	THE COURT: Would you repeat it, please, Witness?
26	THE WITNESS: Absolutely. So on the second from
27	the bottom line of page 4 where it says where the



sentence begins "USDA," that sentence should begin, "the

1	USDSS." And the complete sentence should read, "The USDSS
2	has been used in the past to develop Class I
3	differentials."
4	THE COURT: Let's go off record just a moment. We
5	want to make sure we get that change captured.
6	Go off record at 8:30.
7	(An off-the-record discussion took place.)
8	THE COURT: Back on the record at 8:31.
9	That change has been made on the record copy and
10	of course will also be made online.
11	Ms. Vulin.
12	BY MS. VULIN:
13	Q. And the final correction, Ms. Keefe, as I
14	understand, is on page 7, still in Exhibit 440, in the
15	second paragraph.
16	Can you please walk us through that.
17	A. Absolutely. So the second paragraph on page 7,
18	the last sentence, "non-FMMO" should be deleted, and then
19	the word "counties" should be replaced with the word
20	"cities." And so the corrected sentence should read, "nor
21	is it clear why two Arizona cities were included, but not
22	one city in the Northeast or the Pacific Northwest."
23	MS. TAYLOR: Where is that at?
24	MS. VULIN: Page 7
25	MS. TAYLOR: Yes.
26	MS. VULIN: the second full paragraph that
27	starts "NMPF's use of anchor cities," the very last



sentence which starts "with nor is it clear."

BY MS. VULIN:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

26

27

28

- Q. Can you read us one more time how it should read, please?
- A. Yes. So in that last sentence of the second paragraph, delete "non-FMMO" and replace "counties" with "cities." And so it should read, "nor is it clear why two Arizona cities were included, but not one city in the Northeast or the Pacific Northwest."

THE COURT: That correction has been made and will be made online as well. Thank you.

MS. VULIN: Thank you, Your Honor, for the -- for those housekeeping matters, and now we make Ms. Keefe available for cross-examination.

CROSS-EXAMINATION

BY MS. HANCOCK:

- Q. Good morning. Nicole Hancock for National Milk.
- A. Good morning.
- Q. I want to start with Exhibit 441. And I know you said some of this by way of background, but I just kind of want to contextually get us back there.
- I think as I understood it from my notes, you had worked with a consultant that helped you to do the mapping that we see in Exhibit 441.
- A. Yes. I worked with an analyst to help me with the mapping.
 - Q. Okay. And so -- and is it fair to characterize Exhibit 441 and its mapping as just mapping National Milk's Proposal 19 into the various ways that you have



- A. Yes. So the -- you know, listed at -- so, like, the first map is actually not in NMPF's Proposal 19. The map number 1 is the current Class I differentials, and then map number 2 is NMPF Proposal 19, and then there's a map with the model minimum, estimates, the spring, the average, the fall. And so -- and there's a list on page 1 of MIG Exhibit-64A of all ten of the maps.
- Q. Okay. And so these are all just an objective mapping. There's been no additional analysis that was performed in order to map the items in Exhibit 441?
- A. Correct. The -- the analysis was not done using the mapping software. The mapping -- the analyst just used the mapping software to generate the maps from the spreadsheet.
- Q. Okay. And then you took the analyst's work and compiled it in a way that is now being presented in Exhibit 441?
 - A. Yes.
- Q. Okay. And then your testimony in Exhibit 440 just extrapolates conclusions based on the mapping results; is that fair?
- A. Based on the mapping as well as the other analyses that, you know, I did. There's some other stuff that's described besides just the maps themselves.
- Q. And you didn't do any kind of local analysis into any of the individual counties, did you?
 - A. No, I did not.



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

Q.	And okay. I just have a few questions on
Exhibit	440, if we can turn to page 3. This is under
Section	2 where you are describing your position that the
USDA sho	ould reject National Milk's Proposal 19.

And under Subsection A you state that National Milk failed to provide specific or compelling justification for the \$1.60 base or the 2.20 base for its proposed Class I differentials.

Do you see where I'm at?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

Q. And -- I just want to make sure your mic is okay.

And in that section, is it fair to say that you, in making that conclusion or offering that opinion, that there's no justification for the \$1.60 or 2.20 base differential, that it's your position that the base differential should be at zero?

- A. My position, which we'll be discussing later on with MIG's 20, which is my next appearance, is indeed that the base differential should be zero. And I get into much more detail there than I have provided here.
- Q. And does that relate to this Section A, that your opinion that the base differential should be zero, it ties back to this section where you believe that there's not sufficient justification to support the \$1.60 or 2.20 base differential?
- A. They are both about the base differential. But the analysis and justification on why the base differential should be zero is not the same thing as what



I'm addressing here in this testimony, in Section 2, Part A.

- Q. If the -- if the recommended decision that is ultimately approved allows -- returns us back to the higher-of calculation that we have talked about earlier in the hearing, if that were the case, would it be true, then, that if there was no base differential, that Class I would be priced the same as manufacturing classes, assuming that the manufacturing class is the higher of the two?
- A. No. It would -- that would only be the case in a county today. And, again, this is -- you are asking me a question about MIG's Proposal 20. If the base differential were zero instead of \$1.60, today it's \$1.60, but that base differential is the actual Class I differential in only some of the counties. There are many counties where the base differential is more than \$1.60.

And so in all of those counties, there -- the -- the -- if -- were MIG's Proposal 20 adopted, it would -- the -- the Class I price would not equal either the higher-of, the average-of, whatever the base Class I skim price winds up being.

O. Okay. So fair clarification.

But in the counties in which there is no additional amounts above the base differential, in those counties, it would be the same between Class I and the manufacturing class, assuming the manufacturing class would be higher?



2.

2.0

2.1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

Q. And on page 7 of Exhibit 440, this is under the section -- under Section C, and you are talking about the proposed increases there.

I'm wondering, did you -- did you ever average or calculate the proposed increase differentials that National Milk was proposing?

- A. Where on the page are you referring? I'm sorry, it's been a bit of time.
- Q. That's okay. And it has been for my notes as well.

But I'm just under Section C. Under the second paragraph there you are talking about the proposed increases, and you talk about the increases in the western cities range from \$0.60 to \$0.80 from the model average, which is a 25 to 38% increase over the model results.

And my question -- and then you talk about some other decreases after that.

I'm wondering if you ever performed a total sum calculation of the proposed average increases to the differentials that are proposed by National Milk?

- A. Yes. You can see that in MIG Exhibit 64A, in Table 1 and Table 2, both provide summary statistics regarding my work.
- Q. Okay. So if we look at Table 1 on page 12 of Exhibit 441, this has a comparison of Proposal 19 to the current and the model averages.

Is that what I'm -- I'm just reading the title,



1 | but is that what's reflected here?

THE COURT: Let's pause just a minute,

Ms. Hancock, so that people can find this. So we're going into Exhibit 441, page 12.

And what are you calling our attention to?

MS. HANCOCK: Well, first I'm just trying to clarify if this is -- you know, the Table 1 is just her work reflecting the comparison between Proposal 19 and the current, and then Proposal 19 and the model average percentage of change.

THE WITNESS: Yes.

BY MS. HANCOCK:

2.0

2.1

- Q. And so if I'm reading it correctly, if I look at the "all" category under Proposal 19 versus current, you're saying that that's a 58% increase or change from the total sum of the Proposal 19 proposals and the current differentials?
- A. Yes. That's looking at -- so the -- the average today for all 3,108 counties is \$2.57, and then the average for all of the counties with Proposal 19 was \$4.07. And so, like, that "all" row at the bottom of the table is all of the counties, and it's just a simple average. It's not -- it's -- it's in no way weighted by utilization or anything like that. It's just a simple average. And you can very much tell that this table is looking at the averages because, like, \$2.57 isn't the Class I differential actually anywhere, because there's no Class I differential that ends in \$0.07.



Did you take each order, the counties within each order, average those first?

- A. Yes. So the -- the summary table, Row Number 1 is the average for the 171 counties of the Northeast, 5 would use the data for the 338 Appalachian counties, and so on. And then the final is all counties in the continental 48 states.
- Q. And so if -- the takeaway here, at least with the -- with respect to the 58%, is that it's a -- National Milk's proposal is a 58% increase over the current differentials just using that simple average?
 - A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. Okay. And then the Proposal 19 versus the model average, can you tell me the significance of why you were tracking that?
- A. So I was tracking that because throughout NMPF's testimony, when NMPF referred -- when witnesses -- and in the testimony frequently their comparison point for the model was looking at the model average, and so I looked at the Proposal 19 versus the model average.
- Q. Okay. Just to see how much of a deviation National Milk was proposing as compared to the model average results?
 - A. Uh-huh.
- Q. Is that a "yes"?



	WATIOWAL TELEVISION OF THE PROCESS OF THE TRANSPORT OF THE PROCESS
1	A. Yes, that's a yes. And apologies, I realize that
2	there's a typo at the top of the table.
3	So if you look at "Proposal 19 v Current," and
4	then it says "Current," and then there's "Proposal 19 v
5	Model Average," and it says "Current" again, that should
6	say "Model Average."
7	Q. Okay.
8	THE COURT: Should we make that change now?
9	THE WITNESS: Yes, please.
10	THE COURT: All right. And so I'm going to ask
11	the witness to lead us to what exhibit and what page.
12	THE WITNESS: So this is Exhibit 441, page 12, and
13	so in the section with the heading "Proposal 19 v Model
14	Average, where it says, "Current," that should say "Model
15	Average."
16	THE COURT: And I'm just going to ask you, it's
17	about to be made on the record copy, so say it again one
18	more time, where to find it and what to do.
19	THE WITNESS: So Exhibit 441, page 12, where it
20	states "Current" underneath "Proposal 19 v Model Average,"
21	that should say "Current" should be replaced with
22	"Model Average."
23	THE COURT: The change has been made. Thank you.
24	BY MS. HANCOCK:
25	Q. So if if I could summarize what you have in
26	this last box here on the Proposal 19 versus the model



28

average, you did another simple average of -- of each one

of the counties within each order, and then summarized all

- A. In total, as I noted in my testimony, there was -it varies a great deal across the 11 Federal Orders, so
 the amount of the variance. So in total 3%, but it's not
 the same in each of the 11.
 - Q. Right. I understand it's not the same.

Because you have that reflected here in each one of the Federal Orders that you have noted, right?

A. Absolutely.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

- Q. So is my question then -- is the answer to my question, yes, that in total --
 - A. Yes, in total.
 - Q. -- when you take your -- let me just make sure that the record is clear.

But in total, when you take your simple average of National Milk's Proposal 19 as compared with the model results, National Milk's proposal is within a 3% deviation from the average model results?

- A. Yes, in total.
- Q. If we look at page 10 of Exhibit 440, you have -- and this is under Section D that starts on page 8 -- but you have a chart at the top of page 10 there, and these are examples of -- that you have selected of where there are plant locations and some of the effects of National Milk's Proposal 19; is that right?



Q. And you stated it, in the prior page, on the end of page 9, "It cannot be ignored that there is one or more plants in each of these counties."

What was the point you were making there?

- A. The point I was just making there was that I thought it was interesting that, I mean, 3,108 places is a lot of places. And the only four that had an update or a correction, each had a milk plant in them. That's all.
 - Q. Do you know why those corrections were made?
- A. NMPF's witnesses testified about those, and I wouldn't want to speculate as to what they were doing or anything like that. I just found it interesting.
- Q. Okay. Do you know -- so you have one of them is in Travis, Texas -- Travis County, Texas, which is Austin, right?
- A. Yes. And that plant has been closed, so it -- that plant is no longer bottling milk.
 - Q. Do you think that makes it less interesting then?
- A. Not necessarily because -- honestly, as the proposal was being developed, that plant was still operating, so it's a relatively recent closure.
 - Q. It was closed in May of 2023?
 - A. That's my understanding.
 - Q. And so that was well before the correction was



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

even made; is that right?

1

4

5

6

7

8

9

10

18

19

2.0

2.1

22

23

24

25

26

27

28

- A. It -- actually before the correction was made and, frankly, before the proposal was finalized.
 - Q. What do you know about the plant in Comanche, Texas?
 - A. I know that that plant is a relatively small plant, and I honestly don't know a lot about that one.
 - Q. Do you know if they use their own milk?
 - A. I don't know.
 - Q. Are they a producer handler?
- 11 | A. I don't know.
- 12 Q. Do you know if they do glass bottling?
- 13 A. I don't know.
- Q. Do you know if it has any material effect on the Class I market in any way?
- 16 A. I would not know. All I know is that there is a 17 plant there.
 - Q. Okay. So what about that would be interesting to note then?
 - A. It's -- it's just -- like what I was talking about before. With all the counties in the country, you know, it's not surprising that there were corrections and adjustments, and I would have thought -- there's part of me that thinks that perhaps there would have been more.

One thing that I do think is very interesting about the corrections is whether or not the corrections suggest that, frankly, that further adjustment is needed in areas surrounding those. But that's not something that



- 1 | I have looked at.
- Q. Okay. So you just noted it, it doesn't really have any substantive effect?
 - A. The substantive effect of four counties out of 3,108, no, there's -- it's not much.
 - Q. Okay.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

- A. It's just interesting.
- Q. Okay. I want to turn to page 16.
- A. Page 16 of Exhibit 440?
- Q. Yes. And this is under Section D where you were talking about the Southeast orders should be adjusted for the impacts of the USDA's recent final rule.

And you have a chart on page 16 where you are talking about the current versus pending transportation and distributing plants delivery credits.

- A. Yes.
- Q. Have you done any kind of analysis to -- to determine how much and to what extent that -- that rule will -- when it goes into effect -- will adjust or offset from the proposed Class I differentials that National Milk has proposed?
- A. The -- the pending rule -- the pending rule creates changes that effectively increase the Class I differential, that now we have to be careful because if they don't actually increase the Class I differential, the pending rule is about transportation credits and distributing plant delivery credits.

For a Class I handler, those act very much like an



Q. And so my question was, have you done any kind of -- you have done an analysis here about what you understand the increase to be with that new transportation and distributing plant delivery credits.

My question was, do you -- did you perform any kind of an analysis to determine to what extent those credits are adjusted or would offset from the Class I differential increase?

- A. So the amount of the increase I have noted in the table, and I have not done further analysis beyond what you see here in Exhibit 440.
- Q. And you're not suggesting, then, that this would be something that would just be automatically added on top of the Class I differential, are you?
- A. What I'm -- what I'm suggesting here and reminding everybody about is that the transportation credits and distributing plant delivery credits exist, they are going up, and they are going up in a substantial fashion in these three markets. And they have -- from the vantage point of a Class I handler, they have a very similar effect to a Class I differential.
- Q. And you would agree, though, that if there was some kind of an adjustment or an offsetting, that that



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

would need to be factored in to determine the net effect?

- A. I think that one of the things that I write here is that, like, further analysis, study, and all the rest of that is needed. I mean, it's -- it's -- I actually think that these changes in the Southeast are going to be significant, but it's very hard to know how significant they will be and what their impact will be right now.
- Q. Yeah. So as I read it, you say that the USDA should just reject that proposal to raise differentials in the region until it's understood. I didn't -- I didn't read in here that you were saying that we should do an analysis to determine the net effect.
- A. I stand corrected. My sentence does state that USDA should reject the proposal until the impacts are understood.
- Q. Do you think it would be more prudent, then, to just conduct the analysis now that we have the Southeast transportation credits proposed rule?
 - A. I suppose we could do more analysis. Yes.

 MS. HANCOCK: That's all I have. Thank you.

CROSS-EXAMINATION

BY MR. MILTNER:

- O. Good morning, Mrs. Keefe.
- A. Good morning, Mr. Miltner.
- Q. Ryan Miltner, I represent Select Milk Producers.

 I only have a few questions. Maybe I can even summarize it in one question.

Does MIG have a position about whether the changes



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

A. MIG's position is that the Class I differential should not be increased.

With respect to the modelling, MIG's position is that the minimum values should be followed if one were to follow the modeling. But fundamentally, MIG does not believe that the Class I differentials should be increased.

- Q. So MIG's position is that the base differential should go from \$1.60 to zero, correct?
 - A. That's correct.
- Q. Further to that point, should -- does MIG advocate for any further adjustments to the Class I differentials?
- A. MIG has not been advocating for any further adjustment to the Class I differentials. I did recognize in my testimony here regarding Proposal 19, and my testimony to follow, that it's been a long time since the Class I differentials were updated. And I do feel -- MIG feels, fundamentally, that the USDSS modeling is the best tool that the industry has to understand the geographic relationship of prices, so like the location part of it, like the relative value from one county to the next. And there, if a change were to be made on that geographic aspect of the pricing, MIG believes that one would be best served by following the model minimum estimates. But that's not MIG's proposal, nor is that NMPF's proposal.
 - Q. Are you suggesting that USDA is bound to merely



2.

2.0

2.1

accept or reject proposals that are before it and not make any further adjustments?

- A. In the past, USDA has done things that are not exactly like one of the proposals that is before it, and so that's why I have made a point of calling out the model minimum with respect to the geographic aspect of the pricing.
- MR. MILTNER: I think the rest of my questions will have to do with the next proposal. So thank you very much.
- 11 | THE WITNESS: You're welcome.
- 12 THE COURT: Is there other cross-examination
 13 before I call on the Agricultural Marketing Service for
 14 its questions?
- I see no one. I invite the Agricultural Marketing
 Service to question the witness.
- 17 CROSS-EXAMINATION
- 18 BY MS. TAYLOR:

1

2.

3

4

5

6

7

8

9

10

19

2.4

- Q. Good morning.
- 20 A. Good morning.
- Q. I want to do a little summary mostly to remind
 myself about what you talked about, you know, before the
 holidays.
 - A. Absolutely. Thank you.
- Q. Based on my notes. But I, like everybody else, have to remember why I wrote what I wrote a long time ago.
- I think, if I summarize what I heard back in
 December, you all oppose updating -- or oppose



Proposal 19, so updating the differentials: One, because there's an ample supply of milk already to meet consumer needs?

A. Yes, that's correct.

2.

2.0

2.1

- Q. And like you just stated, we should be looking at minimums, not averages, in the model, if changed?
- A. With respect to the modeling, looking at minimums, not averages. But one of the things that I noted in my written testimony, as well as my presentation in December, is that in some FMMOs, NMPF followed the modeling more closely than they did in other places. And so that -- the modeling doesn't necessarily feel to me like it's central or core to their proposal.
 - Q. And that brings me to a question.

We have heard a lot of testimony from NMPF witnesses about what went into deciding -- or what went into ultimately the differentials that they proposed and why some of those varied from the model, as you just spoke. And generally, you know, they said the model looks at efficient movements of milk based in the model's kind of world.

But in reality, there's other things that happened. And they went into some detail about what the -- what those things were that made them decide to offer something slightly different than what the model offered.

And so I wonder if you can just respond to that.

I mean, are you of the opinion that there might be factors



that would support deviating from the model results, or is it MIG's position that those factors don't exist, or if they do exist, they shouldn't be considered and you should still stick with whatever the model spits out?

A. So it's a model, and we're people. And so I don't think that you just run with it willy-nilly without examining it.

But that said, I think that you have to consider whether the deviation that you are talking about, the deviation that you are considering, how it's treated in the model in the first place. So, like, why -- so that -- so, for example, is it -- is it transportation costs? And so if it's transportation costs, the model has a lot of information in it today about transportation costs. So what is it that the model's not capturing correctly?

And so in that case, like, if it's something that is fundamental to the system as a whole with respect to transportation costs, perhaps the modeling itself should be updated in like the formula or variable, the constraint. Like, whichever way it goes into the optimization model should be changed.

Alternatively, it could be something that the model just can't really deal with. And so an example of that would be like a traffic situation. And, you know, I think you will -- like, we heard from witnesses from -- speaking regarding California about the Grapevine and getting from the Valley into L.A. and what a traffic nightmare that is. And as I understand it, that's an



2.

2.1

example of something where the model is just simply not going to be able to understand that traffic constraint. Like, the model looks at that road and says they are not that far apart, and you get a -- you get in your milk truck, and you drive 60 miles an hour, and voila, you're there. That's just not how it happens.

And so I think that there are things like that that you -- that considering a deviation from the model makes sense.

But, you know, if it's something that's global, like fuel and tires and those sorts of things, those are there. And so I don't feel the same way about every aspect of those sorts of deviations.

Q. So traffic would be one of them.

Is there any other ones that you would say is possible?

A. Traffic is the most obvious and easy one.

The other thing that the model, in my view, doesn't capture very well today, is specialty products and specialty milk supplies. The example I would give there is organic. So organic has been growing for the industry, but the network is very different for organic than it is for the industry as a whole. And the model looks at it optimally and looks at all of it, like, organic, conventional, everything all together, all at once. And I do wonder about teasing apart some of those differences with respect to more unique markets.

Q. Okay. A couple other questions.



2.

2.1

In your written statement on page 9 you outline the differences between the National Milk Class I recommendations, and you describe them as fungible.

Can you elaborate on why you feel the differences between the iterations we're talking about -- you know, in previous exhibits there's a -- I don't know what the months are, May and a June maybe, I'm not -- I don't remember, but they don't seem systematic or principled, and I was wondering if you could elaborate on that.

A. So I spent a lot of time reviewing the Class I differentials spreadsheet that USDA posted with NMPF's original proposals, which is the May spreadsheet, and then the updated, which is the June spreadsheet after the information session. And I really wanted to understand the proposal sort of from a bottom-up perspective, like, looking at counties, and orders, and big patterns, and like a big picture. And I really struggled to find a pattern. I mean, it looked like, oh, it went this way, it went that way. Like, I mean, there were places that, you know, flip-flopped back and forth.

And it was just like, wow, like, from an outsider's perspective it didn't feel like there -- to me, like there was much rhyme or reason, necessarily. I'm not saying that there was zero rhyme or reason. People thought long and hard, I'm confident, about what they did. I mean, we heard a lot of testimony about how hard the team at NMPF worked on the proposal. So it's just, you know, coming into it later in the process, it was very



2.

2.1

hard to follow.

2.

2.0

2.1

Q. Okay. And a few pages later you talk about the differentials. And we have heard testimony in many cases what was actually recommended, and the goal was to not upset -- or to preserve current pricing relationships.

And you say that that "would only reinforce current market participant dynamics, and all but exclude new entrants."

So I was wondering if you could talk about the effects on these pricing relationships to new entrants.

- A. So our pricing system here with the FMMOs is very complex. And if you were a new entrant, there is, first and foremost, like, a huge knowledge barrier to entry. Then, because we have these price relationships that are so complex and so steeped in history, they tend to reinforce the status quo, and they can make it very difficult for somebody to do something that is new and different and isn't following in the same pattern as the past. And so that's really where I was trying to go there with those comments.
- Q. So it sounds like that's just a general comment on Federal Order pricing.

Is that necessarily applicable to whether differentials change?

A. So with respect to the differentials, I actually do feel like they do a lot to entrench the relationships between particular regions. And they -- and they -- and they very much will -- like, this idea that -- that --



- Q. So the opposite of that would be the government changes a set of regulations that would somehow in this -- let's say in this case, right, negatively impact some price relationships of established businesses. And I guess what's your response to that other side of the coin.
- A. So I'm not saying that we should -- USDA's position is a difficult one. You are being asked to do both things. You are being asked to give space for a new entrant, and you are also being asked to make sure that the market is orderly for existing entrants. And so it's not an easy task.

One thing that I would say as far as the whole thing with the Class I differentials, I actually think that in the Southeast where there have been changes with the transportation credits, the distributing plant delivery credits, it's the only area where the Class I differentials were updated.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

2.4

25

26

27

- Q. Okay. It seems like the argument we shouldn't update Class I differentials, which is MIG's position, is contradictory to the fact -- to the separate statement you just made, it's been too long since we updated them?
- A. So MIG did propose updating the Class I differential, updating the base Class I differential, and I will be talking about that next.

MIG did not propose a geographic part of it. And first and foremost, for MIG, MIG and our members, we looked at the marketplace and we said, is there enough milk? Is there sufficient supply? And our answer to that question was yes.

Then, fundamentally, with updating the geographic element of the Class I differentials, we, quite frankly, had a logistics problem. There was no way that we could have developed a geographic -- the county-by-county relative prices from -- in last spring and summer. It just was not feasible. So that's the other part of the tension, I think, that you sense in my comments.

Q. Okay. Let's see. So you did mention that you think because it's been so long, that if the differentials were updated, there could be some kind of delayed



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

implementation or phased-in implementation.

So I just wondered if you could elaborate on that piece a little bit.

A. I think a phased-in implementation similar to what IDFA and the Cheese Makers have proposed on Make Allowances could make sense if we're talking about large changes. Without knowing the scope of a proposed change, it's sort of hard to speculate on, you know. But that idea where it was phased in over the course of several years and the -- and, frankly, that the phase-in was known to all the market participants in advance, like, this is how we're going to do it, we're going to step through it, it's going to -- we're going to do step one, step two, step three, step four type of a thing.

I would say, to me, this is more of a phase-in thing as opposed to a delayed implementation. Like, when we were talking about with risk management stuff, like, making sure that there was enough, like, of an actual delay so that people's positions for their risk management positions could clear and all of that sort of stuff, that that's not what I'm talking about here, like, a straight-up delay. What I was saying was phase it in over time.

- Q. Okay. So it's not related to risk management?
- A. No. And I was just contrasting the idea of phasing in over time versus, like, a one-year delay because of people's open positions with their hedges type of a thing.



2.1

- 1 Q. Uh-huh. Okay. 2. So is the -- I guess what I'm trying to get on the record is the why behind the phase-in? 3 So the why --4 For your members, or fluid processors in general, 5 Ο. 6 or whatever other piece of the industry is impacted, 7 why -- why is that? So why a phase-in is, honestly, when you look at 8 9 some regions of the country and you look at the USDSS 10 modeling, as well as NMPF's Proposal 19, you see extremely large changes relative to the current Class I 11 12 differentials. And so for places where the increases are 13 so substantial, having time to adjust by phasing in a 14 change over time helps businesses adapt and make plans and 15 learn to live with the new reality. 16 You know, one of the things I say at home a lot is 17 you got to eat the elephant one bite at a time, and 18 that's --I have never heard that statement before last 19 week, and now you are like the fifth person to say that to 2.0 That's hilarious. 2.1 me in a week. 22 Α. My family is cringing right now that I said it 23 here. 24 Ο. Okay. I just wanted to make sure everything's
 - To clarify one point on the record. You -- on page 16 of your testimony, you talked about it with Ms. Hancock for a second on the Southeast transportation



clear.

25

26

27

credits and the new distributing plant delivery credits?

A. Yep.

2.

2.1

Q. I say "new." They are not implemented in the decision that -- you know, the producers are still voting on that and going through that process. So should they be implemented.

What you have in here for the category "pending," are you -- can you elaborate for the record -- and I guess I should ask the question.

Do you know how those are implemented in the Southeast? Are they maximum levels or are they the level?

A. So the -- the -- so with the table on page 16, current refers to the current level today. The pending column refers to the maximum level. And my understanding from reading the proposed rule is that the expectation is, at least at the beginning, that we're going to be at the maximum down there, which is why I put the pending in this way.

Today in the Appalachian, the current is actually below the maximum, and so it could change in the future, and it may not always be at the level that is there in the pending column.

- Q. And when you talk about with the differentials, should somehow take that into consideration, you would talk about the actual effective transportation credit or the maximum amount, assuming those are different eventually?
 - A. I think the actual amount is where you want to be.



And my understanding is, from the proposed rule and the final rule, as well as at the hearing, that the expectation is that these are being set -- that it's being structured so that they will be at the maximum, like -- and that with the change -- with the other changes that aren't summarized in the table here, and that are detailed in those documents, that there are a lot of nuance changes there that are -- that -- that the expectation is that the pending and the maximum will become the actual --

Q. Okay.

1

2.

3

4

5

6

7

8

9

10

11

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- A. -- but it might not.
- 12 Q. Only time will tell.
 - A. Time will tell.
 - Q. I wanted to turn to -- I think I just have one last question.

So let's turn to the corrected Exhibit 64A that you entered this morning, just so that we're looking at the right one. And this -- okay.

- A. So page 15?
- Q. Yes, it will be the new page 15.

In this box-and-whisker chart, I have a question from last time because the chart kind of shows the quartiles.

So what are -- what makes it an outlier for the little dots that you do have a couple outliers?

A. Yeah. So when Excel generates a box-and-whisker plot, the standard settings are that if it's more than one and a half times outside the inter-quartile range, then



1 it's an outlier. 2. Ο. Okav. Thank you. MS. TAYLOR: I think that's it from USDA. Thank 3 4 you very much. 5 THE COURT: I'd like to take a 15-minute break. Please be back and ready to go at 9:45. 6 7 We go off record. (Whereupon, a break was taken.) 8 THE COURT: We're back on the record at 9:45. 9 10 Ms. Vulin. 11 MS. VULIN: Thank you, Your Honor. 12 REDIRECT EXAMINATION 13 BY MS. VULIN: 14 Ms. Keefe, we'll start with Exhibit 440, which is 15 your testimony. And Ms. Hancock had asked you some 16 questions about your testimony on page 3 discussing the 17 NMPF proposals base Class I differential. 18 Do you recall that discussion? 19 Α. Yes. 2.0 O. And --2.1 I don't understand why when you're THE COURT: 22 testifying it's so loud and clear and when you say "yes" 23 it's so faint. 2.4 THE WITNESS: The microphone was off. 25 THE COURT: Oh, all right. Would you begin again 26 your examination? 27 BY MS. VULTN: 28 So we're on page 3 of Exhibit 440, your written 0.



testimony.

2.

2.0

2.1

- A. Yes, I am.
- Q. And I had asked you if you had recalled a discussion with Ms. Hancock regarding the base Class I differential in NMPF's Proposal 19.
 - A. Yes, I do.
- Q. And she had asked you if it was MIG's position -- or your testimony also -- that the base Class I differential should be zero, and you had answered that will be part of MIG 20.

Are there any other criticisms or testimony you want to offer on NMPF's base Class I differential?

- A. NMPF's -- in my analysis, NMPF's Proposal 19, the base Class I differential, they did not evaluate that systematically. And, for example, they did -- they -- the USDSS modeling that was done for NMPF was done with \$1.60 base Class I differential, but then when you review the proposal, there are a number of places where it appears that the base would be \$2.20. And so there's variability there between \$1.60 and \$2.20. And then as far as why it's \$1.60 or why it's \$2.20, like, I also was criticizing that.
- Q. In other words, if I were to ask you, how do you break down the \$1.60, what are the components of that in NMPF's proposal? Have you identified \$0.20 as allocated to this factor, 40 to this factor, et cetera?
- A. I haven't been able to understand the justifications of those different elements based on the



Q. And if we could turn to Exhibit 441, please, which is your tables, charts, and maps, and turn to page 12, Table 1. This is the table entitled "Comparison of Proposal 19 to Current and Model Average by FMMO." And you had also discussed this table with Ms. Hancock.

Do you recall that?

- A. Yes, I do.
- Q. And if I could point you to the right-hand part of the chart, Proposal 19 versus model average, you had discussed that the average across all of the counties for the percentage change between the model average and Proposal 19 is 3%.

Do you see that?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

- Q. And do you think that it is most important for USDA to consider that nationwide average of 3% or the breakdown between the FMMOs?
- A. I think it's very important to consider the deviations that are happening within and between the FMMOs. And so, for example, in the Mideast it's showing that the proposal on the average is 4% under the model estimates, the average of model estimates, and whereas, California is 31% above. That's very, very different.

And if NMPF had followed the modeling more closely, I would have expected to see that those sorts of changes would be more consistent.

Q. And by "more consistent," you mean, for example,



- A. Yes, that's right. I would. I don't know if I would expect to see everything at 4% or 14% or minus 4%, but I would just expect to see more consistent results.
- Q. And if we could turn to Exhibit 64D, please, the new exhibit introduced today which is marked Exhibit 446.

And similarly, looking at the table on the left, is the distribution of counties between each of these 25% -- excuse me -- \$0.25 buckets of concern to you?

- A. The distribution is concerning. There are a lot of counties that are outside the plus or minus \$0.25 band. You know, there are some that are dramatically below; there are some that are dramatically above. And "some" isn't even necessarily a small number. Like, those sums, when you look at the bottom two gray boxes or the top two red boxes, you know, that's right around 100 counties there. And then if you then when you put in the next group, you know, you are talking about, you know, hundreds of counties. Like, we're not talking about small changes that are happening in four places.
- Q. And if you could look at the table on the right that breaks it out based on either a quarter above or a quarter below deviation from the model, why did you pick a quarter?
- A. I picked a quarter because when I testified on December 8th, the day before Dr. Stephenson had testified



2.

2.1

regarding the USDSS modeling, and he was asked what he considered sort of like a typical range of deviations, and -- and he -- and he mentioned -- he talked about \$0.25. And he also talked about \$0.25 being -- it's an above and below thing, like, it's a plus or minus thing, it's not just -- the deviations can happen in both directions.

- Q. And that anything outside of the \$0.25 would be concerning, would prompt re-examination of the model itself?
- A. Yes. As I recall Dr. Stephenson's testimony, he talked about that once you start getting beyond those types of levels, that you would -- that -- that it would make sense to really consider the modeling itself. Like, what should the parameters of the USDSS be changed, because you're -- you're really going beyond the realm of what seems significant or insignificant.
- Q. And given both the degree of variation from the model and the significant number of counties that vary by a significant degree from the model, this table reflects why you testified that the USDSS is not central to NMPF's Proposal 19 in your opinion?
- A. Yes, in my opinion. And you can see it visually on Map 7, where when you look at just how the variations go across the country, like, you will see -- so, you know, in the East generally, but not exactly, east of the Mississippi tending to be following the model a bit more closely, although there are sprinkles of changes



2.

2.1

- Q. And you were here to observe most, if not all, of NMPF's testimony on Proposal 19, correct?
- A. Most of it. I -- I think I'm proud to say that I'm not going to claim 100% on that.
- Q. In your observation of NMPF's testimony, would traffic account for the level of deviations that you have identified mathematically here?
- A. I don't think traffic would account for it here. I mean, I don't think traffic's going to be a problem to this level in nearly half the countries in the country.
 - O. Half the counties?
 - A. Half the counties in the country.
- Q. You also mentioned specialty milk, for example, organic, as a reason to deviate from the USDSS, correct?
 - A. Yes.
- Q. And in your observation of NMPF's testimony, did any NMPF witness testify that Proposal 19 deviated from the model average to account for supply chains for organic milk or other specialty milk?
 - A. Not that I'm aware of.
- Q. In your observation of NMPF's testimony, and reading the written testimony as well, did you identify a consistent set of principles for NMPF's deviations?



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- A. I was unable to identify a consistent set of principles, consistent methods, consistent rationale. Like, what -- what I saw was, frankly, a lot of inconsistency. And it -- I think that the magnitude of the changes are also inconsistent. I mean, some places change by a little; some places change by a lot. So it's -- there's not, in my view, a consistent theme.
- Q. And because of that, do you believe USDA should reject Proposal 19?
 - A. I do believe Proposal 19 should be rejected.
 - Q. Nothing further.
 - MS. VULIN: Thank you, Ms. Keefe.
- THE COURT: Ms. Keefe, I have a question about traffic.

Do you recall the testimony that the model takes into account routine traffic by questioning drivers as to how much time they take to get to a point A, to point B, and how much time they take getting offloaded of their cargo? I'll call it cargo.

THE WITNESS: So I believe that the model does have some parameters around transportation and traffic like you are describing. But dramatic traffic things, so like when I was talking about the Grapevine in California, it's my understanding that something like that is not considered.

So, like, what you are talking about, the modeling would have that for everywhere, and it's not necessarily going to vary down to, like, the specific problem in



1

2.

3

4

5

6

7

8

9

10

11

12

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

1 Southern California, like going from the Central Valley 2. into the L.A. basin. THE COURT: And I recall also that disasters are 3 4 not included, whether they are hurricanes or avalanches? THE WITNESS: Indeed. I do not believe that the 5 model -- it's -- the model doesn't -- natural disasters, 6 7 so especially significant weather events that cause road closures, are not considered. But I wouldn't think 8 9 that -- that's an example of one that I'm not sure should 10 be considered, because, you know, we regulate minimum prices, and the model is modeling an efficient market 11 12 solution. And thank goodness weather like today is 13 hopefully unusual. 14 THE COURT: Now, we're lucky where we are. There 15 was not three feet of snow, and the snow that fell 16 overnight was champagne powder, which I did not realize 17 exists in Indiana. THE WITNESS: Nor did I. I was very surprised to 18 walk outside and have it sound like I was in Colorado. 19 2.0 THE COURT: I know. But I agree with you, there 2.1 are many parts of the country, whether it's flooding or 22 record snowfalls, have had that added to drops in 23 temperature, making transportation very difficult. 24 All right. Ms. Vulin, do you want to follow up at 25 all on my questions before I invite re-cross? 26 MS. VULIN: No thank you. 27 THE COURT: All right. Thank you.



Re-cross.

RECROSS-EXAMINATION

BY MS. HANCOCK:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

22

23

24

25

26

27

28

Q. Thank you. Nicole Hancock with National Milk. I just have a couple questions.

On Exhibit 446, this is the new exhibit. Do you have that in front of you? You were just talking with Ms. Vulin about the two gray boxes at the bottom where you have about 100 counties, and then the two on the top that have about 100 counties of the range.

Do you remember talking about that with her?

- A. Yes, I do.
- Q. Do you know how many plants are located in those bottom 100 counties that you have categorized there?
 - A. No, I don't.
 - Q. Do you know how many plants are located in that top 100 counties that are noted there?
 - A. Not off the top of my head, no. I -- I -- that's a -- I would need to get back into the data to answer those questions.
- Q. Okay. Did you analyze that in any of the work that you did?
 - A. I -- no. I haven't tried to, like, lay in the number of plants here in each of the boxes like that.
 - Q. And it's -- you understand that based on National Milk's proposal, that it's proposing differentials in all the counties throughout the country, but that there's not a milk plant located in all of those counties?
 - A. Yes, I am aware of that, and that would -- that's



- Q. And those -- and that Exhibit 443 didn't chart it against what we have in 446, which is the magnitude of the differences in the counties in which plants are actually located?
- A. Yeah. I have not done any mapping using Exhibit 443.
- Q. And then you also had -- when you were asked about what would justify deviations from the modeling, you had used the example of organic or specialty milk being a potential reason for deviating from that model results; is that right?
 - A. Yes.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. In which counties would -- would those deviations be supported?
- A. Oh, boy. I mean, there's organic milk in a lot of places, and there's also organic consumers in a lot of places. So if you are going to adjust the modeling, you would have to adjust it in -- on both sides.
- Q. So is it fair to say that when you were talking about using organic or specialty milk as a basis for justifying a deviation, it's not a local consideration, but something that's specific to the end use of that milk?
- A. Absolutely. I was talking more about a deviation that might need to happen on a more -- on a more national or global basis than just at, like, a particular localized situation like the traffic we keep talking about.



1	Q. Okay. And then when you were talking about how
2	National Milk's witnesses were were talking about
3	different unique factors within each local jurisdiction,
4	and that you didn't believe that it was consistent across
5	the country, you understood that those witnesses were
6	talking about actual local considerations?
7	A. Yes. I understand that most the witnesses were
8	were addressing the proposal from the perspective of their
9	local situation.
10	Q. And based on their experience operating within
11	that local market?
12	A. Absolutely.
13	Q. Okay.
14	MS. HANCOCK: No further questions. Thank you.
15	THE COURT: What do we call this, re-redirect?
16	MS. VULIN: No questions, just to move admission
17	of the exhibits, Your Honor.
18	THE COURT: All right. So I know you gave me a
19	new exhibit, 446.
20	Did you have any left over from December 8th?
21	MS. VULIN: Of the?
22	THE COURT: Of exhibits that you had not moved
23	into evidence?
24	MS. VULIN: I don't believe we moved any of them
25	in because we hadn't done cross-examination yet.
26	THE COURT: So we have a number.
27	MS. VULIN: Yes.



THE COURT: So do you know which numbers?

1	MS. VULIN: I do.
2	THE COURT: Okay.
3	MS. VULIN: I move admission of Exhibits 440, 441,
4	442, 443, and 446.
5	THE COURT: Is there any objection to any of these
6	exhibits being admitted into evidence?
7	Mr. Hill.
8	MR. HILL: I don't have an objection, but I do
9	want to look at the MIG Exhibit 64A corrected. I do note
10	that at the bottom, if we're going to add this to the old
11	441, it does say page 1 of 1. I think it is supposed to
12	be replacing page 15 of 15.
13	And I would also like to find out if we can get a
14	full copy of this for the for online services so we can
15	do this more efficiently.
16	MS. VULIN: Yes. We can submit a clean copy of
17	Exhibit 441 as one complete packet, and we will update the
18	footer for that page as well in the electronic version.
19	MR. HILL: Okay. That's all I have.
20	THE COURT: All right. That's an excellent plan.
21	Are there any other comments or objections?
22	There are none.
23	I admit into evidence Exhibit oh, help me,
24	Ms. Vulin, as I call each of these, tell me what its MIG
25	number is.
26	I admit into evidence Exhibit 440.
27	MS. VULIN: MIG Exhibit 64.
28	(Thereafter, Exhibit Number 440 was received



1	into evidence.)
2	THE COURT: I admit into evidence Exhibit 441.
3	MS. VULIN: MIG Exhibit 64A.
4	(Thereafter, Exhibit Number 441 was received
5	into evidence.)
6	THE COURT: I admit into evidence Exhibit 442.
7	MS. VULIN: MIG Exhibit 64B.
8	(Thereafter, Exhibit Number 442 was received
9	into evidence.)
10	THE COURT: I admit into evidence Exhibit 443.
11	MS. VULIN: MIG Exhibit 64C corrected.
12	(Thereafter, Exhibit Number 443 was received
13	into evidence.)
14	THE COURT: I admit into evidence Exhibit 446.
15	MS. VULIN: MIG Exhibit 64D.
16	(Thereafter, Exhibit Number 446 was received
17	into evidence.)
18	THE COURT: Thank you, Ms. Vulin.
19	MS. VULIN: Thank you, Your Honor.
20	And I believe MIG is calling the next witness, and
21	that will be Ms. Keefe, but on Proposal 20.
22	So if it is all right with everyone, now would be
23	a good time for a break just to switch over her PowerPoint
24	and to distribute her testimony.
25	THE COURT: All right. Would ten minutes suffice
26	or do we need 15? We don't want people to have to come
27	back early.
28	Do you think ten might suffice?



1	MS. VULIN: I might defer to Ms. Keefe, who might
2	need to use the restroom and have a minute. Would 15 be
3	all right?
4	THE COURT: Yes, it would be all right.
5	So please be back and ready to go at 10:25.
6	(Whereupon, a break was taken.)
7	THE COURT: All right. Let's go back on record.
8	We're back on the record at 10:25.
9	Ms. Vulin.
10	MS. VULIN: Thank you, Your Honor.
11	Ashley Vulin with the Milk Innovation Group. The
12	Milk Innovation Group calls Sally Keefe to introduce
13	Proposal 20.
14	THE COURT: Ms. Keefe, please again state and
15	spell your name.
16	THE WITNESS: Good morning. My name is Sally
17	Keefe, S-A-L-L-Y, K-E-E-F-E.
18	THE COURT: Thank you.
19	And, Ms. Vulin, you may proceed.
20	MS. VULIN: Thank you, Your Honor.
21	First, I would like to mark the exhibits that we
22	have distributed. Exhibit MIG-15, which is the testimony
23	of Sally Keefe Part 3, that's Ms. Keefe's written
24	testimony, I believe, should be marked Exhibit 447.
25	THE COURT: Agreed.
26	(Thereafter, Exhibit Number 447 was marked
27	for identification.)
28	MS. VULIN: Exhibit MIG-15A, entitled "Milk



```
1
     Production, Disposition, and Income, 2022 Summary, " should
 2.
    be marked as Exhibit 448.
             (Thereafter, Exhibit Number 448 was marked
 3
             for identification.)
 4
             MS. VULIN: Exhibit MIG-15B, which is the Class I
 5
     Differentials by County, should be Exhibit 449.
 6
 7
             (Thereafter, Exhibit Number 449 was marked
             for identification.)
 8
 9
             MS. VULIN: And Exhibit MIG-15C, which is
     Ms. Keefe's PowerPoint presentation, should be
10
     Exhibit 450.
11
12
             (Thereafter, Exhibit Number 450 was marked
13
             for identification.)
14
             MS. VULIN: Thank you, Ms. Keefe. Let me know
15
     when you are ready.
16
             THE WITNESS: I'm ready.
17
             MS. VULIN: Your Honor, are you ready?
18
             THE COURT: I am.
19
             MS. VULIN: Thank you.
2.0
                        DIRECT EXAMINATION
2.1
     BY MS. VULTN:
22
             So if we could pull up your PowerPoint, please,
23
     Ms. Keefe.
             THE COURT: Let's go off record just a moment
24
25
     while we pull this up.
26
             (An off-the-record discussion took place.)
27
             THE COURT: Let's go back on record.
28
             We're back on the record at 10:37.
```



1	Ms. Vulin.
2	MS. VULIN: We have had some technical issues, and
3	despite trying two different laptops, couldn't get the
4	PowerPoint to display, so we'll proceed with the printed
5	copy of Exhibit 450, which is Ms. Keefe's PowerPoint.
6	THE WITNESS: I have one request.
7	MS. VULIN: Yes.
8	THE WITNESS: Could someone give me a copy of the
9	PowerPoint that is single-sided, not double-sided?
10	MS. VULIN: Yes. We will work on getting you one
11	of those.
12	THE WITNESS: Thank you.
13	MS. VULIN: And then hopefully during the lunch
14	break, that will give the IT team a chance to work on the
15	PowerPoint, because it will be more important for later
16	witnesses.
17	THE COURT: Very good. Thank you.
18	MS. VULIN: But we'll try and keep things moving
19	in the meantime.
20	THE COURT: Thank you so much.
21	MS. VULIN: Great.
22	BY MS. VULIN:
23	Q. So, Ms. Keefe, I was going to say turn to slide 1,
24	but I'll ask that everyone turn to Exhibit MIG-15C, which
25	is Exhibit 450, page 2, entitled "Current Class I
26	Differential."
27	So I know with Proposal 19 we have been talking
28	about the county level differentials quite a bit, but just



to re-orient us, can you remind us what all the pieces are of the current Class I price.

- A. Sure. So the current Class I price is made up of the base Class I price, which itself has two parts: The base Class I skim price, which was covered in Issue 4 of this hearing; then we have the Advanced Class I butterfat price. And so together those will create the base Class I price. And then the Class I differentials are added to that base Class I price.
- Q. And the base Class I price versus the differentials, which one makes up the majority of the Class I price?
- A. The majority of the Class I price comes from the base. The differentials is the smaller portion.
- Q. Okay. And so now let's get into the different factors that make up the Class I differential. And I see you have those on your slide here.

Can you walk us through each of those four parts, please.

A. Yes. Today, the current Class I differentials range from \$1.60 to \$6 per hundredweight. There are four parts: There is \$0.40, which is compensation for Grade A status; there is \$0.60 related to market balancing; and then a further \$0.60 to incentivize producer milk to be supplied for fluid bottling. Together, those first three elements are \$1.60 and make up the base Class I differential.

And then you have the geographic component, which



2.

2.1

- Q. And MIG's Proposal 20 deals with that \$1.60, basically the first three parts of this four-part list?
- A. Yes, that's correct. MIG's Proposal 20 addresses the base Class I differential. And so for this proposal, MIG examined the \$1.60 starting point, the \$1.60 base.
- Q. And this breakdown, the \$0.40, \$0.60, and \$0.60, what's the source of this breakdown of the \$1.60?
- A. So this breakdown of the \$1.60 dates to order reform. At order reform, there's a lot of information in that record regarding the Class I differential, and specifically the elements of the base differential.
- Q. And so this \$0.40, \$0.60, and \$0.60 is not an estimation by MIG, but is the precise numbers that you pulled from the records from order reform?
 - A. Yes, that's correct.
- Q. And then if we could turn to page 3, please, of your slide show.
- So what is the role of the Class I differential in the Class I price?
- A. So the Class I differential is designed to ensure a sufficient supply of milk for fluid use, and it's -- to do that, the idea is the lowest value that you need to get the milk needed for fluid bottling to meet consumers needs in the marketplace.



4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- A. Yes. As you can see in the block quote below on slide 3, as well as in my written testimony, at order reform, USDA wrote, "The \$1.60 minimum differential level proposed is perceived to be the lowest value necessary under present supply and demand conditions to maintain stable and viable pools of milk for Class I use in markets that are predominantly manufacturing-oriented."
- Q. And what is the risk if the price for the Class I differential is at too high of a level?
- A. So the risk if the Class I differential is at too high of a level is that the Class I prices will overall be price enhancing and they won't -- they will no longer be a minimum price. And if they are not at the minimum level and are acting in a way that enhances prices, they can attract additional supply into the market overall, which then winds up not being used in Class I, but used in the manufacturing classes, which are lower priced.
- Q. And this risk was recognized by USDA, I believe, in the last line of the block quote. If you could read that for us, please, starting with "if the blend price."
- A. Absolutely. "If the blend price exceeds the marginal value of milk in manufacturing, there would be an incentive to overproduce for fluid needs."
- Q. And do you believe that USDA should still rely upon those guiding principles in setting the Class I



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

differential today?

2.

2.0

2.1

- A. Yes. I believe that those guiding principles as far as the lowest value needed to ensure sufficient supply makes sense in the market then, and it makes sense in the market today.
- Q. In a sense, kind of fundamental economic principles?
 - A. In -- in a fundamental kind of way.
 - Q. And if we could turn to slide 4, please.

 So tell us, please, what this chart reflects.
- A. So the chart on slide 4 shows the utilization of producer milk in the FMMOs, and so this is only talking about the utilization of FMMO milk. This is not the utilization of all milk. And it looks at it from 1950 to 2022. And what you see back at the beginning of the chart is Class I utilization actually dominating the market up at 60%.

By the time of order reform in the -- around the year 2000, you see that Class I utilization is more like 40%. And then today, we have got Class I utilization actually dropping below 30% for the FMMOs. And I would note that with respect to the market in total -- so all milk, not just FMMO milk and, you know, all the way along during this time period, some milk has not been subject to the FMMOs, or not participating in the orders -- we would be at Class I utilization below 20%.

Q. And so this chart overstates the utilization of Class I milk in the marketplace as a whole because it is a



2.

2.1

- A. Yeah. The chart is for -- the denominator of the chart is just FMMO milk.
- Q. And so this significant decline in Class I market share, why is that relevant to setting the Class I differential?
- A. It's relevant because of, when milk is produced on the farm, it's -- we don't dedicate its use to a particular utilization. And so understanding how the milk will be used, whether it would be used in Class I for fluid or in Classes II, III, and IV for non-fluid uses, is important because of the nature of the Class I prices being set at different levels for different uses of milk.
- Q. Essentially, there's less milk needed to meet fluid needs relative to the FMMO marketplace as a whole?
 - A. Yes, I would agree with that statement.
- Q. And during this same time period that Class I utilization is decreasing by over half, is -- has milk production gone up or down?
- A. Milk production on the farms has increased during this time period, which goes towards the adequacy of supply. There's much more milk available today than there was in -- at the time of order reform, and certainly in periods preceding that.
- Q. And so when we're talking about those basic economic principles, is it fair to say the world we live in today has more milk than we had at order reform, and we need less of that milk in order to meet fluid needs?



A. Yes, that's correct.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And with that reality, what would that suggest to you should happen to the price that is needed to command milk to meet those fluid needs?
- A. I would expect that the price needed to attract the milk for fluid use is going to be lower today than it was then.
- Q. And is it MIG's position that the current base Class I differential is outdated?
- A. Yes. MIG believes that the current base Class I differential of \$1.60 is outdated and its various elements should be reviewed and adjusted.
- Q. And we talked a little bit about this with the risk of overproduction, but what are the disorderly marketing conditions that result from having a Class I differential, a base Class I differential, that's too high?
- A. The primary risk is price enhancement writ large, but there's also issues with having a base Class I differential that's too high as far as just the dynamics between the different uses of milk.
- Q. And you say "price enhancement," meaning that the Class I differential is setting the price at higher than the marketplace would value the milk?
 - A. Yes.
- Q. And when you talk about the dynamics between classes, is that essentially what happens to the other classes when the Class I price overstimulates the



production of milk?

2.

2.1

- A. So -- correct. So if -- if the Class I price is too high and is acting in a price-enhancing manner, and we attract more supply into the marketplace, then we wind up with a situation where that additional supply is not going to be used in Class I, it's not going to be bottled, it's going to be used in the other classes at presumably lower prices.
- Q. And if we could turn to page 5, please, slide 5.

 If you could please walk me through what updates

 MIG proposes making to the base Class I differential

 vis-à-vis each element that makes up that \$1.60.
 - A. Absolutely.

So MIG looked at the three elements of the base Class I differential: We looked at the Grade A piece, the balancing piece, and the incentive piece.

And so starting with the Grade A piece of \$0.40, we -- MIG feels that Grade B milk is not relevant to FMMO prices today. More than 99% of milk is Grade A or eligible for fluid use, and you can see the details on that by state in Exhibit -- MIG Exhibit 15A, which is Hearing Exhibit 448.

And with respect to the Grade A/Grade B issue, the main -- one of the main things that I would note is that today, all plants, whether they are fluid or not, for the most part, are using Grade A milk exclusively. And so whether you are talking about cheese, whether you are talking about



yogurt and ice cream, and all sorts of different dairy products, they are all being made with Grade A milk today.

There is not -- no longer a significant -- there's no longer a Grade B market of any real size today.

- Q. And it's not MIG's position that there are no costs associated with maintaining Grade A status, correct?
- A. MIG's position is not that there are no costs associated with maintaining Grade A status, it's MIG's position that all of the milk needs to meet that, not just Class I. So it's -- it's that -- it's not that there is no cost, it's that this is a cost that needs to be on all of the milk.

And so presumably, because the Class III and IV prices are market clearing, that that cost of serving the Grade A market is -- is embedded within those market-clearing prices for the manufacturing classes.

- Q. And so there's no need to include an additional \$0.40 in order to ensure there's enough Grade A milk to meet fluid needs, because the marketplace has made that an industry standard; is that fair?
 - A. Yes, that's a fair summation.
- Q. And then if we could look at the second element, balancing, please.
- A. Yeah. So the second element that MIG examined was balancing, which is -- market balancing is about 60 -- is \$0.60 per hundredweight. And what we saw there is that balancing costs are borne by many different market participants in many, many different ways. And so there



2.

2.0

2.1

are times when market-balancing expenses are borne by processors, other times when they are being borne by a cooperative, other times they may be borne by producers directly.

And these -- these -- this is a real situation where there is a lot of variety. And because of that, we feel that it makes a lot more sense to not include it in the minimum so that the prices can adapt to the particular conditions between a Class I handler and their suppliers.

- Q. Because if the \$0.60 for balancing is included in the base, it's essentially -- essentially a presumption that every supplier is incurring \$0.60 worth of balancing for every hundredweight of milk they sell; is that right?
 - A. That's correct.
- Q. And in your analysis, and the members' analysis of their own operations, suppliers aren't uniformly bearing \$0.60 worth of balancing costs?
- A. Suppliers aren't necessarily uniformly bearing \$0.60 worth of balancing costs, nor are, frankly, processors uniformly bearing \$0.60 worth. Like, it -- it varies.

And so by removing \$0.60 from the base Class I differential, it should allow the market to correctly allocate that \$0.60 to the person who was performing those balancing services. And so in some cases it -- it would be the cooperative, in some cases it may be farmers directly, in other cases it would be a fluid processor.

Q. And have you heard of instances where these



2.

2.1

balancing costs are, today, being paid for outside of the FMMO system, but on an individual relationship basis?

- A. Yes, definitely. There's a lot of examples as far as ways that the market is pricing and valuing these balancing services. And so examples that I have heard a lot about include even-day receiving credits, as well as investments in raw milk storage both on the farm or at a plant. So, like, the raw milk storage thing is one where you could see it being a cost borne by a farmer directly or you could see it as a cost being borne at a fluid processing plant.
- Q. And so it's fair to say that MIG's not operating on the assumption that the marketplace will find a way to account for this cost, because that's already happening today?
- A. Yes. We believe that the market shows that it can do this.
- Q. And then if you could look to the third element, please, incentive to serve Class I.
- A. Yes. So the final -- the final element that we examined was the incentive piece. And, otherwise, I like to call it the attractant, but we -- the language in order reform is incentive, so I have changed my ways.

And the presumption here that we still need a pool-wide incentive does not hold today. We asked Dr. Mark Stephenson to look at this element and help us understand it, and he has a lot of detail on that in his testimony, which will follow mine.



2.

2.0

2.1

- Q. And is that a function of the changing utilization within the FMMOs?
- A. Yes. Because Class I is no longer the dominant use, being able to directly compensate your actual suppliers as opposed to having an incentive diluted through the pool is, in the view of our members, an essential change.
- Q. But given that Class I does need milk, isn't there a risk that if you reduce this price, the FMMO system won't be able to ensure that Class I needs are being met?
- A. There is a lot of milk out there. I think that our members will have more specifics to add on the situations that they encounter and how they attract the milk that they need for their operations, and why they believe that this change is aligned with both the program as well as the marketplace.
- Q. And do you think Class I utilization will continue to drop in upcoming years?
- A. I do. And it's not to say that that's a 100% sob story, because I'd like to believe, and I do believe, that Class I sales could stabilize and will stabilize in the future. But given the increase in overall milk supply, and given the way that we use it today for manufacturing uses, you know, largely cheese, butter powder, fancier



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

ingredients than those but as well. And that
because the denominator is getting bigger, even if
Class I's Class I sales would have to grow so
dramatically that it just wouldn't be realistic to think
that the Class I utilization is going to meaningfully
increase, even if Class I sales do begin increasing again,
and even if Class I sales, they don't increase, they just
stabilize, so

Q. And there's been a fair bit of discussion about price inversions, driving the need to either maintain or increase Class I prices.

Do you believe that this change will impact significantly price diversi- -- price inversions or what drives those?

- A. So I would remind everybody of Mr. Schuelke's testimony during Issue 4 on price inversions. And the most important factor to consider here is the spread between Classes III and IV as far as contributing to price inversions. And quite frankly, the size of an increase that would be needed to make it so that Class I prices could prevent an inversion is dramatically high. At points in time, it would make it so that even higher than organic prices, I mean, very, very high some of the time when the spread is very wide.
- Q. And so is it your testimony that the Class I price is really not the right tool to use to address price inversions?
 - A. Class prices and Class I prices are not -- are not



2.

2.0

2.1

2.4

the right method for preventing price -- for preventing price inversions. Class I prices, that's not their role, that's not their job.

If you're concerned about price inversions, and because price inversions are tied with depooling, I think that there are other parts of the regulation that we should be looking at.

- Q. And if we could turn to your last slide, please. And just to put a finer point on your earlier testimony, it's MIG's position that Proposal 20 should be adopted because the current Class I differential is resulting in disorderly marketing, correct?
- A. Yes. MIG believes that in today's market the base Class I differential is contributing to disorderly marketing.
- Q. And what do you believe the result of reducing the \$1.60 base Class I differential could be that would benefit fluid processors in the industry as a whole?
- A. Reducing the base Class I differential provides an opportunity to free up resources in ways that could reinvigorate the fluid market. It could -- different folks could use it in different ways, so I could see situations where it's being used to more closely link a processor and their milk supply. I could see situations where it's being used to, you know, fund investment in innovative extended shelf life products. There's many, many different things that could be done to help reinvigorate the Class I market, and this \$1.60 would help



2.

2.1

get that started.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- Q. And what role should over-order premiums play in the Class I differential?
- A. So over-order premiums are a mechanism. They allow Class I processors to directly compensate their suppliers. It means that when you're providing a payment for a service, it's going to the person who is providing you that service as opposed to being shared through the mechanism of market-wide pooling.
- Q. And as discussed earlier with Ms. Hancock during the Proposal 19 testimony, MIG's Proposal 20 would not reduce the Class I differential to zero in every county in the country, correct?
- A. No, it would not. The range of Class I differentials would be from zero to \$4.40 as proposed, which you can see in MIG Exhibit 15B, which is Exhibit 449.
- Q. And that's what each -- Exhibit 449 reflects what the county-level differential will be for each county under MIG's Proposal 20, correct?
- A. Yes, that's correct. So if you look at the first county in Alabama, Autauga, Alabama -- I apologize for mispronouncing it -- the Proposal 20 effective differential would be \$2.20.
 - Q. And so under MIG's proposal, why keep the county-level differentials?
 - A. Because there is a geographic element to the prices. The prices are not the same in every place around



the country, and so we do think that it's important that the price structure reflect that.

THE COURT: I'm going to ask you to spell Autauga. Apparently you said it correctly.

THE WITNESS: Absolutely. Autauga, Alabama, A-U-T-A-U-G-A.

BY MS. VULIN:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- Q. And so what do you expect the impact of Proposal 20 to be on blend prices?
- A. So in my written testimony in Table 1 on page 9, it shows MIG's estimate of this change on the blend prices in sum and by order, and we estimate that this would decrease blend prices on the average across all of the FMMOs by \$0.43 per hundredweight, and these changes do vary from a decrease of \$0.11 to a decrease of \$1.33.
- Q. And given the testimony we have heard about the increased costs of milk production and knowing that this proposal would result in the blend price going down, how would MIG members be able to ensure that the Class I market is -- is being served and that suppliers are receiving the price needed to serve that market?
- A. So I think it's important to remember that the FMMO price, the Class I price, is the minimum price. And I would expect that in many cases that over-order premiums are going to be filling things in. Probably some places more than others should Proposal 20 be adopted.
- Q. And you mentioned a little bit earlier, and I just want to re-circle a little bit on this point, that it's



important to MIG members that this -- that the over-order premiums or that compensation for milk be given to directly to the suppliers that are serving that Class I processor.

And why is that important?

- A. So that's important to MIG's members for -because, fundamentally, they want to compensate the people
 who are providing the services that they need to
 adequately supply their plants. And one way to think
 about it is -- a MIG member recently stated that it
 wasn't -- it wasn't like they were looking for a price
 decrease, what they are looking is to change where the
 money goes. And so what is most important to the members
 is that the Class I differential can be used to compensate
 the people who are supplying them with the milk that they
 are using in their plants.
- Q. And so if the purpose of FMMOs and the Class I differential is to ensure service of the Class I market, given the realities of the marketplace today, the changes of utilization, it's MIG's position that those fluid needs are best met by freeing up money from the pool and being able to direct it directly to suppliers?
- A. Yes, it is MIG's position that directly compensating their suppliers will more effectively and efficiently attract the milk that they need for fluid bottling.
- Q. And do you believe that Proposal 20 will have any impact or will support potential innovation of the



2.

2.0

2.1

shrinking Class I market?

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

18

19

2.0

2.1

22

23

24

25

26

27

28

- A. I do really hope that it will. I think that there are a number of things that it can do. It's interesting because Class I is shrinking, the impact on the pool is, so the impact on the blend is smaller than what it is when you think about the \$1.60 in the context of what it means for a Class I handler. Because for that Class I handler, that \$1.60 is there. And so they can then -- and, you know, it's a start. It's a good place to think about investing in things that can help you improve margin, either through innovation or simply by being more efficient, like improving your IT system for your warehousing, lots of stuff.
 - Q. Thank you very much.

MS. VULIN: Nothing further, Your Honor.

CROSS-EXAMINATION

17 BY MS. HANCOCK:

- Q. Good morning, Ms. Keefe.

 I'm Nicole Hancock with National Milk.
- A. Good morning, Ms. Hancock.
- Q. I have got notes in a couple of different places, so I'm going to do my best to keep it organized, but bear with me if I jump around a little bit.

Maybe a good place to start is with a little bit of your background. You own and operate your own consulting firm; is that right?

- A. Yes, that's correct.
- Q. And you work a lot with organic processors?



- A. Organic and others. I have both organic and conventional clients.
- Q. What percentage of the work that you do in your consulting business is working with the organics or specialty milk products?
- A. Well, organic is just one form of specialty milks, and I would say that the majority of my work is for folks who are doing specialty products. It's not to say it's 100%. Like, I -- I work with traditional HTST processors as well, but mostly folks who are doing something on the specialty spectrum, not just organic.
- Q. Okay. Organic being a subset of the specialty spectrum, but the totality of which makes up the majority of the consulting work that you do?
- A. I do a lot of consulting work for organic, as you might imagine, given my background, but it's not all of it.
- Q. And were you part of MIG's proposal for this hearing that put forth a position to have organic milk taken out of the Federal Order system regulations altogether?
- A. Yes. I was -- I actively participated in developing all of the proposals that MIG submitted for consideration at the hearing. So we submitted proposals regarding organic. We also submitted proposals regarding assembly and balancing credits. There were a number of proposals that MIG submitted, not all of which were accepted for consideration at the hearing. Struggling to



2.

2.1

find the right word there.

2.

2.0

2.1

- Q. One of which was the proposal for organics to be excluded from regulation by the Federal Order system?
- A. Proposal 6 that MIG submitted back in the summer, that was not accepted for consideration at this hearing, would have exempted organic milk from the pooling provisions of the FMMOs, but not from the minimum pricing provisions. The -- we had -- our proposal was to structure that one such that, to be eligible for the exemption, you would need to be producing certified organic milk, and you would need to be paying a price for that certified organic milk that actually exceeded the Class I price, not -- so -- what one would expect would be the highest of the minimum prices.
- Q. And -- and that proposal was not included in the hearing; is that right?
- A. That proposal was not accepted for consideration at this hearing. The Secretary and AMS encouraged MIG to consider submitting -- resubmitting that for consideration at a separate proceeding.
- Q. Do you -- do you believe that we need a Federal Order system at all for regulation of -- of dairy milk pricing?
- A. I think that it is widely-accepted within our industry. I think that the system of minimum prices provides value to many market participants, whether you are on the producer side or the processor side.

And then I also think that the system as a whole,



I think that there are some real values that having the program in place provides for the market in terms of information and transparency and things like that.

And that was actually one of the things that we thought a lot about with respect to the organic proposal that we submitted. One of the details, like, in the weeds of that proposal was that that -- that the organic milk would remain subject to the Market Administrator fees and the like, to continue to facilitate the data and information collection. Because we think that there is a lot of value to everyone throughout the marketplace with all of the great info that we have.

- Q. Okay. And so the Federal Order system allows for the collection of that data and that transparency to the industry that you think brings value to the industry?
 - A. Uh-huh.
 - Q. Is that a "yes"?
 - A. That is a yes. Thank you.
- Q. And so outside of the data collection and the transparency into that data for the industry, do you believe that there is value in the minimum pricing and the effect on pricing between the producers and the handlers that the Federal Order system offers?
- A. I don't really think it's my decision. I'm a consultant. Like, I'm not a dairy processor. I'm not a dairy producer. Like, I help people understand the regulations. I help people understand where they fit in, how they interact with them, how to structure their data



2.

2.0

2.1

system so they can comply and report and all sorts of things.

But, you know, I -- I don't produce milk. I'm not a dairy farmer. I don't process milk. Like, I don't manufacture cheese. Like -- and so it's -- it's not -- it's -- it's not my decision. It's -- it's -- and I think that there -- I -- like I just said, I think that there are many things about our current system that are very valuable.

- Q. And that being information gathering and data transparency?
- A. Information data -- information collection and reporting, which helps provide market transparency, so it's --
- Q. Okay. I want to maybe just walk through a little bit of your written testimony, and I'm going to try not to overlap where it -- it does overlap with your presentation that I'll cover separately.

But let's start with, if we go to page 3 of Exhibit 447. This is your written testimony?

- A. Yes.
- Q. And you have offered a substantive opinion about why you believe that the first three elements that were used to set the differentials in order reform were -- are no longer necessary; is that right?
 - A. Yes, I have.
- Q. Okay. So there are times in which you do offer your perspective and opinion of the Federal Order system,



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

and that was the example that I'm just including right now.

- A. Yes. And I would point out that this is a much narrower opinion. This is about the base Class I differential. You were asking a much larger question about the system. To me, that's what I was hearing.
- Q. And if I want to cross-reference this just so I'm tackling two birds with one stone here, if I look at your presentation on Exhibit 450, on slide 2, you have provided a summary on page 2 about those four elements, the first three of which are what MIG is proposing are no longer relevant or needed in differentials?
- A. The first three of which -- yes. And then the fourth one would be the geographic component. And, you know, as I stated during my testimony, we do actually -- MIG believes, and I believe, that one of the things that is important and valuable today is this geographic component, these relative prices, so --
- Q. Okay. And so that's number 4 that's on page 2 of your PowerPoint?
 - A. Uh-huh. Yes, it is.
- Q. And -- and so you do believe that there's a geographic component that should continue on, and that is based on what's -- what's being, under MIG's proposal, utilized from the USDSS -- or from the modeling results from Dr. Stephenson?
- A. Under MIG's Proposal 20, we did not propose changing the county-level -- the county-level adjustments



2.

2.0

2.1

from their current levels. You know, I have talked a great deal about the USDSS modeling and where I think that that can inform should the Department choose to go in a different direction.

- Q. And so that, without making any additional changes to the county-by-county, you understand that -- that those inputs were just updated at least up to 2016 based on Dr. Stephenson's modeling results?
- A. So the -- are you asking me about the modeling that Dr. Stephenson did for MIG on the fluid incentive or are you asking about the modeling that was done for Proposal 19?
 - Q. Yeah. That's fair. I'm just trying to clarify.

I mean, earlier when you were talking in your rebuttal about Proposal 19, you had said that you do think it's appropriate that there is some updates that happen, and I'm just trying to clarify, are you -- is it MIG's position, then, that the modeling results should be updated in any way or are you just saying you believe that the base differentials of \$1.60 should be eliminated?

A. So we believe that the Class I differential should be updated, and MIG does not believe the Class I differentials need to be increased. Updating doesn't necessarily mean going up. And the -- in particular, we believe that the three elements of the base Class I differential should be decreased. And then when you get to the county-level location adjustments, I think that that question gets more complex.



2.

2.0

2.1

- A. So the group conducted a fair bit of study and analysis and a lot of discussion last spring. We did participate in meetings hosted by IDFA to explain our ideas to a broader audience, and then we also participated in the information session and the like, when we were -- after everyone had submitted proposals, so --
 - Q. The information session hosted by the USDA?
 - A. Yes, hosted by the USDA. Thank you.
- Q. Okay. I want to back up and talk about what -- what work you did do.

When you said that the group conducted a study and an analysis, when you say "group," which group are you referring to?

- A. So I'm referring to the Milk Innovation Group, so myself and the members. And then we, as a group, presented our ideas to IDFA for consideration of more a broader network of people than just the MIG members.
- Q. When were you retained as a consultant to perform this study or work?
- A. We -- early. No. I'm trying to remember if it was the fourth quarter of 2022 or the first quarter of 2023. So let's call it the winter of 2022/2023.
 - Q. Approximately a year ago?
 - A. About a year ago.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. Okay. And it was MIG that retained you?
- A. I'm actually retained by Davis Wright Tremaine, so Mr. English's law firm, and the members of MIG.
- Q. Okay. You understand that in Davis Wright
 Tremaine's retention of you, that it was on behalf of MIG
 and its membership?
 - A. Yes, I did.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. And you were retained to do what? What was the -- what was your understanding of the scope of what you were retained to do?
- A. I was asked to help the group evaluate what were, at the time, discussion documents and the like that had started circulating within the industry about various price changes and what their impact would be specifically with respect to Class I, like a focus on fluid milk, as opposed to, you know -- as opposed to thinking about, like, the price survey or something like that.
- Q. Was it -- was it specific to Class I differentials or broader than Class I differentials and went to the total Class I pricing?
- A. The group was very much -- at the beginning, the group was very much focused frankly just on the health of Class I and how Class I interacts with the orders, and what -- what changes could be made to make it work better for fluid milk.
- Q. Okay. And so you said that the group conducted a study and an analysis.

Can you describe for me the study that was



conducted?

2.

2.1

- A. So we broke apart -- lots of reading. So quite a lot of looking at the order reform documents, considering what the -- what was said with respect to Class I prices at the time of order reform, and then thinking about, okay, does this -- how does this work in today's marketplace? Has something fundamentally changed or is something not changed? And, you know, we went through each piece of it over a few months.
- Q. And when you say "we," you are talking about you as the consultant, along with the membership for MIG?
- A. Myself and the MIG membership. And we were looking at more than just the Class I differential, we were looking at -- we were looking at how Class I interacts with the orders in a more -- from a higher-level perspective than -- than just, like, the \$1.60, than just this one proposal that is under consideration at the hearing and that we're talking about today.
- Q. And what analysis was conducted with -- with that group?
- A. We looked at -- gosh, we looked at lots of different things. We looked at people's experiences around balancing. We looked at people's experiences around supply. We looked at many, many, different things. It was pretty wide ranging.
- Q. And when you say "we looked at people's experiences," you mean the membership or the group that you were working with to evaluate that study and analysis?



- A. Yes. And so sometimes we would do things, like, you know, a little mini internal survey, and, like, everybody would provide information, like -- then I would gather it up, and protect people's identities, and then we would talk about it after it was anonymized, stuff like that.
- Q. And do you know if any cooperative members or any cooperatives were invited to join those groups?
- A. So one of MIG's members is Organic Valley CROPP Cooperative. And so, yes, CROPP is a co-op and is definitely a member.
- Q. And I should have clarified. Do you know if any non-MIG cooperatives were invited to join that study or analysis?
 - A. I don't believe so.
- Q. Do you know if any National Milk members, who were not also MIG members, were invited to join, assuming that there is any overlap, but do you know if any National Milk members would -- were invited to join that study or analysis?
- A. Most likely not, but maybe. I mean, you know, quite honestly, it's a group. And I wouldn't be surprised if folks reached out to their colleagues, you know, so --
 - Q. Not that you are aware of, though?
- A. Not that I'm aware of. But I do think that we were working on things, and it was widely known.
 - Q. Okay. And do you know how many members MIG has?
 - A. MIG has ten members.



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. So easy to know who is in the room; is that fair?
- A. Relatively.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. Anyone that you can think of outside of the MIG membership that was invited to that -- to those group studies or analysis working sessions?
- A. Well, as you can see from some of the information that I have provided during the hearing, allies outside of the group have participated in some of MIG's work. So, for example, there were non-MIG members who provided data for the component survey back on Issue 1, when the weather was the opposite of today.
 - Q. How about with respect to Proposal 20?
- A. I don't recall anything specifically with respect to Proposal 20. But it's -- Proposal 20 is a little less quantitative than some of the other work that I did for the group.
 - O. With respect to the other proposals?
- A. Yeah, with respect to, like, the work that went into evaluating the component issue, that was, you know, very data-intensive kind of thing.
- Q. Okay. And then I think you said that your process after you did your -- your -- your MIG study and analysis, then you presented that to IDFA at a meeting?
- A. Yes. IDFA asked -- most of the members of MIG are also members of IDFA. I don't know if it's 100% overlap or not. I'm just not that far into the weeds of everybody's business. And so IDFA, in the spring, held a series of meetings where they asked people to present



their ideas around FMMO changes, and so MIG was one of a number of people who presented ideas to IDFA's membership.

- Q. Okay. It was an outward presentation, not an information-gathering session?
- A. Yes. And then what I would say is that as people became more aware of what we were working on, then you start seeing, like, information going the other way, too, you know.
- Q. And -- and I think that you said this earlier, but just to include it within the section here that we're talking about on the work that you did in order to come up with the Proposal 20, you didn't do any kind of independent county-by-county analysis, just because, as you described earlier, there were logistical constraints that didn't allow you to do that?
- A. That's correct. This was very much considered -yeah. We looked at the base Class I differential because
 that was within -- it was an achievable thing for us to
 look at and evaluate and come up with a proposal that the
 group could support.
- Q. If we are on page 3 of Exhibit 447, your written testimony, you -- and this corresponds with page 2 of your PowerPoint presentation in 450 -- that looking at the element number 1, the compensation for Grade A status, when you were doing that research and a lot of reading as you described it, when it comes to that \$0.40 per hundredweight compensation for Grade A status, it wasn't just compensation for converting Grade A to -- or Grade B



2.

2.0

2.1

to Grade A, was it?

2.

2.0

2.1

- A. So there's a -- on page 3 of my testimony you can see that I wrote that it's not just the cost of conversion, it's also related to maintaining Grade A status.
- Q. And you understand that's maintaining Grade A status at the farm level?
- A. Yes. Maintaining Grade A status at the farm level. And -- and like I stated earlier, to me, there's a double-counting issue here, that the -- because -- especially when you think about the maintenance piece of it, because all of the milk is Grade A -- for the most part, 99% plus -- and so it's there. And when you include it again in the Class I differential, you are asking Class I to pay for it twice.
 - Q. Where is it paid for the first time?
- A. It's paid for the first time in the market-clearing prices for the manufacturing classes, and those -- and the Class I prices are built -- the price formulas build Class I atop of the prices for III and IV.
- Q. Are there any parts of the Class III or IV formulas that specifically compensate dairy farmers for maintaining the Grade A status?
- A. That's -- not directly like that, no. That's -- it's -- it would be implicit within the way that the -- the Class III and IV formulas are very different than Class I, because those are end product price formulas. So it's just not the same structure.



- Q. And Class I is the only class that actually requires Grade A standards?
- A. Most dairy products today, like, nearly all of them, are -- dairy processors, no matter the class, require that their suppliers provide Grade A milk to them.
- Q. I'm not talking about market forces, I'm talking about under the Federal Order system.

Is it true to say that the Class I is the only Federal Order-required Grade A milk?

- A. The requirement for Grade A milk would be related to the sanitary standards, and so I'm just struggling a bit because I'm trying to think about, like, all the uses of milk, and, like, are there any of the products in the other classes where it's required that, like, a product in Class II be made with Grade A, and actually there would be. Because -- so the fluid creams in Class II also have to be made with Grade A milk.
- Q. Okay. And if we talk about market forces, it's true that under current market conditions, that the fluid market buyers often require something well in excess of the Grade A requirements; is that right?
- A. People definitely have receiving specification and standards, quality specifications and standards for their milk, and they are -- and, yes, many people would consider just the Grade A status to be a low bar, a minimum hurdle.
- Q. And all of the clients with whom you work as a consultant, they all have requirements that are in excess of Grade A, don't they, for their fluid milk?



2.

2.1

- A. Yes. I'm not aware of anyone that would be right on the Grade A standard.
- Q. In the study and analysis that you did in coming up with Proposal 20, what cost study did you do in order to calculate what it costs to maintain Grade A at the farm level?
- A. I did not look at the cost of maintaining Grade A at the farm level. What I looked at was whether or not Class I should be asked to pay for that again.
- Q. So you asked the MIG membership whether they -- whether they should be asked to pay for the cost of maintaining Grade A milk?
- A. No, I didn't. Well, the discussion that we had was a very -- around Grade A, it was a very -- it was a discussion that only an accountant would love. It was a great deal of discussion around when -- when is something double-counting and when is something not double-counting and --
- Q. So is it fair to say that when you are describing double-counting for the cost of maintaining Grade A status, you are talking about, it's already embedded in the manufacturing milk class, and so you don't need to pay for it again in Class I?
 - A. Yes.
 - O. And --
- 26 THE COURT: That answer was "yes"?
- 27 THE WITNESS: Yes.
- 28 THE COURT: Thank you.



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

BY MS. HANCOCK:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. And so you are saying that the market conditions have already naturally taken it into account for purposes of establishing it in the Class III prices, for example, and so that is essentially the market has remedied itself?
 - A. Yes. That is a fair summation of my perspective.

THE COURT: Ms. Hancock, please remember where you are. I want to take a ten-minute break. I would like everybody to be back and ready to go at 11:55. 11:55.

(Whereupon, a break was taken.)

THE COURT: We're back on the record at 11:58.

Ms. Hancock, you may resume.

MS. HANCOCK: Thank you, Your Honor.

BY MS. HANCOCK:

- Q. Ms. Keefe, just to kind of put it back into context, when we -- right before the break, I think our last subject that we were talking is that you feel confident that market forces can control or govern in a way that will set prices where they need to be set; is that fair?
- A. Yes. I believe that the market forces can continue to help the market function.
- Q. And -- and throughout your testimony and your presentation that you gave earlier today, you gave some examples of that, including how over-order premiums can be used when necessary to move Class I fluid milk where it needs to go when it needs to move there?
 - A. Yes.



- Q. Do you know, as you sit here today, whether producers can rely on over-order premiums to cover all the costs that it takes to maintain Grade A milk?
- A. I don't believe that producers need to rely on over-order premiums to compensate with respect to Grade A milk.
- Q. And you didn't do any of that analysis in the workup that you did for Proposal 20, did you?
 - A. Which analysis?

2.

2.0

2.1

- Q. You didn't analyze to what extent over-order premiums are used to supply the Class I fluid milk markets?
- A. I did not. We were very -- throughout MIG's work, we were very, very conscious of antitrust concerns around pricing discussions, and especially around discussions with respect to over-order premiums, and so I did not undertake, like, a survey of over-order premiums or anything like that.
- Q. As you sit here today, do you have an estimate of the extent which over-order premiums are used in the Class I market?
- A. Over-order premiums vary around the country. They vary in magnitude. They are more important in some places than others. But as you will hear from MIG's members, over-order premiums are a repeated theme for each and every one.
- Q. Okay. And do you know what percentage of the Class I market the ten MIG members represents?



- A. I don't recall that number off the top of my head, I'm sorry.
 - O. Less than 50%?

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- A. Certainly less than 50%.
- O. Less than 20%?
- A. Maybe right around 20%, but I'm not -- I -- it's been a long time since I've looked at that number, and I just can't remember it off the top of my head.
- Q. There would be no way to know whether over-order premiums in the future would be able to -- to compensate producers for servicing the Class I market, would there?
- A. We can't know the future. But people who care the most about making sure that they have enough milk for their bottling needs, in my view, are Class I processors, and so if they were concerned that this change would lead to a shortage of supply for them, MIG would not have proposed it.
- Q. Do you know when the -- when the AMAA was originally enacted, if Class I processors had an incentive to -- to take care of producers at that time?
- A. So the AMAA was enacted in 1937, and I'm going to defer to Dr. Stephenson on the history of the Act and all of those sorts of questions.
- Q. One of the other -- one of the other points that you make in your presentation is that if you -- if the -- if the market allows over-order premiums to be paid, then it would -- it would make the payments reach the producers who are actually producing that milk; is that right?



- A. Yes. The -- there are times probably where I should be a bit more precise in my language around this. So with the orders, producer milk can be either directly from a producer from a dairy farmer. But producer milk is also cooperative-handled milk, and so when I'm talking about the producer milk that supplies Class I, I mean all of the producer milk that supplies Class I.
 - O. Okay. And that includes at the farm level?
 - A. Yes.

2.

2.1

- Q. And if -- we could reference it, too, because if you look at Exhibit 450, your PowerPoint presentation, if you turn to page 5 under the incentive to serve Class I, the \$0.60 a hundredweight, that third element that you -- your proposal is to eliminate from the differentials -- or from the base differentials, the second bullet point there you say, "Compensation needs to go directly to the Class I suppliers."
- That's what you understood we were just talking about?
 - A. Yes.
- Q. And you understood that one of the principles under the Federal Order system is to pay producers without regard to the end use of their milk?
- A. Yes, I understand that. That -- and what we are suggesting here is that for this portion of it, it would be better to not be shared through the pooling mechanism, that it should go directly.
 - Q. Directly to the farm that's producing milk that



would be used for fluid milk purposes?

- A. Directly to the supplier. So whether the producer milk was cooperative or a dairy farmer. It's not -- and so it's direct on the producer milk.
- Q. And this is, again, reinforcing your principles that you would think it's better to let market forces dictate the movement of milk?
 - A. Yes.

2.

2.1

- Q. And so I'm going to go back to one of my first questions, that if we're here to -- and you believe that market forces can dictate the movement of milk, then other than data collection and transparency into what's happening in the market, why have a Federal Order system?
- A. We have a Federal Order system because dairy farmers have asked the Secretary to enact it. And if dairy farmers want it, that's good enough for me. Like, it can exist. It should exist. If they want it, then, yes.
- Q. And if we take your proposal then to fruition, what you are really saying is if the dairy farmers want it, we'll have it for purposes of data collection, but we want the market forces to really govern the pricing provisions?
- A. Your -- I mean, your question is very broad. I mean, the pricing provisions are way bigger than just Class I differentials. So, yes, with respect to Class I differentials. But, I mean, there's a lot more to FMMO pricing than just the base Class I differential.



- Q. Sure. So maybe it's good when it comes to setting Make Allowances, but not when it's good for setting differentials?
- A. I mean, I don't want to opine on end product price formulas. That's, you know, not what I'm here to talk about.
- Q. Okay. Let's -- let's turn to -- you have Table 1 in your testimony. I have to find it again really quick. And I am looking for the table on blend prices.

THE COURT: Page 9.

MS. HANCOCK: Thank you, Your Honor.

BY MS. HANCOCK:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And it's my understanding, as I read your position on eliminating the cost of balancing, that you believe that those -- those costs are already sometimes paid by other parties. Is that -- or a variety of parties I quess.
 - A. Yes, a variety of parties.
- Q. And, again, that would be another place in which you believe that market forces will drive the coverage of those balancing costs on its own forces, and we don't need the Federal Order system to build in a cost for balancing?
- A. Yes, absolutely. And in particular, I think that that element that the market has shown that there are a variety of different solutions, and so that -- that is particularly ripe for re-evaluation today.
- Q. And as you understand it, the current differentials have \$0.60 a hundredweight built into those



differential prices now for balancing, and even with that

\$0.60 a hundredweight built in, market forces have still

driven that shift -- that shifting of those costs to other

locations?

I dropped my pen, so I might have distracted you there. Sorry.

- A. Could you repeat the question?
- O. Yeah.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- A. Thank you.
- Q. Under the current differentials, you understand that there's a \$0.60 a hundredweight included from Federal Order Reform for balancing costs?
 - A. Yes.
- Q. And with that \$0.60 a hundredweight that's currently built in, even with that built in, market forces have created situations today in which additional balancing costs are borne by other parties?
- A. Yes. It is -- today there are balancing services being provided to the market by a wide variety of parties in a lot of different ways.
- Q. So if we don't even talk about who is paying for it, have you done a study or an analysis to determine how much it costs to balance?
- A. So a great big, like, study or research paper that's going to go out in a peer-reviewed journal, the answer to that question is no.

But the smaller question as far as a lot of research and discussion around various balancing costs,



- Q. And how much did you estimate on the work that you looked at as a group that it costs to balance?
- A. What we saw was, frankly, a very wide range and, you know, above and below the \$0.60. And so one of the things with the \$0.60 there, to me, is that sometimes some of that \$0.60 belongs with one party, and sometimes part of it belongs with somebody else. Sometimes it's way bigger; sometimes it's way smaller. It's -- what we saw was a lot of variability.
 - O. What's the range?
 - A. I don't want to speculate that on the fly.
- Q. And I'm not asking you to speculate. You said that you conducted a study and an analysis, and then I asked if you had studied the balancing costs and you said yes.

So I'm just saying, based on the study and analysis that you did, what was the range of the balancing costs that you observed with MIG's membership?

- A. Anywhere -- small, so, like, \$0.25 type of thing that somebody was taking on, to very large, like, dollars per hundredweight. So it -- a very wide range.
- Q. And when you say that someone was "taking on," are you talking about that MIG's membership was absorbing?
 - A. Yes.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. Okay. And so this is something in addition to what they are already paying that's built in to the differentials?
- A. Yes. And it's -- the way that the \$0.60 is built into the differential, there's this assumption that it's happening, that balancing is happening the same way, like, all the time. And the biggest -- my biggest takeaway was actually that there is a myriad of solutions and services and activities, and there was -- there's just a lot of variability there.
- Q. Okay. And that can run throughout the whole supply chain where those costs could be incurred.
 - A. Yes.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

23

2.4

25

26

27

- Q. And you have listed some here that go from the farm level all the way through to the processors; is that right?
 - A. Yes, I have.
- Q. And you said -- and in your Exhibit 450 in your PowerPoint presentation, you said that -- you reference a raw milk storage at the farm level.
 - Do you remember talking about that?
- 22 A. Yes.
 - Q. And so that would actually be a cost of -- that the farm would have to incur itself; is that right?
 - A. Yes, it would be.
 - Q. And not even something that -- that the cooperative would incur, but somewhere all the way down to the level where the cows are being milked?



A. Absolutely.

2.

2.0

2.1

- Q. And then it goes all the way through to the finished goods that are paid by the ultimate consumer, or by the ultimate sale to the retail outlets, for example?
- A. Yeah. I -- I don't think I'd tag consumers with having responsibility for balancing.
 - Q. You said finished goods at the warehouse.

 Are you talking by the processors?
 - A. Yes.
- Q. Okay. And -- and so when you were working with your membership at MIG and you said it could range up into the \$2 range, that variability can be seasonal; is that fair?
- A. The variability can definitely be seasonal. And MIG's -- there are 11 witnesses to follow me on Proposal 20, and MIG's members have a lot more specific information relative to their context and their experiences that I think would be informative here, like...
- Q. And I'm just trying to dig through the surface about what you're testifying to. So when you say that you believe that those costs aren't necessary, I'm trying to figure out what costs of balancing in the work that you did, did you determine were no longer relevant to be including in the Class I differentials?
- A. So my conclusion and the -- my conclusion and the group's proposal was that the \$0.60 for market balancing in the current base Class I differential should not be



- Q. Okay. So if I just maybe put a fine point on it, you are just saying the market conditions will take care of itself in putting those costs where they need to be allocated?
- A. Yes. And I would add that it will not be 100% of the time that it -- that that \$0.60 belongs with a processor.
- Q. You are saying that if it needs to be at the farm level, that will be paid for in those over-order premiums?
- A. If it needs to be at the farm level, it will be in over-order premiums. If it needs to be, you know, with the producer milk, it's going to be on over-order premiums. If it's going to be at the processor level, you know, there could be a credit on over-order premiums. There's a lot of different ways that it happens. And I know that our members are prepared to talk about that, and
- Q. Okay. So you just trusted the membership that you worked with at MIG, that if it was needed to be paid, that it would be paid through those over-order premiums?
- A. In my experience, with my clients, MIG and otherwise, when -- when over-order premiums are negotiated, they are paid.

their testimony covers these -- this topic.

Q. And you have been here throughout a good chunk of this hearing, and you have heard numerous producers and cooperatives testify; is that fair?



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

A. Yes, that's fair.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And have you heard them testify about how over-order premiums are not so easily negotiated from their side of the leveraged bargaining power?
 - A. I have heard that testimony.
- Q. Any reason to believe that they are not being truthful or honest when they say that?
- A. Definitely not. I think that it will be instructive and informative for the record to hear the other side of that negotiation.
- Q. And -- and I think, in total, you are -- you say that by eliminating each of these three elements, so eliminating the \$1.60, you are allowing the market conditions to take over and govern the pricing; is that fair?
- A. To take over and govern the base Class I differential, just that first \$1.60.
- Q. And if instead those are increased, you are worried that it will create overproduction of milk?
- A. We are concerned that price-enhancing changes would lead to oversupply.
- Q. What study or analysis have you done or been involved in that would suggest that increasing the prices would increase the milk production more than what demand would require?
- A. I reached that conclusion based on -- just on my experience in the industry and, you know, basic economic principles. There's no great big study there.



- Q. Is there any study at all?
- A. There's a lot of knowledge amongst myself and our group regarding, you know, how -- how dairy production responds to changing prices, how farm milk supply responds to price increases.
- Q. Okay. And I'm going to get to that in just a second. But before I get to the actual experience and walking down that path, I'm just wondering, you said there is a study.

Is there any actual study on that that you are aware of?

A. No.

2.

2.1

- Q. Okay. So when you talk about we have experience with it, can you tell me any situation where an increase in differentials, where the price for Class I fluid milk has resulted in an overproduction of milk?
- A. So those statements, I'm relying on just basic economic principles of supply and demand. And it has been a long time since Class I differentials have changed. You know, outside of the Southeast, it hasn't happened since order reform.

The clearest signal, actually, that I can show you in the marketplace, or point to, is if you look at the way that the farm milk supply has reacted to changes in the valuation of components over -- since order reform, and as fat has become more valuable, as protein has become more valuable, that you see increases in the production of those components. Like, people are responding to the



market signals.

2.

2.0

2.1

- Q. And that's because there's a buyer for that milk; is that right?
- A. That's because there's a buyer for that milk.

 There have also been times where, you know,
 there's a lot of, you know, kind of like boom/bust timing
 issues sort of thing within our dairy markets where prices
 will go up, more milk comes on, it turns out to be too
 much, the prices go down, milk supply contracts some. You
 know, there's a give and take there.
- Q. So I'm just trying to figure out -- let's say Class I differentials are increased as National Milk proposes.

What's the scenario that you can envision that would cause too much extra Class I milk to be produced? Doesn't there have to be a buyer on the other side in order for the producer to sell that milk?

- A. So what happens is the milk comes on, and it's perhaps more than what's needed, and then we see prices in the manufacturing classes decline, and the milk winds up being used for something that -- it's not like it goes down to zero value, but the price is no longer as high as it once was, and supply and demand, you know, re-equilibrates.
- Q. Well, in that scenario, that would also reduce Class I prices, right?
 - A. I suppose it would.
 - Q. Okay. So I'm just trying to figure out, if



there's no buyer for more Class I milk, why is there going to be an overproduction then?

- A. We have seen over the years, dairy producers respond to higher prices by increasing production. And there's other reasons why production changes at the farm level, but certainly the influence of pricing can't be ignored.
- Q. And, you know, cooperatives, for example, if, you know, they are obligated to take their members' milk, they can implement base/excess programs?
 - A. Yes, they could.
- Q. And if you are not in a cooperative, you can just not buy it as a processor, right?
 - A. You could match your supply. There's -- some cooperatives have quota systems. There's a number of different solutions.
 - Q. And you say throughout your testimony, and one example is on page 6 -- well, this one is related to balancing costs. You say that it can create disorderly market conditions.

I'm wondering how those disorderly market conditions are created?

- A. Can you tell me where you are on page 6?
- Q. Yeah. This one is the last -- the first sentence of the last paragraph on that page.
- A. So the -- so when balancing costs are built into the minimum price, it creates disorderly marketing.
 - Q. Yeah. How does it create disorderly marketing?



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- A. So I think that it is disorderly when we are asking people to perform a service and not compensating them for it, or requiring that they compensate someone for a service that they aren't getting. And both of those things happen.
- Q. And in this example, in referring to balancing, you are talking about because other parties might negotiate payment in another way outside of the Federal Order system?
- A. I believe that's where I was at in the preceding paragraph. The statement following the sentence that we were just talking about is in the first instance that means Class I processors are paying for balancing services that they may not be receiving.

In the second instance, being forced to pay into the pool generally for balancing leaves Class I processors with fewer resources to pay their direct suppliers over-order premiums related to balancing.

- So I was trying to talk about both sides of it there.
- Q. So all of the balancing costs that are not built into the Class I price are optional.
- Those are -- those are contract negotiated prices; is that fair?
- A. They are negotiated prices. I don't think the market is optional. I mean, you have to meet -- you have to -- you have to pay -- you have to pay for what you want to get, like...



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- A. I think that that's one way to look at it. I think that some of our members would look at it maybe through a different lens.
- Q. Meaning they feel forced to pay for those costs because of the bargaining power on the other side of the table?
- A. No, not so much a bargaining power thing. More, actually, that there are times when -- and we heard actually producer testimony about this back in October.

A California conventional producer talked about why he stopped shipping directly to a Class I processor and changed handlers, because of the disincentives and pricing issues related to pooling all of this \$1.60.

Q. So on that same page, on page 6, the prior paragraph, the second to the last sentence, it says that, "The Class I processors are effectively paying for balancing twice, once diluted through pool payment."

That's through the Federal Order system; is that right?

- A. Yes.
- Q. "And then a second time to the producers actually supplying the milk to the fluid plants."

You mean through a negotiated contract price?

A. Yes.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

- Q. And it's that double payment that you are saying in the next paragraph creates that disorderly marketing?
 - A. That's one example of it.
 - Q. Okay.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- A. There are others.
- Q. And sticking with this example that it's not the Federal Order system that's creating that situation, it's that secondary-tiered negotiation of the contract price to pay it -- the balancing costs, that's creating that secondary payment; is that right?
- A. If you -- if you consider the -- if you consider the FMMO base Class I differential as the first, then the other will have to be the second.
- Q. Right. Because the Federal Order system is the minimum price; is that right?
 - A. It is.
 - O. So it has to be the first, right?
 - A. I would think, yes.
- Q. Okay. And so it's not the Federal Order system that's creating that disorderly marketing, it's just your perception that in negotiating for additional over-order premiums that cover those balancing costs, that that's somehow double dipping and creating a disorderly market condition?
- A. I think that it is disorderly to ask Class I to go above and beyond. And, like, this is an example of continuing to ask Class I to go above and beyond.
 - Q. Well, isn't this somewhat inconsistent with what



you have already said, that the market's going to take care of itself, if you are saying that now by negotiating a balancing cost on top of what's already built in to the Class I differential it's creating a disorderly market condition?

- A. I -- I don't think so.
- Q. Okay. Let's turn to page 8 of your testimony in Exhibit 447. Under Section C there you say that "the solution for a failing Class I market is less regulation."

 Do you see that?
- A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And so you mean less regulation in the Federal Order system?
 - A. So I mean less of the price being covered in the minimum, you know, less of it being in the fully-regulated minimum price.
 - Q. And in reducing the \$1.60 base Class I differential, you state that "it will leave Class I market in a better position"?
 - A. Yes. I think that reducing the Class I differential will provide necessary resources for Class I to help turn the tide on declining sales.
 - Q. Okay. And I think you described earlier that it would allow Class I processors to be more innovative as well; is that right?
 - A. It's -- it's one step in it.
 - Q. Meaning it would allow them more dollars in -- in their budgets in order to allow them opportunities to



explore how to be more innovative within the fluid market sector?

A. Yes.

2.

2.1

- Q. And I think you, based on your calculations, said that that's about -- it ranges between \$0.11 a hundredweight and \$1.33 a hundredweight depending on the jurisdiction?
- A. That would be the impact on the blend price. The impact on the Class I price is uniformly \$1.60. The Class I price is only -- the Class I is only going to be applied to the Class I milk in the market, whereas the uniform price is going to be impacting all of the pool milk.
- Q. And so that to the extent that it would allow Class I fluid milk handlers to be more innovative, it would come at the costs paid to producers?
 - A. Producer prices, if Proposal 20 is adopted, producer prices would go down.
 - Q. So to the extent that Proposal 20 by MIG is designed to incentivize innovation by fluid milk handlers, that is coming at the costs of the reduced payment to producers?
 - A. What reduces is the calculation. So what reduces is the regulated minimum price.
 - Q. So my question was, to the extent that Proposal 20 results in a decrease in the Class I price that's paid, and you gave the blend price calculation range of somewhere between negative \$0.11 and \$1.33 a



hundredweight, that comes out of the pockets of producers?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

- Q. Do you believe that the producers should shoulder the costs of the fluid milk handlers' innovation?
- A. I believe that the -- that we should provide a system that allows the market to incentivize more innovation in the fluid space.
- Q. And who is going to subsidize the dairy farmers to be more innovative with respect to their production?
 - A. That's a rhetorical question.
 - Q. Can you answer it?
- A. I think that fundamentally the FMMOs are a system of regulated minimum prices. And, frankly, I would hope that dairy farmers look to the market and price negotiation to get the payments necessary to fund their own innovations.
- Q. And if the dairy producers lack the leverage to negotiate that, as they have testified to being unable to get over-order premiums that cover their costs, other than through the minimum pricing mechanisms afforded by the Federal Order system, are there any other options that they have?
- A. Well, I heard the testimony from cooperatives and producer witnesses regarding over-order premiums. I am -- I do not agree with the statement that -- that over-order premiums don't exist, aren't paid, are difficult to negotiate. That's not something I agree with.
 - Q. And -- and what dairy farmers did you include in



- A. So several of our members are actually dairy farmers themselves, so we have that group of people. And then we also, like I mentioned before, the MIG's -- the proposal that became MIG 20 was discussed at a number of IDFA meetings, and we received feedback from a wide variety of people on it.
- Q. And the dairy producers that are part of MIG's membership, are those the organic dairy farmers?
- A. There are organic dairy farmers, and then there -there's also some conventional. I believe that one of our
 members used -- it's complicated. But one of our members
 farms conventionally.
- Q. Do you know what percentage of the membership of MIG is based on conventional dairy farming?
- A. So the -- so several of MIG's members operate farms, and then there's also a MIG member who is a dairy cooperative. So Organic Valley is an organic dairy cooperative; Aurora Organic Dairy operates organic dairy farms; Crystal Creamery previously operated conventional dairy farming operations; and if memory serves, Shamrock Farms does both.
 - O. Okay. And Crystal was a producer handler?
 - A. No.
 - Q. They produce their own milk?
- A. Well, Crystal might have been a California producer handler, but Crystal was not an FMMO producer handler, to my knowledge.



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And since Federal Order Reform, do you know, are you familiar with what has happened on just inflationary growth during the last 20 years' cost of production?
 - A. Generally speaking, yes.
 - Q. What's happened to it?
 - A. The cost of production has gone up.
 - Q. Do you know by what percentage?
- A. I do not know off the top of my head by what percentage.
- Q. What would the range be that you would estimate that the inflationary growth of -- costs of production have increased over the last 20 years?
- A. I don't want to venture a guess and get it wrong. As you can tell, I'm sort of like a precise kind of person, and I would want to look it up and give you the right answer.
 - Q. And where would you look to get that answer?
- A. I would look at information from USDA, as well as other industry sources.
- Q. Like the producer price index for fluid milk manufacturing?
- A. That wouldn't be where I would look, but one could look there.
 - Q. What about the price of natural gas --
- A. So --
- Q. -- as a factor for calculating the inflationary growth for the cost of production?
 - A. So energy costs are definitely part of the reason



2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

- why costs have increased throughout our economy. And so looking at and understanding energy costs is definitely important.
 - Q. Dairy product manufacturing costs at NAICS, would you use that as a source?
 - A. Dairy product, for looking at the farmer side of things? I probably wouldn't go there first, but, you know...
 - Q. A factor for consideration?
- 10 A. It's certainly something that one could think 11 about.
 - Q. And is it fair to say that while you don't feel comfortable giving a precise number, you know that it -- over the last 20 years, the costs of production have increased by more than 100%?
 - A. I believe that to be correct.
 - Q. And even under your calculations, the cost of -of the proposed increase by National Milk at -- I think
 you calculated it to be on average of 53%, would fall well
 short of just keeping up with the inflationary cost of
 production; is that right?
- A. So I'm sorry, so the 53%, are you talking about NMPF's Proposal 19 or --
 - O. Yes.
- 25 A. Okay. Could you restate that?
- 26 Q. Sure.
- 27 A. I lost a thread there.
 - Q. Under what we looked at previously, under your



5

6

7

8

9

12

13

14

15

16

17

18

19

2.0

2.1

24

calculation of National Milk's proposed 19, Class I differential increase, you estimated it to, on average, be 53%.

Do you recall that?

A. Versus current.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- O. Versus current.
- A. I believe that to be what we were talking about earlier this morning, yes.
- Q. And under any calculation, if you just looked at the cost, the inflationary cost increase that's happened since order reform, National Milk's 53% would fall far short of just inflationary costs of production?
- A. Yes, it's below. And those inflationary pressures are seen throughout our economy. They are seen by fluid processors. They are seen by dairy farmers. They are seen by a cheese manufacturer. They are seen throughout the dairy industry and throughout our economy as a whole. So when you are talking about changes in transportation and energy, like, I mean, that's a --
- Q. So the answer is, yes, National Milk's proposal, if you just looked at the increase -- inflationary costs that have increased over the last 20 years, National Milk's proposal would still fall far short of that?
 - A. Yes. Just compared to straight-up inflation.
- Q. And you understand that one of the elements in setting the Class I differentials takes into account the cost to supply the market?
 - A. So, yes, the cost to supply the market, as well as



- Q. I'm just talking about the cost to supply the market. In all of the research you did in order to come up with Proposal 20, did you discover that part of the justification for the Class I differentials included the cost for the dairy farmer to supply the market?
- A. So fundamentally, yes. What we're looking at with the Class I differential is making sure that we have a Class I price that will effectively get the milk that's needed for Class I into Class I plants so that consumers can buy it at the store.
 - O. That's all I have.

MS. HANCOCK: Thank you so much for your time.

THE COURT: It's time that we're going to break for lunch today. It's 12:45.

But before we do that, Mr. Rosenbaum, you came in during this cross-examination. We knew you would be late. Would you just come to the podium and announce that you are here?

MR. ROSENBAUM: Steve Rosenbaum for the International Dairy Foods Association. I made it.

THE COURT: Wonderful. Thank you.

I notice Dr. Cryan came in, too, but we didn't have a preview that he had given permission for us to go on without him, so -- we did with regard to Mr. Rosenbaum.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

```
1
     All right.
              Please be back and ready to go at 1:46.
 2
 3
              We go off record at 12:46.
 4
               (Whereupon, the lunch recess was taken.)
                                ---000---
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
```



1	TUESDAY, JANUARY 16, 2024 AFTERNOON SESSION
2	THE COURT: Let's go back on record.
3	We're back on record at 1:47, and we will resume.
4	Let's see, Ms. Hancock, you had just finished.
5	MS. HANCOCK: I did.
6	THE COURT: So who will next cross-examine
7	Ms. Keefe?
8	MR. MILTNER: Ryan Miltner representing Select
9	Milk Producers.
10	CROSS-EXAMINATION
11	BY MR. MILTNER:
12	Q. Ms. Keefe, hello again.
13	A. Good afternoon, Mr. Miltner.
14	Q. Do you have Exhibit 447 in front of you, your
15	written statement?
16	A. Yes.
17	Q. Could you turn to page 4 of that exhibit, please?
18	The first block quote on that page is from a prior
19	USDA decision, talking about the component of the \$1.60
20	base for balancing costs.
21	And I'm wondering if in your discussions with the
22	members of MIG, if you or the group discussed what is
23	included in balancing costs?
24	A. So as a group when MIG has discussed balancing, we
25	have talked about quite a wide range of activities,
26	including, but not limited to, the stuff that would be
27	detailed here in the block quote.
28	Q. So within the block quote there's a reference to a



litany of components. The first is seasonal and daily reserve balancing of milk supplies.

Is that one of the elements that your members discussed?

- A. Yes, that was one that we discussed quite a bit, both around from a milk supply perspective, and then also from -- so production on the farm, more even, considering it versus seasonal demand, as well as the difference in shelf life and how inventory can play into those sorts of seasonal and daily balancing issues.
- Q. How would inventory play into seasonal balancing issues?
- A. For some extended shelf life in aseptic products, you are talking about code dates that are more than 200 days, and so you really can do things, like, put up product in the summer for sale in the fall.
 - O. Which members of MIG produce ESL products?
- A. Aurora Organic Dairy produces ESL products; Danone produces ESL products; HP Hood produces ESL products; fa!rlife produces ESL products; Shamrock produces ESL products; Shehadey produces one ESL product, it's a very small amount of their portfolio.

THE COURT: Would you spell Shehadey for me?

THE WITNESS: Absolutely. Shehadey is

S-H-E-D-E-Y (sic).

MR. MILTNER: I think you missed a few letters.

THE COURT: S-H-E --

THE WITNESS: S-H-E-H-A-D-E-Y.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

THE COURT: Thank you.

BY MR. MILTNER:

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. Of those members, which of them actually stockpile products in the summer for later sale?
- A. Many of them could. Who does and doesn't would be a better question for them than for me. I don't want to betray their business strategies.

It is interesting, there's a real carrying cost associated with doing that, because of the carrying cost of the inventory itself, and so there's a lot of tradeoffs that go into that type of a decision. But it definitely does happen.

- Q. Perhaps the answer is self-evident, but can HTST processors stockpile product in the same manner?
- A. Not in the same manner seasonally, but -- and so that was honestly one of the reasons why this was something that we talked about quite a lot, was that tension between what's possible with different processing technologies and very different products.
- Q. Have you looked at what percentage of the Class I market is ESL?
- A. I did look at that. I'm not going to remember the number off of the top of my head, but it is actually in the petition that MIG submitted in May for our hearing proposals. I just -- I --
 - Q. Okay. Thank you.

Would you agree that the specific elements of what is considered balancing is different for a cooperative



than it is for a handler?

2.

2.0

2.1

- A. I think that for a cooperative relative to -- I think that when it comes to cooperatives and balancing, there is activity around the -- balancing the producer milk that comes off of the farm, and you also see very similar concerns when a handler has direct ship producers. So I think that sometimes the scale is going to be different because cooperatives are frequently -- have many more members than what I would be talking about with a fluid processor, with a direct ship supply. But there you see very similar activities and concerns.
 - Q. Which of your members utilize direct shippers?
- A. Anderson Erickson uses direct shippers. Aurora uses direct shippers. I believe -- and in many of these cases, people are doing both. Like, it's not necessarily like all or the other. And I think Crystal does both. One of Crystal's facilities, I believe, is almost all direct shipment.
- So -- and continuing alphabetically, Organic

 Valley is a co-op. Danone has direct shippers. I believe
 that fa!rlife is mainly cooperative supplied. But this
 question would be best directed to the members of MIG
 themselves.
- Q. Are you aware of any MIG member that is only using direct shippers?
- A. I'm not. But I am -- a couple of them would -- the amount of cooperative milk that they buy is very low, like, not a routine purchase.



- Q. So for an organization like that, they would be using the direct shippers to supply most of their needs, correct?
 - A. Yes.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. And then the cooperative supply would round out their needs --
 - A. Yes.
 - O. -- correct?
- A. But you really should ask the members themselves because I may not have that right. I'm actually -- Turner may be 100% direct ship. So please ask the members themselves.
- Q. I will. Thank you. And although I will, I have one more question, maybe two, on this point.

For those handlers that are utilizing both direct shippers and cooperatives, normally, the direct shipper is shipping all of their milk to the Class I plant, correct?

- A. Typically, but not always. And Turner, actually, I know has part of their milk supply, which is in order to balance, they have direct ship producers that are -- that are largely dedicated to a manufacturing facility.
- Q. For those that are under the typical model where the direct shippers supply all of their farm production to a handler, isn't the balancing for that plant then shifted to the cooperative supply for those plants?
- A. Maybe. In some cases, yes, but in other cases, no. And so there are examples within the ten members that would not conform with the assumption there.



- Q. Why would they not conform to that assumption?
- A. So you can have a situation where the co-op supplier is not routine, is not a routine supply, and is not -- and is also not necessarily the peaks and valleys. Like, I would encourage you to talk with the folks at Aurora about this one.

There's -- there's a number of different arrangements within the -- just the ten members of MIG, and so it leads me to think that when you look at the industry as a whole, that you are -- that we would see even more situations where the primary cost and responsibility for balancing will sometimes be in one part of the supply chain or another. It's often frequently shared, though. It's -- it's not necessarily all one or all the other.

- Q. I think, did you testify earlier that Aurora has essentially own farm production for a portion of its supply?
- A. Aurora has own farm production, it also has direct ship production, and has cooperative supplied milk. So they have all of it.
 - Q. And -- and Aurora is 100% organic milk, correct?
- A. Yes. And so that's something that is also very unique about their balancing situation.
- Q. You were asked some questions by Ms. Hancock about the balancing costs of the MIG members. And I believe you stated that those costs sometimes were less than \$0.60 and sometimes more than \$0.60.



2.

2.0

2.1

- A. Yes. And I was -- what I mean there is that that is the portion of the cost that they are bearing.
 - Q. Above the regulated Class I price?
- A. No, it would be the portion that is -- it's just like looking at the activity and saying how much is this balancing activity costing you versus how much is some different activity costing.
- Q. Okay. So let me take a generic MIG member then, because I want to help understand that testimony.

For a MIG member that has this balancing cost you examined, and let's just say it's \$0.60 --

A. Sure.

1

2.

3

4

5

6

7

8

9

10

11

12

13

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- Q. -- is that \$0.60, then, just the portion of the base \$1.60?
 - A. So the \$0.60 is the cost that they are bearing today for what it is that they are doing.
 - Q. Okay. So it's not what they are paying in the Class I price, it is the cost incurred by the MIG member to balance, correct?
 - A. Yes. That's -- yes.
 - Q. Would that \$0.60 include any additional balancing costs that are incurred by a cooperative supplier to that MIG member?
 - A. No, there would be -- in that example, when Ms. Hancock and I were talking, there could be additional balancing costs borne by someone other than the MIG member. And so there could be another \$0.60 borne by the



cooperative. There could be a cost borne by -- at the farm level by a producer.

- Q. So for this generic MIG member, there are some balancing costs that will be incurred by the producer -- and I say "producer" to include cooperative and farmer, correct?
 - A. Yes.
- Q. There would be balancing costs incurred by the MIG member by the Class I processor, correct?
- 10 A. Yes.

1

2.

3

4

5

6

7

8

9

2.0

2.1

22

23

2.4

25

26

27

- 11 THE COURT: Your response?
- 12 THE WITNESS: Yes.
- 13 BY MR. MILTNER:
- Q. Now, those are the actual costs of the transactional participants.
- There's a \$0.60 payment made by the Class I handler to the pool, which is part of the base differential, correct?
- 19 A. Yes, that's correct.
 - Q. And then in many cases, if not all, would there be over-order premiums that are specifically allocated to a balancing cost?
 - A. In many cases the over-order premiums are associated with balancing activities.
 - Q. And I don't recall if this was asked, or if it was asked, if you answered it. The range of the actual balancing costs incurred by the MIG members, do you recall or can you testify as to what that range was?



A. So I'll say the same thing that I said earlier. It could be low, like \$0.25, to high, dollars, like, plural. I -- the exact nature of the range was quite wide.

And one thing that's -- one reason why it's very difficult for me to give a range like this is with the diversity of membership in the group and three members of the group being so focused on organic, their costs are very different than other members in the group, so it's -- it's not a homogeneous set.

- Q. Do you recall, or were you listening to the hearing, or at the hearing, when there was testimony from a cooperative witness that balancing costs to the cooperative could also be in the range of dollars per hundredweight?
 - A. Yes, I recall testimony like that.
- Q. If a cooperative is incurring dollars per hundredweight, and a hypothetical MIG member is incurring on the low end \$0.25, that transaction between the milk producer, the seller, and the milk buyer, the plant, it's certainly more than \$0.60, right?
- A. In this example, yes. The -- the \$0.60 that's there today is the \$0.60 that is -- was -- that -- it's \$0.60 that USDA settled on and included in the final decision in order reform. And so that \$0.60 is -- it's definitely going -- many things have changed since order reform.
 - Q. Do you think that the balancing costs that USDA



2.

2.0

2.1

found to be \$0.60 during order reform have decreased?

A. I think that the way in which balancing costs are incurred throughout the market has changed a lot since order reform. I don't necessarily think that they have gone down. I think it's a question of who's paying them when.

And I also think that this idea that there are -that this is an above-and-beyond extra special cost
associated with Class I exclusively is something that we
need to look at, because in some cases there can be
extraordinary costs associated with serving a particular
supply market, whatever, and in other cases the cost could
be very low. And so, you know, what MIG's proposal is
advocating for is a change that would allow more
flexibility.

Q. And, now, your answer then starts to move nicely into the next questions I have here.

Before I get there, you have testified that some handlers are paying twice for balancing in your opinion, correct?

- A. Yes, in my opinion.
- Q. But certainly not every instance where a Class I handler is paying an over-order premium for balancing is double paying or paying twice, correct?
- A. It kind of is because the \$0.60 is there in the base Class I differential. And so if you are paying \$0.60 related to -- into the pool with your producer settlement fund obligation, and then you are paying an over-order



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

premium, that could be much more, it could be \$2. And so -- and that over-order premium is also related to balancing. You have paid \$0.60, you have not got the -- all the balancing covered needed done, and then you pay another \$2. And I think that happens a lot.

- Q. But yet, that doesn't necessarily mean that all of the balancing costs incurred by the farm or the cooperative are covered, does it?
 - A. No, not necessarily.
- Q. And so now we'd lead into the answer you gave a little bit earlier, which is part of your concern, part of MIG's concern, is that those that actually incur the costs of balancing are not being adequately compensated, correct?
- A. Yes, absolutely. And so fundamentally, MIG's members are concerned that all the money that they pay for balancing, so whether it's the \$0.60 that is part of the producer settlement fund or some negotiated thing that's part of an over-order premium, or something else entirely, that that payment actually -- that that payment actually compensate the people who are performing the balancing, who are doing the work.
- Q. So if we -- if we took, for instance, a cooperative that operated in, say, New Mexico and Texas, hypothetically, and -- and the Class I price, the \$0.60 within the base differential was paid by a handler, and there's 30% Class I utilization, by my math, the farmers supplying that plant are getting compensated \$0.18 for



2.

2.1

their balancing obligations, correct?

A. Yes. And so of -- and \$0.18 is not a lot for balancing, and it's a real -- it's -- it's truly a necessary market function.

And there's also the situation where when you are doing it through the mechanism of the pool, so you have your \$0.60 and \$0.18 went there, so you have the remainder, which is not necessarily all going to market participants that are performing balancing services.

Q. Okay. Let's move on to a different one of the three elements of the base, the incentive to supply Class I plants.

Back on page 4 of your testimony there's a second block quote, and I want to read the first sentence so we can talk about it: "Option 1A presumes that the [proposed] minimum Class I differential is no longer adequate to ensure a sufficient supply of milk due to the competitive nature of the manufacturing facilities in this region."

Do you know which region the USDA is referring to in that block quote?

- A. I would need to go back and look that up.
- O. Okay.
- A. I don't remember that right now.
- Q. If I suggested it was the Upper Midwest, would -- would that refresh your recollection?
 - A. That sounds right.
 - Q. So if this block quote is talking about the Upper



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

27

Midwest -- let's assume that it is, okay -- and USDA determined that a \$0.60 component within the differential was then needed to draw milk from cheese plants to bottling plants in the Upper Midwest, what, in your opinion, has changed to make that specific conclusion no longer applicable?

- A. So what has changed there is the utilization throughout more regions of the country trending towards manufacturing, and then the, frankly, additional value being generated in those manufacturing uses. And Dr. Stephenson's testimony that follows mine goes into this element and analysis, you know, more thoroughly than the summary that I have here.
- Q. Do you know if there are Class I over-order premiums in the Upper Midwest today?
- A. I do not know what the Upper order -- what the over-order premiums are in the Upper Midwest today.
- Q. Do you know, have you analyzed, or do you have an opinion as to whether the Class I differential in the Upper Midwest is alone sufficient to entice producers to move milk from a cheese plant to a bottling plant if that market is available?
- A. So I'm trying to remember when he testified. I think it was October. So when Mark Lamers testified, he talked a lot about his challenges with attracting milk and competing in a market that's very much, in his market, dominated by Class III by cheese. And there are situations where when the -- there are situations today



2.

2.1

- when the underlying value of the milk for non-fluid use appears to be higher than what it is for fluid, and that is leading to the types of problems that Mr. Lamers identified in his testimony earlier in the hearing.
 - Q. And for purposes of a clear record, Mr. Lamers and Lamers Dairy is in Wisconsin, which is in the Upper Midwest order, correct?
 - A. Yes, that is correct.
 - Q. Do you have Exhibit 449 available, the table of all of the counties, MIG-15B?
 - A. Yes, I have Exhibit 449.
- Q. Okay. I saw you making exhibit marks on there, and I hope I didn't lead you astray and my numbering is
- But it is MIG-15B, and you have it?
- 16 A. Yes.

6

7

8

9

10

- Q. Okay. So I want to look at two, maybe three examples here.
- So if you would look at page 47, and I just want to call out Cuyahoga County, Ohio, at the top of the page.
- If Proposal 20 were adopted, the differential for
 Cuyahoga County would be \$0.40, correct? That's what this
 table conveys?
- 24 A. Yes.
- Q. Okay. And Cuyahoga County is the base zone for Order 33; is that correct?
- 27 A. I believe so.
- 28 Q. If you would now turn to page 29.



And Kent County, Michigan, is Grand Rapids, and its effective differential would be \$0.20.

And so the difference between the base zone in Cuyahoga County and Kent County is \$0.20, and the differential at the base zone is \$0.40.

And so I wondered if in putting together

Proposal 21 -- I'm sorry -- Proposal 20, there was any

consideration as to whether that relationship between

those two points would result in less milk being pooled on
the order?

- A. No. We really didn't look at that. It's -- we looked at the base Class I differential, the individual elements. We did not look at whether -- we didn't look -- we didn't look at this relative relationship between, say, Kent County, Michigan, and Cuyahoga County, Ohio, and nor did we look at the geographic element with respect to what I was discussing earlier during my Proposal 19 testimony regarding the more current USDSS modeling than today's Class I differentials.
- Q. Around Grand Rapids there's a fairly good pocket of milk production; would you agree?
 - A. Yes.
 - O. There's also --
- 24 | THE COURT: I'm sorry, that was a "yes"?
- 25 THE WITNESS: Yes.
- 26 THE COURT: Thank you.
- 27 BY MR. MILTNER:
 - Q. And there are also both fluid and manufacturing



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

plants in that part of the state, correct?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. If a farmer is supplying the manufacturing plant but qualifying as a producer, would it be ec- -- do you know if it would be economically advantageous for that producer's milk to actually be pooled if the \$1.60 were completely reduced to zero?
 - A. I haven't looked at that.
- Q. If you did a similar comparison between Dallas County, Texas, the base zone for Order 126, which would be reduced to \$1.40, and Eastern New Mexico and the adjacent Panhandle of Texas, where the -- it would be reduced to \$0.50, was there any analysis as to whether that significant milk shed with a lot of manufacturing milk would have an economic incentive to pool their milk?
 - A. No, I did not look at that.
- Q. On page 8 of your written statement, again, the paragraph that continues at the top of the page, the final sentence reads, "The fluid incentive embedded in the Class I differential is not cost justified and should be eliminated."
- Is that speaking only to the components of the base which is supposed to induce milk to supply Class I plants?
- A. Yes. I believe that that paragraph is focused on the fluid incentive.
 - Q. Last set of questions.

 You made reference to a document MIG submitted to



USDA which contained a number of proposals for this hearing earlier, correct?

- A. Yes, I did.
- Q. And one of those proposals was to -- I forget how it was phrased -- but to allocate \$0.55 of the base differential to those farms that supply Class I plants, correct?
 - A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And USDA did not notice that for the hearing, correct?
 - A. That is correct.
- Q. Okay. I don't want to get into the mechanics of how that would work, but the combination of all the proposals that MIG had submitted on this type of topic would have taken the \$1.60 to zero, replaced it with \$0.55 to those farms that supply a Class I handler, and create a separate credit for those supplying specialty milks, correct?
 - A. Yes, that's correct.
- Q. And so is it MIG's belief -- I guess is the word I'll pull at the moment -- is it MIG's belief that a direct payment of \$0.55 to those farms supplying a conventional Class I handler is a sufficient regulated minimum to compensate those farms to entice milk to the plant and balance the milk being supplied?
- A. I believe that -- that that \$0.55 was focused not on the fluid incentive, but on balancing.
 - Q. Okay. Would there have been -- but there was no



- A. There was not a separate component for a fluid incentive and -- but the \$0.55 was related to the balancing.
- Q. Okay. You mentioned in response to a question from maybe Ms. Vulin, maybe Ms. Hancock, I forget whom, but that one of the MIG members said they weren't looking for a price decrease, they were looking to direct where that money goes.

Did I get that down correct?

A. You did.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

- Q. I'm not going to ask you specifically who said that because I don't think you would answer, and not necessarily fair, but was that a conventional processor or a specialty milk processor?
 - A. That was a conventional processor.
- Q. So -- so if Proposal 20 were adopted, that processor would see their pool obligation drop by \$1.60, correct?
- A. Yes. And that processor expects that on the other side, that there would be a commensurate increase.
- Q. But yet, MIG didn't propose \$1.60 to be paid to the farms supplying those plants, it proposed \$0.55, and I wonder if there's explanation as to where that \$1.05 goes?
- A. So let's -- let's take the first \$0.40. So for the Grade A, the first \$0.40, I don't think this processor would be thinking of paying that again.

The next piece of it, as far as the balancing --



and the thing to bear in mind is that there's -- there's a 1 2. difference here between the proposals that were -- that are -- this proposal that's under consideration at the 3 4 hearing, as opposed to some of our other ideas that were not accepted. And the -- the idea that the difference 5 6 there in the \$1.05 would be the market. And in some 7 cases, some of the members would expect that more of that 8 would need to flow to their suppliers than others. It --9 it varies depending on their conditions and in the areas 10 where they operate. 11 MR. MILTNER: I think that's all I have. Thank 12 you. Hello, Your Honor. 13 DR. CRYAN: 14 THE COURT: Hello, Dr. Cryan. 15 It's nice to see you. DR. CRYAN: 16 THE COURT: Thank you. 17 DR. CRYAN: I'm Roger Cryan with the American Farm 18 Bureau Federation. 19 CROSS-EXAMINATION 2.0 BY DR. CRYAN: 2.1 Hello, Ms. Keefe. Ο. 22 Α. Hi, Dr. Cryan. Welcome back.

- - - Thank you. Nice to see you. Ο.

You said earlier that -- that the class prices shouldn't be the basis for maintaining class price alignment and --

- It sounds like I may have garbled a sentence. Α.
- Or at least you said the Class I price shouldn't Ο.



23

24

25

26

27

be the basis for maintaining class price alignment.

Is -- is class price alignment important? Does it matter?

- A. What do you mean by "class price alignment"?
- Q. Maintaining Class I as the -- as the higher price, and to avoid price inversions. You said to avoid price inversions, which I take to mean to maintain the consistency and the hierarchy of class prices.

Did I misunderstand that?

A. So what I was talking about there was that Mr. Schuelke, during his testimony on the base Class I skim mover, had testimony regarding when you look at the spread between the Class III prices and the Class IV prices, and then when you look at utilization in the market that he was looking at was California, and I believe that subsequently Mr. Brown with IDFA has done perhaps more in his testimony in December, that the level that you have to increase Class I prices to -- to prevent the inversion, based on the utilization that exists in a market like California, are extraordinarily high, like far outside the realm of what one would consider a reasonable milk price for conventional milk.

And I commented that, like, some of that, you know, the prices started to look like organic milk prices.

- Q. Okay. So you are saying that shouldn't be the only factor, shouldn't be the only thing that goes into addressing class price inversions?
 - A. Yes. I think that -- so the -- in my view, the



2.

2.0

2.1

reason why people get concerned about price inversions is not, frankly, so much the price inversion itself, people get concerned about price inversions because of depooling. And I think that when it comes to depooling, that there are a number of levers within the system that are, frankly, not under consideration at the hearing right now, but that are worthy of being addressed in order to -- if depooling is the problem that you are trying to solve, you can't just solve it with increasing the Class I price, in my view.

Q. With just the Class I. Okay. I understand. I appreciate that.

And in your statement you said that too high a Class I differential causes overproduction of milk.

What -- what is overproduction of milk?

A. So overproduction of milk, in my view, is when the farm milk supply is at a level that leads to, in extreme cases, dumping, but even in less extreme cases, you see, you know, low prices for commodity cheeses, commodity powder, stuff like that. So, you know -- and eventually the market forces, you know, find a new equilibrium, and, you know, we get to a new happy place.

But if -- if the Class I prices are too high, if the Class I differential is too high, that's going to artificially inflate the Class I price, and then that's going to, you know, just inflate the milk prices throughout the system.

It's a -- it is just the supply and demand



2.

2.1

dynamics of the marketplace.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

- Q. Are you suggesting that a higher Class I differential over the long-term will cause milk dumping?
- A. Well, that would be very dramatic, but it could certainly contribute to a situation where that maybe becomes more frequent. But I hope that if that were happening, then other factors would stabilize, and then, like, production would decrease, and we would not continue to dump milk.
- Q. So if -- I mean, in our market we have export outlets and other ways of balancing.

The markets balance; is that correct?

- A. The markets balance today, but the markets don't always balance at a price that all market participants find reasonable. I mean, you know, Ms. Hancock and I just had quite a discussion on that.
 - O. Okay. Okay.

DR. CRYAN: That's all. Thank you.

THE COURT: Is there other cross-examination before I invite the Agricultural Marketing Service questions?

Mr. Rosenbaum.

MR. ROSENBAUM: Your Honor, my questions are going to be back on Proposal 19, her testimony on that, which I was not here for because of my flight having been cancelled. So I don't know how you want to proceed. If the government wants to do their questions first, that probably makes more sense.



1	THE COURT: And is there anyone else who has
2	questions on Proposal 20 before I invite Agricultural
3	Marketing Service questions on 20?
4	No one. I invite the Agricultural Marketing
5	Service to proceed.
6	MS. TAYLOR: Thank you, Your Honor.
7	And thank you, Mr. Rosenbaum.
8	CROSS-EXAMINATION
9	BY MS. TAYLOR:
10	Q. Good afternoon.
11	A. Good afternoon, Ms. Taylor.
12	Q. Let's see, I don't think I have that many
13	questions that haven't already been discussed. Let me
14	sort through my notes. Let's turn to page 5.
15	THE COURT: This is Exhibit 447?
16	MS. TAYLOR: Yes. Thank you, Your Honor,
17	Exhibit 447.
18	BY MS. TAYLOR:
19	Q. That first full paragraph you talk about the Act's
20	requirement for us to bring forth an adequate supply of
21	milk; if the differential levels are too high, it induces
22	overproduction while reducing fluid milk consumption.
23	And then the next sentence there says, "It is also
24	not in the public interest."
25	What is the "it" in that sentence? Because you
26	talked about two things in the prior sentence.
27	A. So I was focused on the Class I differentials



being set at too high a level as opposed to the comments

regarding fluid consumption.

2.

2.0

2.1

- Q. So having a Class I differential set too high is not in the public interest, because?
- A. So in my view, it's not in the public interest because the -- if you -- there's two aspects to it. So if you set the Class I differentials too high, there is the public interest perspective related to dairy producers and what could happen with milk prices if there -- if the Class I differential acts in a price-enhancing way that then stimulates overproduction and causes utilization of milk in lower classes and, thereby, decreases producer revenue income, things like that.

And then on the other end of it, I also think -- and this -- and if it is related to consumers, is that if you are increasing the Class I differential, you know, ultimately when you increase class, when you increase costs for Class I, you are going to increase prices for fluid milk at retail, and the people that we ask to pay those prices are our consumers. And so that is the other end of it.

- Q. Okay.
- A. And so I was trying to get to sort of both parts of it with -- related to the differentials themselves.
- Q. Okay. And so when it -- on the consumer side then, it's more about the price impact to the consumers which you are talking about, and not the consumption impact that that might bring about as a result?
 - A. Yeah. The consumption impact is interesting as



far as like the elasticity discussions and all that were -- that we heard a lot about during the Proposal 19 opposition testimony from other experts. But that is -- elasticity is not my area of expertise.

Q. Okay.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

THE COURT: It's not what?

THE WITNESS: It's not my area of expertise.

BY MS. TAYLOR:

Q. So when I -- I'm looking at the -- let's -- let's talk about the three elements of the differential, and the first one being Grade A.

And in the decision you highlighted how that Grade A piece was maintaining Grade A status. And it makes contention that, because virtually 99-plus percent of the milk is Grade A now, you don't need that extra piece, and that somehow that is being compensated for in the Class III and IV prices now?

A. Yes. I mean, today, the Class III and IV prices are market clearing. Those products are being made with Grade A milk. And so we are asking, when it comes to the Grade A piece, we're asking Class I to go above and beyond what we ask everybody else to do to maintain -- or to have a Grade A milk supply available for the industry.

And so to me, it is very much a classic accounting -- like, double-counting example there. Like, very straightforward.

Q. I have to look between my notes to my actual questions to you.



I can get you there -- I can get to what you are talking about antiquated.

How is it discriminatory?

- A. So the discriminatory part of it is that we only ask Class I to pay the \$0.40 again. That's the discriminatory part of it to me.
- Q. And your -- MIG's -- I guess further in your line of argument on this particular piece, your contention is it's in the III/IV prices, so we have to assume that whatever is in there for Grade A maintenance for producers is adequate for them?
- A. Yes. And I -- I feel like that's a pretty reasonable assumption given the amount of Grade A milk that is available and the, I mean, negligible amount of Grade B milk that exists in the market today.
- Q. And you talk on the balancing piece about -- you mention in the middle of that paragraph the balancing arrangements can also vary regionally.

And so is that -- in there you are talking -- if I'm just trying to piece your argument together, is that that then can be -- that cost recovery can be left to the negotiations between that processor and its producers on a regional basis?

A. Yes. And because there is regional variability,



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

1 that's one of the reasons why I think that it is good to 2. leave -- I think it's appropriate to leave it to the market there, because the market is going to be -- the 3 4 direct negotiation is going to be able to better create the arrangement that is most efficient. That is the --5 it's like everybody talks about, like -- so with 6 7 Proposal 19 we talked a lot about the model. And, like, 8 the model was, like, this -- the USDSS model is this, 9 like, perfectly efficient solution. And, you know, I feel 10 like the market is going to be more efficient when you -when there is regional variability than -- than this --11 12 than a national regulated -- by embedding it in the 13 national-regulated minimum.

- Q. Uh-huh. And your sentence talks about processors kind of do their part in balancing because they will accept even everyday -- it says -- I think there's a typo, which we can correct. On page 6, in the middle of the paragraph, that first full paragraph, that begins, "In other scenarios, the processor may accept," is that supposed to be "everyday"? Or even -- is it supposed to be "even day"?
- A. I was using "even day" --
 - Q. Okay.
- A. -- in the insider lingo jargon that often gets used.
- 26 Q. Okay.
- 27 A. So --
- 28 Q. And even day, why don't you define what you mean



14

15

16

17

18

19

2.0

2.1

22

by that?

2.

2.1

- A. So what I mean by even day is literally receiving even amounts of milk across all of the days of the week or the month. And there are a number of different even-day receiving programs that I'm aware of, and they don't necessarily -- they are not necessarily all the same as far as the time bucket that they are looking at, so not necessarily all -- like, all weekly or all monthly or -- and many have elements that look at evenness on -- on different time scales, too. So you would be looking at, you know, a band for a week versus something for a month versus an annual commitment. So lots of -- lots of different ways to skin that cat.
- Q. And that's not -- is that at the -- to the benefit of the supplier in that case, so they know, hey, I always have to deliver ten loads, let's say, or they will take -- they will that extra three loads on the weekend that they --
- A. It can be to the benefit of the supplier that they know that it's very routine, like, it's guaranteed, like you are going to get it. It could be to the benefit of the plant where they are, like, I -- you know, I can't do this, and I know what it's going to cost me when I -- when I don't do it, so --
- Q. Do the plants -- I guess, is that part of the negotiation?

There's been some discussion on the hearing record about credits given to plants, receiving credits for kind



- A. Yes. There is some recognition of that today when that negotiation goes on.
- Q. And so to follow MIG's kind of argument on the balancing piece, I just want to stick to that, is to leave it up to the market to do that. So one has to assume, then, that that works?
- 11 A. One has to assume that the market is going to work.

And like Mr. Miltner raised, we -- we did offer a proposal that recaptured 55 of that \$0.60, but that isn't under consideration today, so --

- Q. Uh-huh. And on this last paragraph, that first sentence, and you had a little bit of discussion on the record with -- in your previous cross-examination about, it's not necessarily disorderly marketing. And I wrote down you talked about asking people to perform a service and not being compensated, or requiring compensation for a service they are not getting.
 - A. Yes, I feel both of those are disorderly.
- Q. Okay. Do you think there's indirect benefits that processors might get through the pricing system?
- A. Do you mean beyond, like, the information services and market transparency stuff that we were talking about?
 - Q. Like, the orderly marketing, the whole system is



1

2.

3

4

5

6

7

8

9

10

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

supposed to provide for the benefit of all participants.

And it does that through pricing and pooling. I mean,
that's not just one set of provisions, right?

- A. Yeah. I think that there are some benefits. I would point you towards Mr. Carson's testimony with United. You know, he talked a little bit about the benefits that he felt that the order system, like, brought for his operation. You know, I think that it's -- there are -- there are some -- there are benefits beyond just the data and information and market transparency type of very, very valuable to the market, those things. But there are other things that people, in my view, do value.
- Q. If -- if I turn to page 8. And I don't think you answered this question. I apologize if I'm repetitive.

Under C on that first paragraph, you say, "The current system is not working."

Could you elaborate on how it's not working?

Other than maybe that's the disorder you just talked about, I'm not sure. But to be clear?

A. Yeah. So I think that the current system and the current base Class I differential isn't working because, say, in the case of the Grade A/Grade B compensation, you are asking Class I to pay for something that no one else is being asked to do. And that is, you know, clearly being provided to other market participants as well, but it's not embedded in the pricing for them in the same way that it is for Class I. And so that's -- that's what I mean about it not working and --



2.

2.1

1	Q. Okay. So maybe some type of free rider program
2	or not program problem, in other words?
3	A. I think that there are some free rider problems,
4	absolutely, yeah, that one.
5	Q. If I turn to page Exhibit 450, which is your
6	presentation, and on page 5. This is just a clarification
7	question.
8	Under the balancing section, the third bullet,
9	"Cap ex for raw milk storage."
10	What is Cap ex?
11	A. Capital expenditures.
12	Q. Oh, okay. Okay.
13	MS. TAYLOR: And that's it from AMS. Thank you
14	very much.
15	THE COURT: So, Mr. Rosenbaum, I'd like to take a
16	ten-minute break before you go back to Proposal 19.
17	So let us take that now. It's almost 3:00. Be
18	back at 3:10, ready to go back on record.
19	(Whereupon, a break was taken.)
20	THE COURT: Let's go back on record.
21	We're back on record at 3:11.
22	Mr. Rosenbaum, would you identify yourself,
23	please.
24	MR. ROSENBAUM: Yeah, Steven Rosenbaum for the
25	International Dairy Foods Association.
26	CROSS-EXAMINATION
27	BY MR. ROSENBAUM:



Q. Good afternoon, Ms. Keefe.

- A. Good afternoon, Mr. Rosenbaum.
- Q. I have a few questions that are going to be directed toward the corrected page, I think it's 15, to Hearing Exhibit 441. It's the document that has the red and green charts on it.

And I also will be calling a little attention to Table 2 in that same exhibit, so that's Hearing Exhibit 441, which was MIG Exhibit 64A.

And I did make a couple of copies. I can make it a little easier if you -- and one of them is corrected, the chart is corrected.

So -- so looking at the -- at the chart which is Chart 1, as I said, original page 15 of MIG Exhibit 64A, which you submitted a corrected version of, as I understand it, and so I'm going to be using the corrected version I believe you submitted this morning.

So, first of all, am I correct that everything that's on that chart is a reflection of a number that appears on Table 2 of that same exhibit?

- A. Yes.
- Q. So in -- I guess there's a saying that a picture is worth a thousand words.

I think in this case, this is a chart that perhaps reflect a thousand numbers, or not quite that many, but quite a few numbers, correct?

- A. Yes. The chart is trying to convey a lot of information about over 6,000 numbers.
 - Q. Okay. And so because it's so concise, I want to



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

make sure it's clear what it means. And when I first saw it, I didn't understand it all, so let's see how close I have gotten it.

First of all, you called this, when you testified about it originally, this was before we went on the last break -- I don't mean the lunch -- the ten-minute break, I mean the month break we were on -- so you called this a box-and-whiskers chart, which I had never heard that phrase before.

So can you just tell us what that meant?

- A. Yes. So if you look at the orange box with the "all," if you turn the chart from a landscape orientation where the boxes and the whiskers go up and down, to a portrait orientation, they look more like boxes and whiskers. And a lot of the times when people encounter these charts in, like, a statistics course, you frequently see them actually presented the other -- in the other orientation.
- Q. Okay. So that -- and I would like to maybe focus on the green bar, I guess, to the far left as we look at it in --
 - A. Uh-huh.
 - O. -- in the way it's printed.
- So there is literally a box that sort of runs from roughly \$1.80 up to \$3.20, let's say, correct?
 - A. Yes.
 - O. And that's the box.
 - And then the whiskers, there's a whiskers below



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

26

27

- A. Yes. And so for the green "all," you have the box, and so the box is going to be the second and third quartiles.
- Q. We'll get to that in a second, but I just want to make sure I have the boxes and the whiskers right.

Now, am I correct that this document, does -which is a comparison of the current Class I differentials
to the Class I differentials that are being proposed by
National Milk in Proposal 19, correct?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. Okay. And am I correct that this document does not, if you will, reflect any judgment on your part, it's just, as they say in the old Dragnet shows, the facts, correct?
- A. Yes. It's not judgment, it's just a way of looking at the information.
- Q. Okay. So -- and, once again, continuing using the green information that has the word "all" under it, that reflects the current Class I differentials as they exist today in the entire country; is that correct?
- A. Yes. So that "all" is all 3,108 counties, their Class I differentials today.
- Q. Okay. And indeed, if we -- and if we want to get specific numbers, I'll give some of them, but it's all in Table 2, right? Including that number of counties you just told us, correct? That's all in Table 2, right?
- A. Yes, it is.



- Q. Okay. So we have -- let's -- so let's just go through the -- what I call the quadrants.

 The lowest quadrant, I take it, is the whisker underneath the box; is that correct?
 - A. Yes.

6

7

8

9

10

11

12

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

28

Q. And --

THE COURT: The answer was "yes"?

THE WITNESS: The answer was "yes."

BY MR. ROSENBAUM:

- Q. Okay. And by "quadrants," am I -- is this basically an effort to divide the 3,108 counties into four even pieces, if you will, four quadrants?
- A. Yeah. Four quadrants or four quartiles is what -quartiles is the term that's most frequently used.
 - Q. Now, obviously, you might not have a clean break in the sense that every -- am I right that every county with the same price ends up in the same quadrant, correct?
 - A. Yes.
 - Q. So that might mean you are not going to have exactly as many counties in every single quadrant; is that right?
 - A. Yes.
 - Q. Okay. So the lowest quadrant then -- this is current -- and this -- this covers roughly -- I mean, if we take the 3,108 counties and divide it by four, we're looking at something on the order of 770 counties.
 - That's a rough number, correct?
 - A. Roughly that, yes.



- Q. Okay. So -- and those all fall in the range from \$1.60 to \$1.80, correct?
 - A. Yes.

2.

- 4 Q. I mean, I can eyeball that and sort of see that.
- 5 But if I want to make sure I have the exact numbers, I can
- 6 look in Table 2, and, in fact, in Table 2 there's -- the
- 7 | last set of information is the "all" set and the current.
- 8 | I can see that, in fact, in the lowest quadrant the price
- 9 | runs -- the Class I differential, excuse me, runs from
- 10 | \$1.60 to \$1.80, correct?
- 11 A. Yes. And about the fourth of the Class I
- 12 differentials are there.
- 13 Q. Okay. And then if we go up now, we're going to go
- 14 | to the, if you will, second lowest quadrant, I quess I'll
- 15 | call it that. We're now in the box.
- 16 And does that take us from the bottom of the box
- 17 | up to the -- where the line is in the box?
- 18 A. Yes.
- 19 Q. Okay. And by "line," I mean the line, the
- 20 | horizontal line, correct?
- 21 A. Yes.
- 22 Q. All right. And is that -- and, once again, I'm
- 23 | getting numbers -- you can get it sort of eyeballing it,
- 24 but, once again, that -- using exact numbers from Table 2,
- 25 | that will take us from \$1.80 to \$2.40, correct?
- 26 A. Yes, that's correct.
- 27 | O. And since -- and since we have used the bottom two
- 28 | quadrants up at this point, is -- tell us what that line



1 then represents, the line across the box.

- 2. So the line across the box represents the median, so the middle. 3
 - Okay. And just -- can you just define "median" Ο. for us?
 - Α. So the median is going to be the middle of the distribution, so half of the values will be below and half of the values will be above.
 - So half the counties are below and half the Ο. counties are above in this context.

Is that what that means?

12 Α. Yes.

4

5

6

7

8

9

10

11

16

18

19

2.0

- 13 And then there's an "X." An "X" is what? 0.
- 14 And so "X" is the average, which here is \$2.57. Α.
- 15 Okay. So that's what the average Class I Ο. differential is today in the United States?
- 17 Across all of the counties. Α.
 - Okay. Now, the next quadrant then would be from that line that goes across the box up to the top of the box, the green box; is that correct?
- 2.1 Α. Yes.
- 22 And to get specific numbers, once again, looking 23 at Table 2, that will take us from \$2.40 to \$3.20,
- 2.4 correct?
- 25 Α. Yes.
- 26 And then the last quadrant is going to take us Q. 27 from -- is the top whisker, correct?
- 28 Α. Yes.



- Q. And that will take us from \$3.20 to \$5 as it appears on Chart 1, correct?
 - A. Yes.

2.

3

4

5

6

7

8

9

14

18

19

2.0

24

- Q. Now, if you actually look at Table 2, it shows the maximum Class I differential being \$6, and that's because you have certain outliers which are these little dots, correct?
- A. Right. And so you can see -- you can see that the top dot is right at \$6.
- Q. Okay. And my understanding is that USDA, in cross-examining you earlier, asked you to explain what the outliers mean, and I'm not going to -- and so I'm not going to ask you about that.
 - A. Okay.
- Q. So then the orange is the same information, but it's Proposal 19, correct?
- 17 A. That's correct.
 - Q. In other words, the box right next to the "all" is the -- if you will, the "all" information for Proposal 19, correct?
- 21 A. Yes.
- Q. And, in fact, you labeled it "all" at the very top, correct?
 - A. Uh-huh. Yes, I did.
- Q. And so in this, therefore, in a pictorial way, tells us in an overall manner how the current Class I differentials compare to proposed; is that right?
 - A. Yes. And it shows you both for all of them and



1 | then also by FMMO.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. Okay. And so you could see -- I mean, so you can just, you know, see pictorially that, as an example, the average Class I differential has gone up from, I think you said it was \$2.57 to, I don't know, roughly \$4.20, something like that; is that right?
 - A. \$4.07.
- Q. Okay. So that gives you a sense as to what the overall magnitude has been.

But then another thing this does for you is in a pictorial way gives you a sense of the range, correct?

- A. Yes, it does.
- Q. And the range is very easy to visualize because that's what this whole thing is. I mean, that's to say the current range goes from the bottom of the green whisker up to the top of the upper whisker, correct? With a few outliers on top. Where -- and the range for the proposal goes from the bottom of the red, it's at \$2.20 I think that is, up to \$7.90, correct?
 - A. Yes.
- Q. So just eyeballing, you can tell the range of Class I differentials is a lot higher under the proposal than under the current regime, correct?
 - A. Correct.
- Q. All right. So then the other thing this tells you is the same information, really, but on an order-by-order basis, correct?
 - A. Yes.



- Q. And so methodologically what you did for the "all" is the same as what you did for each individual --
 - A. Yes, the --

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

- O. -- order; is that fair?
- A. Yes. The -- the calculations and the math underneath to create each of the individual box and whiskers are -- it's the same.
- Q. Okay. So -- and then, once again, you can also do -- so -- and you can eyeball certain things. Like, if you want to look at Order 1, you know, you can see -- well, right now, you know, the highest differential in Order 1 is, like, \$3.20, I'm eyeballing it, and under the proposal, the lowest differential would be more than that, \$4, going all the way up to \$5.20, correct?
- A. Yes.
- Q. So you can just eyeball the comparison.
- But they actually vary substantially from order to order, that relationship; is that fair?
- A. Absolutely. So, like, you are not seeing the same sorts of changes between the current and Proposal 19 happening in each of the orders.
- Q. Okay. So, I mean, so as an example -- well, like Order 126, for example, you can see a fair amount of overlap between the existing green Class I differentials and the new red Class I differentials, correct?
- A. Yes. So for Order 126 you see that it's actually sort of moving in a similar fashion to the "all," where, you know, there's a lot of overlap with the current range



1 and the proposed range.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

25

26

27

28

- And -- and the range, that tells you within an order how much difference there is between the cheapest Class I differential in the order and the most expensive, correct?
- Α. Yes. The range will show you across the -- for the counties in that order.
- So let me just look at a few. So -- and you can Ο. use Table 2 if that is helpful.

But as an example, some examples, Order 33, the current range you can tell is not that big, just if you look at what the lowest green point is to the highest green point in 33, and if you look at the actual numbers, that is, in fact -- the range is \$0.70, correct?

- Α. Yes.
- Whereas the proposal almost triples the range to Ο. \$2.05, correct?
 - Yes. And you can see that the box, the orange box Α. for Proposal 19 for Order 33 is much -- it's a larger box and the whiskers are longer.
- Okay. And -- okay. And that reflects range, O. correct?
- Α. Yes.
- 24 And there's other information, but that's one of the things that it reflects.
 - Now, Order 30 by comparison is -- let's see, the current range is \$0.20 and the proposed range \$0.55, correct?



- 1 A. Yes.
- Q. I mean, these are actually adjacent orders,
- 3 | correct?

- A. Yes.
- Q. Okay. And then Order 51, which is California,
 actually for Order 51, the -- well, there's some outliers
 there, right? So the range is broader, somewhat broader,
- 8 | if you ignore the outliers, correct?
- 9 A. Yes.
- Q. If you look at the outliers, the range actually is
- 11 | not changed at all; is that right?
- 12 A. That's correct.
- Q. And then, if we look at Order 131, which is
- 14 | Arizona, the range actually is shrinking; is that correct?
- 15 A. Yes, that's correct.
- 16 Q. There the range currently is \$0.45, it's going
- 17 down to \$0.20, correct?
- 18 A. Yes.
- 19 MR. ROSENBAUM: I think that's all I have. Thank
- 20 | you.
- 21 THE COURT: Mr. Rosenbaum, that was extremely
- 22 helpful. Thank you.
- MS. VULIN: Your Honor, Ashley Vulin with the Milk
- 24 | Innovation Group.
- I believe we're starting redirect on Exhibit -- or
- 26 | excuse me, Proposal 20?
- 27 | THE COURT: Yes. Unless you have any follow-up to
- 28 | what Mr. Rosenbaum did.



1	MS. VULIN: No, thank you. I think it was covered
2	thoroughly.
3	Sorry?
4	THE WITNESS: Does anybody else want to talk about
5	those before we put them away?
6	THE COURT: Oh, the boxes and whiskers?
7	THE WITNESS: Yes.
8	THE COURT: Okay. Would anyone else like to
9	follow up on boxes and whiskers?
10	I think we have got it.
11	REDIRECT EXAMINATION
12	BY MS. VULIN:
13	Q. So just a few things. You had been asked earlier
14	about the membership of MIG, and I believe in earlier
15	testimony you had testified that Class I operators are
16	broken down approximately to 50% cooperative-owned, 30%
17	proprietary, and 20% captive/retailer owned; is that
18	right?
19	A. Yes.
20	Q. And of the 30% that is proprietary for Class I
21	operators, MIG membership certainly has the majority of
22	that production, correct?
23	A. Yes, that would be correct.
24	Q. And earlier you were also asked about whether it's
25	best to let market forces dictate the movement of milk.
26	Do market forces dictate the movement of milk
27	today?
28	A. Absolutely.



- Q. And does MIG's Proposal 20 fundamentally change how FMMOs account for market forces in the Class I prices?
- A. Not fundamentally. It's still looking at a combination of a regulated minimum and market forces in the form of over-order premiums and the like.
- Q. And so Proposal 20 still has a market minimum, correct?
 - A. Correct.
- Q. And it still would account for over-order premiums, same as today, correct?
- 11 A. Yes.
- 12 Q. Rather, it's just a question of magnitude.
- 13 | Proposal 20 addresses a certain amount of money that would
- 14 be taken out of the minimum and, instead, left to market
- 15 | forces?

2.

3

4

5

6

7

8

9

10

18

19

2.0

2.1

22

23

24

25

26

27

- 16 A. That's correct. That is my perspective on what
 17 MIG is seeking with Proposal 20.
 - Q. Entirely consistent with the principles that USDA applies today and how to balance minimum prices and market forces?
 - A. I think that it works. I think that it is consistent with the way that the program operates today.
 - Q. And you were also asked quite a bit about \$0.60 for balancing and how that results in double-counting. So I just want to walk through that briefly.
 - The \$0.60 that today is pooled and allocated for balancing costs, is that \$0.60 directed to Class I suppliers who actually carry those balancing costs?



- A. Not necessarily. That \$0.60 goes -- that \$0.60 is part of the base Class I differential, and so that \$0.60, a Class I handler is accountable for it to the pool through the producer settlement fund.
- Q. And particularly with orders with low utilization, that \$0.60 would be quite diluted throughout the pool, correct?
 - A. Definitely.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. And so imagine a producer to a Class I plant in the Central Order, and imagine that producer as carrying \$0.60 worth of balancing costs in order to service the Class I market.
- Will the pool compensate that producer for his or her \$0.60 of balancing costs?
- A. No, because of the Class I utilization, the amount that's going to come through is going to be much lower.
- Q. And so when that farmer goes to sell his or her milk to a Class I plant, he'll need to charge that plant again to make up for the difference of -- of what he still has for his balancing costs, correct?
 - A. Yes.
- Q. And so despite that plant already paying \$0.60 into the pool, that plant would, a second time, have to pay that supplier in order to make up for the difference in the balancing costs that supplier has, correct?
 - A. Yes.
- Q. And that's the double-counting you were describing?



A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

Q. So then let's do one more example. A similar scenario, but imagine this time the Class I processor who is purchasing that milk has extra raw milk storage that they have built.

In that case, that would be the processor bearing the cost of a balancing funds, correct?

- A. Yes.
- Q. And one more example. Imagine a Class I processor who decides to build an ESL plant.

There are a lot of business considerations to do so, but as you testified, that could also provide a balancing function, correct?

- A. Yes.
- Q. And even if it's not seasonal balancing, right? You were asked, I know, about milk being produced in the summer and saved until the fall.

Certainly, in your experience, have you seen it be utilized at least for daily or week-to-week balancing of supplies?

- A. Oh, absolutely, daily, weekly, and even getting into monthly. With the shelf life on ESL products, you -- you really see people managing their inventories in a way to facilitate balancing.
- Q. And so a processor who builds an ESL facility would be paying a lot more per hundredweight for the balancing activities that that plant provides versus someone who builds extra raw milk storage, correct?



- Q. ESL milk plants are quite expensive to build, correct?
 - A. Yes, they are.

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

- Q. And so that's why you are looking at even scenarios where the two processors are both bearing balancing costs, it really depends on the manner in which they provide that cost to determine what the expense is to the processor in providing it?
- A. Yes. So what balancing activities and how they are undertaking those balancing activities is going to -- is going to make it so that the costs are not the same, and the amount of the balancing that they are taking on may not be the same.
- Q. And is that why MIG determined that this minimum price should not contain that portion of balancing because it's carried so differently in every market situation?
- A. Yes. Because there is so much variability, we believe that it makes more sense to leave it to the market so that the specifics can be addressed.
- Q. And when you say "leave it to the market," do you mean leave it to the producers and processors to determine for their individual businesses the most cost effective way they want to handle balancing?
- A. Absolutely. The most efficient, most cost effective way to perform that vital service.
 - Q. And to ensure that that service is actually being



compensated when it's provided to Class I versus dilution through the pool, correct?

A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

24

25

26

27

- Q. And you were also asked about over-order premiums.

 And in your experience, do you believe dairy

 producers lack the leverage to negotiate over-order

 premiums in some way that's a systemic problem for FMMOs?
- A. I don't think so. I think that while we have heard testimony from some cooperative witnesses and producers about problems, we have also heard testimony from others about, frankly, the market power that they have.
- Q. And is the fact that some producers are not receiving over-order premiums they believe are warranted, what does that say to you about the current minimum price?
- A. That says to me that the current minimum price is too high, that you are bumping up against it.
- Q. And is that because the minimum prices serving is the actual price instead of leaving space above that minimum for the market to operate?
 - A. Yes.
- Q. And do you believe that is disorderly marketing or a symptom of it?
 - A. I think it's a symptom of it. I think that it -- it's a marker. It's some -- it's a -- we should take a look at this.
 - Q. And you were also asked about Grade A requirements. And you were asked if Federal Milk



1	Marketing Orders only require Class I operators to use
2	Grade A milk.
3	Do you recall that?
4	A. Yes.
5	Q. Can producers who are participants in the FMMO
6	system have Grade B milk?
7	A. No. In order to all producer milk for the
8	FMMOs has to be Grade A.
9	Q. So similar to our experience with rBST-free,
10	Grade A milk has become the industry standard within
11	FMMOs?
12	A. Grade A milk is very much the industry standard.
13	Q. And the regulatory standard?
14	A. Absolutely.
15	MS. VULIN: Nothing further. Thank you.
16	THE COURT: Are there any other questions of this
17	witness regarding Proposal 20?
18	I see none.
19	Congratulations, Ms. Keefe. You may step down.
20	MR. ENGLISH: Your Honor, I'm going to try to move
21	things along.
22	Chip English for the Milk Innovation Group.
23	THE COURT: Move them slowly, please.
24	MR. ENGLISH: I'm after lunch, so okay.
25	Thank you. Yes.
26	Chip English for the Milk Innovation Group.
27	I call to the stand once again, Dr. Mark
28	Stephenson, and we're going to try to hand out the



1	documents quickly enough so we don't have take a very long
2	break or any break at all.
3	We believe we are reconnected to the computer,
4	right?
5	THE COURT: We'll go off record at 3:39.
6	(An off-the-record discussion took place.)
7	THE COURT: We're back on record at 3:41.
8	I have three exhibits in front of me.
9	MS. VULIN: Before we turn to that, Your Honor, I
10	would like to move to admit Ms. Keefe's testimony and
11	exhibits. I had rushed off before we did that.
12	THE COURT: All right. Thank you for remembering
13	that. I'm glad you did.
14	All right. So what will be the first number you
15	will refer to?
16	MS. VULIN: Exhibit MIG-15, which is Exhibit 447.
17	THE COURT: Is there any objection to the
18	admission into evidence of Exhibit 447, also marked
19	Exhibit MIG-15?
20	There is none. That Exhibit 447 is admitted into
21	evidence.
22	(Thereafter, Exhibit Number 447 was received
23	into evidence.)
24	MS. VULIN: MIG Exhibit sorry, Exhibit MIG-15A,
25	which is Exhibit 448.
26	THE COURT: Is there any objection to the
27	admission into evidence of Exhibit 448, also marked
28	Exhibit MIG-15A?



1	There is none. Exhibit 448 is admitted into
2	evidence.
3	(Thereafter, Exhibit Number 448 was received
4	into evidence.)
5	MS. VULIN: Exhibit MIG-15B, which is marked 449.
6	THE COURT: Is there any objection to the
7	admission into evidence of Exhibit 449, also marked
8	Exhibit MIG-15B, as in boy?
9	There is none. Exhibit 449 is admitted into
10	evidence.
11	(Thereafter, Exhibit Number 449 was received
12	into evidence.)
13	MS. VULIN: And Exhibit MIG-15C, which is also
14	marked as Exhibit 450, please.
15	THE COURT: Is there any objection of the
16	admission into evidence of 450, also marked
17	Exhibit MIG-15C, like cat?
18	There is none. Exhibit 450 is admitted into
19	evidence.
20	(Thereafter, Exhibit Number 450 was received
21	into evidence.)
22	MS. VULIN: Thank you, Your Honor.
23	MR. ENGLISH: Your Honor, Chip English.
24	And, yes, you do have three documents in front of
25	you. The first is Exhibit MIG-16 corrected, which was
26	resubmitted last week. I'd like that to be marked as I
27	believe as 451.
28	THE COURT: Yes



```
(Thereafter, Exhibit Number 451 was marked
 1
 2.
             for identification.)
             MR. ENGLISH: The next exhibit is the original
 3
 4
     Exhibit MIG-16A, which is data, and that should be 452.
             (Thereafter, Exhibit Number 452 was marked
 5
             for identification.)
 6
 7
             THE COURT: Yes.
             MR. ENGLISH: And the final one is Exhibit 16B,
 8
 9
     which is a PowerPoint presentation, which was also
10
     submitted. And that should be 453, correct?
11
             THE COURT: Correct.
             (Thereafter, Exhibit Number 453 was marked
12
13
             for identification.)
14
             THE COURT: And I'd like the witness in the stand,
15
     please, to identify himself, once again, and spell all of
16
    his names, and explain to me what his Ph.D. is in.
17
             THE WITNESS: Thank you, Judge.
18
             My name is Mark W. Stephenson. That's M-A-R-K; W;
     S-T-E-P-H-E-N-S-O-N.
19
2.0
             I have two master's degrees in agricultural
2.1
     economics and in dairy science; and I have a Ph.D. also in
22
     agricultural economics; and an undergraduate in dairy
23
     science.
24
             THE COURT: We welcome you back. And you remain
25
     sworn.
26
             THE WITNESS: Thank you.
27
     //
28
     //
```



1	MARK STEPHENSON,
2	Having been previously sworn, was examined
3	and testified as follows:
4	MR. ENGLISH: Thank you, Your Honor.
5	And thank you, Dr. Stephenson.
6	DIRECT EXAMINATION
7	BY MR. ENGLISH:
8	Q. Before you provide your testimony, which is really
9	going to be the presentation Exhibit 453 we resubmitted,
10	last week, Exhibit, what is now marked 451, MIG-16
11	corrected, which was originally submitted back in
12	September.
13	And you made, at your request, several corrections
14	to your testimony, correct?
15	A. I did, yes.
16	Q. Could you tell us I think there's three
17	could you tell us what they are?
18	A. Sure. One of the corrections was to change the
19	name of the presiding judge that at the time of submission
20	was different.
21	The other was that there was a calculation that
22	was wrong, which was the percentage of Grade A milk in
23	markets back in the 1950s.
24	And the third one
25	Q. You added a comment about elasticity?
26	A. I did. I'm sorry about that. I did have a
27	paragraph that I added that was just a comment about the
28	changing estimates of elasticities - T had been listening



- Q. And how does that affect your views of your testimony?
- A. It doesn't very much, but it does speak to at least one of their justifications that we have had early on for classified pricing.
- Q. Okay. Could you then provide -- and hopefully it will work on the screen -- your presentation, Exhibit 453.
 - A. Sure. I'll do that.

Not to belabor the point, but we -- we do have quite a history with Federal Milk Marketing Orders, and that history really began back in the 1930s. By the time we got to 1937, we had permanent legislation that authorized Federal Milk Marketing Orders.

But in the 1940s, fluid milk was the most important dairy product being regulated at the time and, in fact, the most important market for milk that existed at that point in time. And the market has changed a fair amount.

I'll show you a slide in just a moment. We have seen some of that with Mrs. Keefe's testimony as well.

But fluid milk today is only about 18% of all market, whether we consider regulated milk or not. In Federal Milk Marketing Orders, I believe it's 27% or 28% depending on the month and year most recently, but it has



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

become a small portion of the milk, whereas in the early portion of the time period for regulation, beverage milk was about two-thirds of all of the milk that was regulated.

The Grade B milk volume had declined significantly since the 1950s. At that time, it represented about 40% of the milk supply. And in some areas where you had high utilization and relatively high amount of Grade B milk, it would certainly be possible to not have adequate supplies of Grade A milk to service the fluid markets. But today, that Grade B milk is well less than 1% of the total milk production in the country and is certainly a portion of the changing market landscape that we do see.

This graphic is showing you the use of Federal Milk Marketing Order milk over time. It goes back to 1947. As I mentioned at that time, the blue bars are about -- about 65% of total utilization of milk in Federal Orders. The rest of that was milk used for manufacturing that continued to climb through the 1960s and into the early 1970s when we saw peak utilization of fluid milk.

Since that time period, total use of fluid milk has been relatively flat per capita utilization of beverage milk, over that time period had declined as population grew.

But you can also see over that entire time period that use for milk has continued to grow. As I mentioned, today, manufacturing milk is by far the largest use of milk in our dairy industry.



2.

2.0

2.1

The Federal Milk Marketing Orders that were created back in the late 1930s time period were built around fluid milk, and this is partly demonstrated by the concepts that we have the fluid plants must be regulated, they had no choice in the matter, and manufacturing plants may be regulated if they choose to do so.

There is an AMS document that explicitly states that "Federal Orders are used to stabilize conditions for fluid milk to make the buying and selling of fluid milk an orderly process upon which dairy farmers, milk dealers and consumers alike can depend."

So this kind of cuts right to the heart of what Federal Milk Marketing Orders were constructed to do and still is a primary mission today.

The primary tools of Federal Milk Marketing Orders are relatively simple, and sometimes have been referred to as blunt instruments, but they are classified pricing and pooling.

The higher prices which are charged for fluid milk offsets, to some extent, the greater cost of servicing those plants, and it also was a -- clearly a promotion in history to exploit an inelastic consumer demand.

This gets to the additional comment that I put in my testimony since the hearing, is I did find some of the testimony to be rather interesting. We have always assumed that fluid milk has been inelastic, but that now perhaps it is actually moved to the category of being elastic. And if that is the case, then it suggests that



2.

2.1

charging a higher price for fluid milk might -- well, it absolutely would mean that it would now lower producer returns rather than increasing them.

So we do have to be a little bit care if that's one of the justifications that we want to use for classified pricing and the properties of milk being inelastic.

Federal Orders have always relied on minimum pricing. That means that you are welcome to pay more for milk and, indeed, many plants and buyers of milk do. But if you are regulated, you cannot pay less.

And being chronically above, at least the market-clearing price, creates surplus product which the market can't clear. Our dairy markets, we have always felt, have kind of walked on a knife's edge, that being plus or minus 1% on milk supplies can cause some pretty big swings in prices as the markets do attempt to clear that.

I use a graph here, and I think that this graph is important and illustrates some things. Sometimes even we as economists get a little bit sloppy when we refer to such things as the supply of milk or the demand for milk, and we're really just talking about the quantity.

But as an economist, the words "supply" or "demand" really are talking about a relationship between price and quantity. If we're thinking about the demand for milk, at a higher price, consumers want relatively less product; at a lower price, they will demand



2.

2.1

considerably more.

2.

2.1

The inverse of that is true for those producing milk, supplying the milk. At a higher price, they are willing to produce a fair amount of milk, and at a lower price, not as much.

And if you will notice in this graph here, we have this one spot where these thin crisp lines intersect, and we would call that a market-clearing price. That's the one place where consumers and producers agree on the quantity and the price of the product. That just clears the market.

Again, at a higher price, if you are regulating a price up here, you will have demand for a product that's in this range, and you will have supply here. That difference between the price demanded and the price supplied is surplus or inventory. Down here, we have a position that's precisely the opposite, where there's more milk demanded than is being supplied by the marketplace.

The marketplace for minimum pricing is able to deal with prices below a market-clearing level. We can do that because premiums will step into the breach to fill that market price up, and we'll find our way working back and forth until we achieve a market-clearing price.

If we're at a level that's higher than a market-clearing price, then we have surplus, and we're regulating that as a minimum price. Welcome to pay more. You will find that we have relatively few options. One of the few options that we have in Federal Milk Marketing



Orders is that we can opt out of regulation if you are a manufacturing plant, and that does happen.

Now, we show lines like this in illustration that appear to be very crisp and clean and really quite definite, as though we actually know what that market-clearing price is at any point in time. And we really don't. We have an idea about the range and the reason for those prices being in that range, but it's truthfully more like these fat lines over here. There's kind of a target in the middle that we know we ought to be shooting at. We don't want to be much above it or much below it.

But, nevertheless, if we make small mistakes but are still hitting the target, we're probably going to have markets that will function all right. If you are hitting well above that, you may be in trouble. If you are hitting well under that, you are probably irrelevant. So I would suggest that, you know, we try to think just about how precise our market pricing is really trying to be.

I mentioned that being slightly above can be accommodated by accumulating dairy stocks, but it's also a signal the market is already clearing and we'll need to do something to lower the price. It's probably better to err on a somewhat too-low price rather than one that's too high, especially for fluid plants which can't opt out of this regulation. Manufacturing plants can; fluid plants can't.

We have had a number of opportunities to talk



2.

2.1

about this U.S. Dairy Sector Simulator model. The Sector Simulator model solves a rather complex task of assembling raw milk from dairy farms across the contiguous 48 states, shipping it to plants where it's made into dairy products, to be distributed to consumers all across the 48 states. The model's task is to find the most efficient method of moving that milk for assembly, product processing, and distribution of final products, subject to many constraints. The model doesn't develop or reflect actual values for milk, but rather it can calculate relative values of milk when raw milk is always going to its globally highest and best use.

So in other words, this is the activity of somebody that we might think of as a marketplace dictator that is really moving products in the most optimal way. We often don't get a chance to do that, but it provides us with a benchmark, at least, for an efficient dairy marketplace and system.

So the Class I differential and Grade A. We have had some discussion about this in the last, well, morning and day, and then others talking about it. But in looking back at the history of differentials, there is some evidence in documentation that talks about this \$1.60 Class I differential, which has been reported as being implemented during the Federal Order reform.

I'm not sure I have seen that precise document, but you do see documents that describe an A plus B plus C equals the differential. And they then provide -- and



2.

2.0

2.1

certainly during California hearing I also recall hearing about the different pieces of what those elements actually were. The document indicates that part of the value is to support conversion from Grade B to Grade A milk production. I think that was important at one point in time, undoubtedly very much less so today.

Today, compensation to support convergence or to maintain Grade A status is really not needed. Grade A status is no longer a Class I issue at all, it's an industrywide standard. We have seen a variety of ways in which voluntary premiums have been used to incentivize milk production and milk qualities. One of the them mentioned just a little while ago was rBST. There were premiums that were paid to dairy producers to provide non-rBST production of a milk supply that was to be sold at a premium. And as we found farms no longer -- declining to do that, in some cases on a co-op basis and some cases on state-by-state basis, that premium is really no longer available or being paid.

We have also seen premiums being paid for greater quality in milk production. So low somatic cell count milk was a good example of that. Those premiums have been fairly substantial, and farms worked hard to achieve that. At this point in time, our milk quality is improved so much that there's very little of those premiums actually being paid anymore.

The opportunity of moving on to using premiums for other purposes is now available. That's no longer a



2.

2.0

2.1

strong incentive in the marketplace. They have become commodified. And we could see I think the very same thing with Grade A milk. It has been the standard for so long and maintaining that is not an expensive issue on farms, and it has become commodified and is probably hard to justify in the portion that -- that is being looked at as the basis of the differential.

Another one of the pieces has been balancing.

Now, that's a part of the justification here that

balancing is a cost to a system. And I'm not sure that

that is quite the case anymore for market-wide or

pool-wide expense being efficient and consistent with

orderly marketing goals.

Co-ops and individual producers offer successfully negotiated incentives, and fluid plants have changed their behavior. We have different types of balancings that were needed. But a couple of decades ago it was very common to have intra-week balancing as plants often didn't process on a Saturday or a Sunday, and that milk had to go somewhere over the weekend, and then a greater amount was desired on Monday to refill store shelves. So plants were incentivized to install silos and accept milk, at least on weekends, even if they weren't processing. And that has taken place across the country.

A high proportion of manufactured milk no longer solves the balance -- or serves as a balancing function, partly because of the great supply of milk that we have relative to the Class I needs and in many areas of the



2.

2.1

country. That shift means that there's more than an adequate supply of milk available.

Another portion of the Class I differential that's been identified is the incentive to serve Class I. In other words, when needed, can we move milk from a manufacturing plant or some other use to a fluid plant. And sometimes it's been identified as the cost to move that milk, maybe largely via diversion, from manufacturers' plants to where it's needed. But I'm not persuaded that that's still always a factor as Class I can't be considered in isolation. We have to think about it, nowadays, in the totality of our dairy system in the U.S.

Class I plants, in reality, may have to pay twice:
Once in market heavy, manufacturing heavy regions of the
country into the pool, and a second time as a premium to
get that milk to move from manufacturing plants to a fluid
plant.

I take Order 30 as an example where utilization has been so low. If it's looked at as being \$0.60, or something like that as the portion that is used to move it, and the Class I utilization is, for easy math, maybe 10%, then we're talking about \$0.06 being available to incent milk to move. Not likely to get much milk moving with that in a region like that.

This shows that money is perhaps not included in the pool, but instead be allowed to be used by fluid milk plants directly.



2.

2.1

Now, I'm going to talk about something that is my idea. This is not a MIG proposal, but was rather my own idea. I have a fairly strong independent sense of what I may want to do from time to time. And if it's determined that \$1.60 is necessary to ensure service to Class I plants, it would be a lot more effective to require that Class I plant include the \$1.60, that they have to pay it, but that they can pay it directly to their supplier and not into the pool.

Now, that's not necessarily the entire Class I differential, but it is that portion that we have tried to justify as being a fixed proportion that is added everywhere.

The remainder of the differential, however, would be part of the market-wide pool.

Now, when we look at that USDSS model out there, I was asked to take a look at the cost of balancing and the incentives to move product around. And, in fact, the MIG proposal was not even developed at that point in time, but I was looking at these other things. I did look for insights from this USDSS model. Is there something that it can tell us about these relative costs and -- and movement of milk?

And the primal and dual solutions represent values from the optimal. The U.S. model validation shows us that the evolution of regional processing structure highly, closely correlates with what the optimal model solution is. In other words, in relatively surplus regions of the



2.

2.0

2.1

country, we have manufacturing heavy plants that are taking place, and in regions of the country that are relatively deficit, we find that we have many more fluid plants and very few manufacturing plants. And the fluid plants even in the manufacturing regions tend to be located closer to population centers, while manufacturing is actually located closer to the milk supply. That's consistent with what the model feels ought to happen, so I think it's consistent that the -- you know, the model is capturing the actual incentives that we see in the marketplace.

Actual milk movements, not the representations that we have, can differ from the optimal solution in the model, but differing by very much is like swimming against an economic current. In the proposals for Class I differentials, when we have seen maps of model results, or indeed the Class I differentials that we actually have in place at this point in time, we do see that gradation in variation, that is representative of what you might call an economic current that milk wants to move in those directions of higher prices. May not be compensated fully for that movement, but it is going to try to move in that direction if it needs to move at all. And swimming against the current or going against that price surface is something that can be done over short distances, but it's expensive and it's difficult to sustain in the long run.

This model can also give us an idea of the relative value of milk used in different types of plants.



2.

2.0

2.1

AMS has never asked us for the dual value in manufacturing plants, it's only wanted to take a look at the dual values at fluid plants. But, in fact, we can have the model generate these values anywhere there's a plant of any type, or a farm, or a population center. Anyplace that we have a constraint available, we can always look at what is the value of relaxing that constraint at that point by one unit.

And we can also look at those values at cheese plants. So, for example, if we happen to look at a fluid plant and a cheese plant that's quite literally across the road from one another, the dual values can and they do differ based on the need for the finished product. So when we take a look at types of plants, even in the very same location, we can see that the marginal value, that dual value of the product, can differ based on what the model can actually do with the products that could be produced at that point, whether it is manufactured product or fluid.

So a plant making cheese in some location might be more valuable to the global solution of the USDSS than the fluid plant across the road. That comparison, by looking at these dual values here, can approximate the incentive or the give-up charge for delivering milk to a fluid plant instead of the manufacturing plant.

I'm going to show you in just a slide or two here a map that looks at these differences, and the model does show that difference in the dual or marginal values for



2.

2.1

fluid and cheese use across all 48 states. It represents Class I dual value minus Class III dual values, with shades of red to green. And those values are not inclusive of the \$1.60. These are just the price relative values that the model spits out.

The green-colored counties are locations where delivering milk to a fluid plant is of more value; in other words, the model can lower this total global cost more in an efficient market if the milk goes to the fluid plant rather than to a manufacturing plant. In the areas where we see colors of red, it's just the opposite. The model can lower total costs more by having the milk go to a cheese plant than it does to the fluid plant there.

The intensity of the red color shows where we're delivering milk to a cheese plant is of more value. The fluid plant located in the red-colored region would find that cheese plants in the area were unwilling to give up milk unless you compensated them for at least their opportunity costs, which are greater than the fluid plants' regional cost of milk.

This, in fact --

THE COURT: Dr. Stephenson?

THE WITNESS: Yes.

THE COURT: I know Mr. English had in mind that we would not take a break, but I must. And I want to do it before you help us evaluate more of this map on page 19.

So let us take a ten-minute break, and then we'll come back to Exhibit 453, the slides, and we'll begin with



2.

2.0

2.1

1 page 19. Thank you. 2. Ten minutes. Please be back and ready to go at 4:22. 3 (Whereupon, a break was taken.) 4 THE COURT: Let's go back on record. We're back 5 on record at 4:22. 6 7 Thank you, Dr. Stephenson. My dry throat, I had been drinking too much water, I needed that break. 8 9 You may resume. 10 THE WITNESS: Okay. Thank you. No, the break was 11 nice. 12 I left off just at the introduction of this map. 13 I had talked about it a little bit, and there's probably 14 plenty more that needs to be said about it. 15 I was not aware that this relationship existed in 16 this kind of way. It was not something that we had ever 17 really looked at, explicitly or directly. We had looked 18 at marginal values of manufacturing milk in comparison to 19 the fluid values, marginal values of fluid milk, for sure. 2.0 We noticed the patterns that tended to be similar, that

And in trying to think about some of the, what does it take to move milk from one type of plant to another, what is the incentive that's required, you can notice that the marginal value of milk in the central

they were relatively less valuable in the upper left-hand

portions of the map and became more valuable as you go to

really looked at the differences between those two things.

the lower right-hand corners of the map, but I never



2.1

22

23

24

25

26

27

portion of the country where it's virtually all red in here is considerably greater than it is for a fluid plant. This is a place where I think you can say that, what's needed to move milk is the give-up charge or the opportunity cost that that manufacturing plant faces and the fluid plant is going to have to come up with more money than they would want to do, based on the value of their product at that location that point in time.

The red is actually in gradations there from a darker red to pink. That represents stronger values in manufacturing for the very dark red colors to pink colors where it's a little bit more. There are actually gray bands on this map. Doesn't show up as well on this monitor up here, but those gray bands are where the marginal value of fluid is about equal to the marginal value of the manufacturing products in there.

And in regions like the Southeast, and, in fact, in California and Nevada, we find that the marginal value in fluid is a little bit greater than it is for the manufacturing there.

So it's not consistent across the country, but there are definitely patterns that we see here. And it does correspond to relatively surplus versus the global need for the particular product that is and can be manufactured in those different locations.

This was a bit of a revelation to me to look at the model results in this particular way. I hadn't done that before. Sometimes we have our own ideas about what



2.

2.0

2.1

we think may be going on and we pursue them, or we look at them through research to validate that. Sometimes we are looking at data, as I did here, that have been with us for some period of time, but we're simply looking at them in a way we had never looked at them before to have new insights revealed about this. I think this is particularly potent in this particular example.

So I would say that those areas of the map here where we're seeing some red zones, the primary purpose of what this uniform differential may be that gets added on to the spatial values of Class I is really needed there to try to attract that milk away from manufacturing plants. It's the incentive that's required to pull it away from a better use in that region.

In the areas where we see a lot of dark green, that's not necessarily the case. Their fluid milk plants find it so valuable to have the next unit of milk in there, that their value of that increment that may be added to it is more for the compensating the cost of balancing in the region, making sure that we're bringing milk in or pushing it away if we didn't need it at that point in time.

So we have two different kinds of things going on here. One, in the red areas the need to pull that milk toward fluid plants and away from cheese plants if needed, and in the green areas, we're looking at more of the costs of balancing than we are the costs of pulling it away from a cheese plant in the region. So some different uses



2.

2.0

2.1

there, but those two are both valid.

I would point out that when we take a look at the average value, this is a simple average of these 3,000 plus counties. But the average value of the differences between the Class I and the Class III values was a minus \$0.38, which indicates that on a national average it is of more value -- cost saving to the model to have milk in a cheese plant than it is in fluid plants, in most regions. Not all regions but most regions.

I think that speaks a little bit to the evolution of our industry as well, that we have gone from being a fluid-dominated dairy industry to being one that is manufacturing dominant.

The range, however, does go from somewhat more than \$2 per hundredweight favorable to a cheese plant in red to somewhat more than \$2 per hundredweight more favorable to a fluid plant in green, which tends to be in the Southeast.

I think the model result bolsters the arguments not to dilute that value into the pool. If it represents balancing costs for fluid plant or an opportunity cost for manufacturing plants, then if we're diluting that, really into the pool -- again, my example or rough example looking at Order 30 with a 10% utilization -- you are saying that we have effectively compensated producers or cheese plants with a \$0.16 value to try to move that milk, which doesn't come close to the \$2 or essentially close to that in many of the regions. Better if those plants had



2.

2.0

2.1

the full \$1.60, that they could toss that to the people who are actually doing the balancing or, in fact, pulling the milk away from a plant, the opportunity costs from a cheese plant.

If a fluid plant pays the \$1.60, it lets the fluid plants pay that portion directly to the farms, cooperatives, or manufacturing plants who do supply the milk. I'm not suggesting taking money out of the regulation, but rather that it -- it is -- have the ability to be directed.

The slight change in the Federal Order mechanism does not take regulated value away from producers. The portion of that minimum Class I payment directly rewards the milk that helps to balance the industry or to attract the farm milk to the plant. The marketwide pool would have much less to distribute, which may discourage non-performing milk distant from a fluid plant as well from choosing to pool. That response could increase the Class I utilization in heavy manufacturing regions to something more like a level needed to balance the fluid needs.

The dairy industry's evolved a long ways from the conditions of the 1940s. The structure of the Federal Orders was conceived to solve fluid milk problems when fluid milk bottling was the most important use of farm milk and a dominant class of overall milk. Manufacturing milk uses are now not only ascendant, and the FMMOs are functioning as a fluid base system in a



2.

2.0

2.1

manufacturing-dominant world. I believe that this is why we're seeing many of the issues being raised at the hearings. Handler actions such as depooling are more of a symptom of the underlying problem than actually being the problem themselves.

Milk used for manufactured dairy products can't be ignored, it has to be recognized. They have a geographic basis, just like fluid milk does, and in many locations, they can now compete fluid plants for local milk supply under our current Federal Order regulations. Perhaps we can move in a direction to allow a portion of the differential paid directly by plants to their supplier and not shared across the pool.

We have had in Federal Orders in the past not just marketwide pooling, as we have in most orders today, but we have had individual handler pools. This doesn't go that far. It's a bit of a combination of the two things. A portion of that pool can be paid by individual plants to the folks supplying them. This would focus the differential paid by Class I and make Class I prices more directly potent to attract the milk to their plants.

And those are the comments I had. I would be happy to answer questions about that.

BY MR. ENGLISH:

- O. You did have one more slide.
- A. Did I? I did. Okay.

Many of the marketwide justifications that we have had for the fixed increment are really valid. Grade A



2.

2.1

2.4

conversion and maintenance is just not justified with the current production practices. I think it's a real stretch to try to do that.

Intra-week balancing being done by fluid plants already accepting milk on weekends, and even to some extent the seasonal balancing is being challenged by the increasing production of ESL products.

I'm not suggesting that that takes care of seasonal balancing. The seasonal demand for fluid milk products is almost countercyclical to our supply of milk and the milk production. So we still have seasonal balancing needs that need to happen.

Marketwide pooling of the entire Class I premium attracts more milk to most orders than is necessary to ensure fluid needs. A portion of the Class I value would be better directed to compensate suppliers rather than diluting the payment across the entire pool.

And that, I believe, is my last slide.

- Q. Yes, Dr. Stephenson. Thank you.
- So let me ask first, before someone else does, are you being compensated by MIG for appearing today?
 - A. I am, yes.
 - O. And do you oppose Federal Milk Marketing Orders?
- A. No, quite the opposite. I think that Federal Orders have been an important part of the structure of this industry. But I think that, you know, we are well past the time to need to have some significant changes in the Federal Order system.



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

One of them that's just obvious, and I think we have almost uniform acceptance of it, is that our milk price discovery mechanism has long over need -- or due for the need to update Make Allowance in the product price formulas. I certainly would stand by that.

I would also suggest that the rest of the Federal Order mechanism has provided a lot of benefits to the dairy industry, but there are some of those things that just need to be changed. As I mentioned, it's a -- it's a fluid milk solution and a manufacturing world.

Q. So after we -- after MIG pre-submitted your testimony, we heard from some in industry that said adopting your proposal would lead to the end of Federal Milk Marketing Orders.

Do you agree?

- A. I don't know, but I don't think so. We have lost Federal Milk Marketing Orders over time, partly through consolidation, but some of them have just been voted out because they didn't service the needs of a particular region or producer, or at least it was deemed at the time to do so. That the industry and orders would evolve and perhaps vote another order or two out, I wouldn't be surprised at that, but I'm not sure that I could fully draw cause and effect, if this, then no order.
- Q. We have also heard that USDA has sort of two choices: It can either regulate more or it can regulate less.

Have you heard that or discussed that yourself?



2.

2.0

2.1

A. I have heard that. I mean, that speaks to conclusions that people have drawn that change is needed. Right? And regulating more or more heavy hand in regulation might involve a variety of things.

So, for example, the fat lines that I showed as being our target for discovering milk prices could perhaps be thinned up if you really wanted to try to do some of this to better understand market conditions. But, wow, that's a tough call to do. I mean, to be able to prescribe what the value of a product is at any point in time precisely is difficult. Most of the command economies that have tried to do that have not been successful.

Regulate less, yes, this speaks to letting the invisible hand of the marketplace, you know, allow things to happen. So I do think that we could regulate less, and this perhaps is a step in that direction, but it's not a full scale jump in my opinion.

- Q. In fact, didn't USDA in Federal Order reform in the original proposed rule, in 1998, suggest in Option 1B that it would be possible to allow the market to operate a little more, correct?
- A. Yes. There were documents that looked internally at what were considered to be two different options, and they were discussed a fair amount, 1A and one 1B. One of them was much more market oriented; the other was a little bit more professional-judgment oriented.
 - Q. And are there benefits to Federal Milk Marketing



2.

2.0

2.1

Orders?

2.

2.0

2.1

A. I think there certainly are. If we didn't have the structure of Federal Orders, I believe the industry would have to recreate some of that. If you look at a few countries that have deregulated, had something similar to the relatively heavy hand that we have in the Federal Order marketplace here, to nothing, they had to recreate a lot of what their structure and regulation had done.

So I would not be advocating the loss of Federal Orders. I think it's going to be challenging in the future if we don't have changes. But, no, I'm not advocating the loss of them.

- Q. As between heavier regulation and lighter regulation, do you come down on one side?
- A. I personally come down on lighter regulation. I would like to see that. And the reason I say that is I think that the changes that are happening in our industry are happening so rapidly, and the complexities that we have now, it's not my grandfather's dairy industry. This is an industry whose manufacturing processes and ideas, both at the farm level and through processing, are just very different today than they used to be. It is hard to keep up with it. And if you are perennially in a state of not being where it needs to be, then I think we have to go a little bit lighter and let the marketplace make some of those decisions.
- Q. So let me now turn to your discussion about the use of the model.



- A. This was the normal milk supply and demand data and cost structure. But I took this from model runs that we had made back in 2016 -- or with 2016 data. This was data that were not as relevant as we had run more recently, but I felt that that was just not a reasonable thing to do, to use current data. So this is 2016 data.
- Q. And that is the current data belonging to National Milk, correct?
 - A. In my opinion, yes.
- Q. So when Dr. Nicholson was here presenting and before I tried to clarify with him, he appeared to express concern that you had used the data for National Milk.
- A. No, no. No, no. This is 2016 data. Always has been.
- Q. Do you have any concerns that the use of somewhat older data than that used for National Milk in NMPF 19 might impact your results?
- A. Qualitatively? No. I think we would see a very similar structure and justification.
- Quantitatively? Perhaps. They would be a little bit different.
- I think that it is always important, if we're considering changes to regulation or something like that, that we use the most current data that we can and is available. But I -- I wasn't going to do that for this



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

particular work.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

- Q. I think from what you said when you started this project, you did not know what the results would be?
 - A. No.

THE COURT: Say that again.

BY MR. ENGLISH:

- O. You did not know what the results would be?
- A. No. This was exploration on my part. I had been asked to look at the justification for balancing costs, the justification for give-up costs, if you will, you know from plants, and to look at that \$1.60 and the pieces of that that have been talked about here earlier. And it was in the process of doing that and seeing whether or not there was a more systematic way than just saying, my professional judgment concludes that we should do X, Y, or Z. I wanted to see if there wasn't something we could do with model structure.
 - O. Did MIG tell you what it wanted the results to be?
- A. No. In fact, I don't think at the time that I had done that that MIG even had their proposal together.
 - Q. So has the model been used this way before?
- A. Not precisely. I did mention my testimony, that we have looked at the dual values of other classes of milk, including farm level milk, which we seldom talk about. But, you know, those price surfaces are different.
- Just as an aside, when we were looking back in the days of the Cornell dairy markets and policy for reform purposes, we knew that the farm milk price value surface



was different than the Class I price surface. And Federal Orders have historically relied on the differences in Class I prices as the zone values within orders. And when we did calculations looking at this, it was pretty clear to us that with consolidated orders, partly because of utilization but also because of the farm level values, there were going to be some problems of milk pooling on different orders.

- Q. So does the fact that it's not been used this way in the past, should that affect the way USDA use the results?
- A. I don't think so. If -- if you accept that this is a valid approach to looking at something like Class I price relatives, then the rest of the model results may or may not be useful for other questions that you have. I felt as though looking at these, that this was a reasonable use to help elucidate a little bit about, you know, the tensions that we see in some regions with difficulty getting milk into Class I plants.
- Q. So if you could go back to page 19 of your presentation, which is the map.
 - A. The map, yep.
- Q. All right. So one thing, is the underlying data for this map is Exhibit MIG-16A, which is Exhibit 452, correct?
 - A. Yes.
- Q. That's the actual data that the model spit out, correct?



2.

2.0

2.1

- A. Yes, that's correct.
- Q. And so you've talked about the green, and you have talked about the red.

But there are also areas that are in the gray, correct?

- A. That's correct.
- Q. And some of those are, you know, very close to zero, either positive or negative, correct?
- A. That's correct. That doesn't mean that the milk value is zero.
 - Q. It means the difference was zero?
- 12 A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

16

17

18

19

2.0

2.1

22

23

24

25

26

27

- Q. So in such an instance, there really wasn't a great need for balancing expense or a great need for an incentive cost, correct?
 - A. That's correct.
 - Q. And given the fact that you have this wide range, from a negative \$2, over \$2, to a positive over \$2, and then some in the zero or close to zero, say in the Central Valley of California, what does that say about including a fixed value in the pool?
 - A. Well, again, I think that, you know, this is a case where if it's truly zero, there wouldn't have been a story here for me to tell about this, and -- and I think that it would have been appropriate to simply say, well, this could be included in the pool because there's not a strong difference from one to the other. Although it still means that we need to incentivize milk to move,



whether for balancing purposes or for give-up charges, but it may be a smaller value. It may be something that you could pull out with premiums pretty easily, those premiums are not going to have to be in the dollars range.

- Q. But nonetheless, it doesn't change your view that instead of including it in the pool, if there's some number, whether it's \$1.20 without the Grade A or \$1.60, it would be better to direct that to the producers supplying the milk, correct?
 - A. Yes.

1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

24

25

26

27

28

Q. So let's go back to your work --

THE COURT: Mr. English, so he used three categories. He didn't just say "producers," did he? What are the -- what are the --

THE WITNESS: There were producers, cooperatives, and plants -- I mean, manufacturing plants.

THE COURT: All providing the fluid milk?

THE WITNESS: If you needed to incent the pull of milk from a plant that had already paid for that milk, then I would view that payment as going to that plant that had already paid for the milk.

MR. ENGLISH: Thank you, Your Honor.

BY MR. ENGLISH:

Q. So, Dr. Stephenson, going back to your work with Dr. Nicholson and National Milk Producers Federation 19, if USDA is to use the USDSS to set the Class I differentials, should it use the model average, the model maximum, or the model minimum?



- Q. And did Dr. Nicholson agree with you on page 29 of his testimony, effectively stating you should use the minimum?
- A. I recall Dr. Nicholson saying that, yes, that it is a problem to overpay for milk in a regulated minimum system.
- Q. So we have a bit of a conundrum, and it is not that you did something different from what MIG's proposal is. Rather, given our Hearing Notice and what solutions USDA has available to its Hearing Notice, how should USDA approach your concept that some of the Class I differentials ought to be paid to the actual suppliers of the Class I milk?
- A. Well, as I mentioned, I do have an independent streak, and thinking about this particular proposal, it was not a proposal that I wanted to make. I wanted to



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

2.1

22

23

24

25

26

27

talk about, if we did something like this, and offer this as ideas or evidence. I don't want to choose -- much like Ms. Keefe said before me, that I don't buy milk, I don't sell milk, I shouldn't be creating proposals for that.

What I can do is to offer ideas and maybe some analysis, and I would lay that at the feet of USDA, and perhaps we can have a more targeted special hearing or something if you wanted to do or needed to do that from a procedural point of view.

Q. And let there be no confusion about what you are advocating, because I think another person in speaking to me said, well, wait a minute, is Dr. Stephenson saying that because of all these red areas and the value of milk used in cheese that USDA ought to more heavily regulate and do mandatory pooling of Class III and IV?

Are you advocating that?

- A. No, I'm not. That would go toward the more heavy-handed regulation that I do oppose. I think that we have a prescription for problems and issues if we don't have a relief valve in a regulated system like this now.
- Q. And finally, there may be criticism of the proposal, that your approach would create a competitive issue for those who do not ship milk to fluid plants, that is to say a lack of a fluid draw would create competitive issues for them.

What would you say about that criticism?

A. It may. I really -- any change that we're going to make to the regulated system that we have today is



2.

2.1

going to cause some winners and some losers in the system. There's going to be some who benefit and some who are going to take a bit of a hit from that. And I wouldn't disagree that this is likely to not share as much money across the pool as it did before.

But the regulated minimums are still going to be the same. We're going to still be trying to solve the fluid milk problem to the extent that we still have some of that, that we had at the time that Federal Orders were implemented. I think it makes the order system still be able to function in a way that we might not be able to if we were to continue doing much of what we have in the past.

- Q. And finally, do you have any additional thoughts for USDA before I turn you over for cross-examination?
 - A. No, I don't. Good luck.

MR. ENGLISH: Your Honor, as this concludes my direct, and recognizing we'll hold off on the ruling, I do want to at least move the admission of Exhibits 451, 452, and 453.

THE COURT: Does anyone object to my taking those into evidence even before we do cross-examination?

No one does. Is it -- is there any objection to the admission into evidence of Exhibit 451, also Exhibit MIG-16 corrected?

There is none. Exhibit 451 is admitted into evidence.

(Thereafter, Exhibit Number 451 was received



1

2.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

2.0

2.1

22

23

2.4

25

26

27

1	into evidence.)		
2	THE COURT: Is there any objection to the		
3	admission into evidence of Exhibit 452, also marked		
4	Exhibit MIG-16A?		
5	There is none. Exhibit 452 is admitted into		
6	evidence.		
7	(Thereafter, Exhibit Number 452 was received		
8	into evidence.)		
9	THE COURT: Is there any objection to the		
10	admission into evidence of Exhibit 453, that's the slide		
11	presentation that we just completed, also marked		
12	MIG Exhibit 16B, like boy?		
13	There is none. Exhibit 453 is admitted into		
14	evident.		
15	(Thereafter, Exhibit Number 453 was received		
16	into evidence.)		
17	MR. ENGLISH: Your Honor, I conveniently left		
18	National Milk with five and a half minutes before		
19	5 o'clock.		
20	THE COURT: I'd like to use the time to talk about		
21	tomorrow. I want to go off record in six minutes, and		
22	that's not time for adequate cross-examination.		
23	So, Mr. English, what are your objectives for		
24	tomorrow?		
25	MR. ENGLISH: Well, Your Honor, we didn't make it		
26	through today, but so Dr. Stephenson		
27	THE COURT: We did.		
28	MR. ENGLISH: Well, we didn't make it through the		



witnesses. I'm now -- the shoe is on the other foot or something, when -- when Ms. Hancock was routinely concerned about getting her witnesses on and off and.

And so Dr. Stephenson will be here in the morning to conclude his examination. After that, the order -- we actually did provide an order, and we're going to stick with it, at least for now.

Warren Erickson of Anderson Erickson Dairy is the next expected witness. Mike Newell from HP Hood is the next expected witness. And then I imagine that either before him or after him we will have a non-MIG witness because Heath Miller, who is I believe a dairy farmer from Maine, is scheduled to be -- Wednesday afternoon, which is tomorrow is Wednesday.

MS. TAYLOR: Oh, yeah, tomorrow afternoon.

MR. ENGLISH: And so I imagine that in the best case scenario Mr. Newell will get on and off and then Mr. Miller will get on.

And then after Mr. Newell, Mr. Tim Kelly from Shamrock Foods Company. And then after that, Mr. Chuck Turner, I believe, from Turner Dairies.

And I venture to say that I can stop there. The participants have a list, although Aurora Organic Dairy I think is next on the list after that. I think that's optimistic that we're going to get there, but I'm going to try.

THE COURT: Excellent. We have a few more minutes left.



2.

2.0

2.1

Does anyone have anything you would like to say for the good of the gathering? No? All right, then. We will see you at 8 o'clock tomorrow morning right here. We go off record at 4:57. (Whereupon, the proceedings concluded.) ---000---



	MATIONAL PUBLICAL MILK PRINCETING ONDER PRINCETING PORTIONAL PRINCETING
1	STATE OF CALIFORNIA)
2	COUNTY OF FRESNO)
3	
4	I, MYRA A. PISH, Certified Shorthand Reporter, do
5	hereby certify that the foregoing pages comprise a full,
6	true and correct transcript of my shorthand notes, and a
7	full, true and correct statement of the proceedings held
8	at the time and place heretofore stated.
9	
LO	DATED: February 2, 2024
L1	FRESNO, CALIFORNIA
12	
L3	1 M. Carl
14	Mry as som
15	MIDA A DIGH DDD GGD
16 17	MYRA A. PISH, RPR CSR Certificate No. 11613
17 18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
- /	



\$0.06 10619:23

\$0.07 10460:28

\$0.11 10512:15 10549:5.28

\$0.16 10627:26

\$0.18 10567:28 10568:2.7

\$0.20 10483:25 10571:2,4 10597:27 10598:17

\$0.25 10449:8,13,17,23,26 10485:11,13 10486:4,8 10537:23 10565:2,19

\$0.38 10627:6

\$0.40 10498:22 10499:10,16 10504:17 10505:18 10526:26 10570:22 10571:5 10574:25,26 10582:9

\$0.43 10512:14

\$0.45 10598:16

\$0.49 10449:16

\$0.50 10572:13

\$0.55 10573:5,15,22,26 10574:3,23 10597:27

\$0.60 10459:15 10498:23,24 10499:10,16 10505:26 10506:10,12,17,19,20,22,24 10533:13 10535:28 10536:2, 11,14 10537:8,9,10 10538:4 10539:27 10540:8 10562:27, 28 10563:12,14,16,22,28 10564:16 10565:21,22,23, 24,25 10566:1,25,26 10567:3,17,25 10568:7 10569:2 10585:14 10600:23, 26,27 10601:1,2,6,11,14,22 10619:20

\$0.70 10597:14

\$0.75 10448:19

\$0.80 10459:15

\$1 10448:19

\$1.05 10574:24 10575:6

\$1.20 10638:7

\$1.33 10512:15 10549:6,28

\$1.40 10572:11

\$1.60 10457:7,14,24 10458:14,17 10469:11 10483:16,20,21,24 10498:21,26 10499:5,9,11, 12 10500:6 10503:11 10504:12 10510:17,28 10514:6,8 10520:20 10523:16 10541:13,17 10546:17 10548:17 10549:9 10557:19 10563:15 10572:6 10573:15 10574:18,22 10592:2,10 10616:23 10620:5,7 10623:4 10628:1, 5 10635:11 10638:7

\$1.80 10589:25 10592:2,10, 25

\$2 10539:12 10567:1,5 10627:15,16,27 10637:18

\$2.05 10597:17

\$2.20 10483:19,20,21 10511:24 10595:18

\$2.40 10592:25 10593:23

\$2.57 10460:19,26 10593:14 10595:5

\$3.20 10589:25 10593:23 10594:1 10596:12

\$4 10596:14

\$4.07 10460:21 10595:7

\$4.20 10595:5

\$4.40 10499:1 10511:15

\$5 10594:1

\$5.20 10596:14

\$6 10498:21 10594:5,9

\$7.90 10595:19

---**00o**--- 10556:5 10644:7

1

1 10456:4,7 10459:23,25 10460:7 10461:6 10484:4 10493:11 10497:23 10512:10 10525:10 10526:24 10535:7 10588:13 10594:2 10596:10,12

1% 10611:11 10613:16

1,818 10449:8

10 10463:23,25

10% 10619:23 10627:24

100 10485:18 10490:8,9,13,

100% 10487:9 10508:23 10515:9 10525:25 10540:7 10553:15 10561:11 10562:22 10:25 10495:5.8

10:37 10496:28

11 10463:6,8 10539:15

11:55 10530:9

11:58 10530:11

12 10459:25 10460:4 10462:12,19 10484:3

126 10572:10 10596:23,26

12:45 10446:19 10555:18

12:46 10556:3

1300 10452:11

131 10450:12 10598:13

14% 10485:5

15 10450:3,7,15,27 10451:17 10481:19,20 10493:12 10494:26 10495:2 10588:3, 13

15-minute 10482:5

15A 10504:21

15B 10511:16

16 10444:1 10466:8,9,13 10479:27 10480:12 10557:1

16B 10608:8 10642:12

16th 10444:3 10445:16

171 10461:7

18% 10610:25

19 10451:28 10452:1,2 10455:28 10456:3.5 10457:4 10459:26 10460:8.9.14.16. 20 10461:16,23 10462:3,4, 13,20,26 10463:2,19,28 10464:3 10469:17 10471:1 10479:10 10483:5,13 10484:5,10,13 10486:22 10487:7,22 10488:9,10 10497:27 10511:11 10520:12.15 10553:23 10554:1 10571:17 10578:24 10581:2 10583:7 10587:16 10590:10 10594:16,19 10596:20 10597:19 10623:26 10624:1 10634:19 10636:20 10638:25

1930s 10610:15 10612:2

1937 10532:21 10610:16

1940s 10610:18 10628:23

1947 10611:16

1950 10501:14

1950s 10609:23 10611:6

1960s 10611:19

1970s 10611:20

1998 10632:20

19th 10445:17

1:46 10556:2

1:47 10557:3

1A 10568:15 10632:25

1B 10632:20,25

2

2 10452:6 10456:5 10457:3 10458:1 10459:23 10497:25 10519:9,10,19 10526:22 10588:7,19 10590:26,27 10592:6,24 10593:23 10594:4 10597:9

2.20 10457:7,14,24

20 10457:18 10458:13,19 10483:10 10494:21 10495:13 10499:5,7 10510:10 10511:11,20,23 10512:9,26 10513:27 10519:27 10525:12,14 10526:12 10529:4 10531:8 10539:16 10549:17,19,25 10551:1,5 10552:3,12 10553:14 10554:22 10555:7 10570:21 10571:7 10574:17 10579:2,3 10598:26 10600:1,6,13,17 10605:17

20% 10501:26 10532:5,6 10599:17

200 10558:15

2000 10501:19

2016 10520:7 10634:6,9,16

2022 10496:1 10501:15 10521:25

2022/2023 10521:26

2023 10464:26 10521:26

2024 10444:1,2 10557:1

21 10571:7

25 10449:22 10459:16

25% 10485:11

27% 10610:27

2717 10452:11

28% 10610:27

2897 10452:9

Index: \$0.06..2897



29	10570:28	10630-13

29th 10445:22

2nd 10445:24

3

- **3** 10457:2 10482:16,28 10495:23 10499:20 10500:5 10518:19 10526:21 10527:2
- **3%** 10463:3,7,20 10484:13,
- 3,000 10627:3
- **3,108** 10448:22 10460:19 10464:10 10466:5 10590:22 10591:11,25
- **30** 10597:26 10619:19 10627:24
- **30%** 10501:21 10567:27 10599:16.20
- 31% 10484:24 10485:3
- **33** 10570:26 10597:10,13,19
- **332** 10452:6
- 338 10461:8
- 38% 10459:16
- 3:00 10587:17
- **3:10** 10587:18
- **3:11** 10587:21
- **3:30** 10445:18
- **3:39** 10606:5
- **3:41** 10606:7
- **3:45** 10445:18

4

- 4 10453:13,18,27 10498:5 10501:9,11 10509:16 10519:19 10557:17 10568:13
- **4%** 10484:22 10485:1,3,5
- 40 10483:26
- **40%** 10501:20 10611:6
- **419** 10452:8
- 43 10453:4
- 44 10444:3,22,26
- **440** 10453:8 10454:14 10456:20 10457:2 10459:2 10463:23 10466:9 10467:16 10482:14,28 10493:3,26,28

- **441** 10448:24 10450:3,7 10451:18 10455:18,23,27 10456:11,18 10459:26 10460:4 10462:12,19 10484:2 10493:3,11,17
- 10494:2,4 10588:4,8 **442** 10493:4 10494:6,8
- **443** 10451:23 10452:19 10453:1,5 10491:1,3,8 10493:4 10494:10,12
- 444 10444:13,22,25,28
- **445** 10444:15 10445:3.4.6
- **446** 10448:5,6,8 10485:8 10490:5 10491:4 10492:19 10493:4 10494:14,16
- **447** 10495:24,26 10518:20 10526:21 10548:8 10557:14 10579:15,17 10606:16,18, 20.22
- **448** 10496:2,3 10504:22 10606:25,27 10607:1,3
- **449** 10496:6,7 10511:17,18 10570:9.11 10607:5,7,9.11
- **450** 10496:11,12 10497:5,25 10519:9 10526:23 10533:11 10538:18 10587:5 10607:14, 16.18.20
- **451** 10607:27 10608:1 10609:10 10641:19.24.26.28
- **452** 10608:4,5 10636:24 10641:19 10642:3,5,7
- **453** 10608:10,12 10609:9 10610:11 10623:28 10641:20 10642:10,13,15
- **47** 10570:19
- **48** 10461:9 10616:3,5 10623:1
- 4:22 10624:3,6
- **4:57** 10644:5

5

- **5** 10461:7 10504:9 10533:12 10579:14 10587:6 10642:19
- **50%** 10532:3,4 10599:16
- **51** 10449:24 10598:5,6
- **53%** 10553:19,22 10554:3, 11
- **55** 10585:14
- **58%** 10460:15 10461:12,13
- **5:00** 10445:20,23

6

- **6** 10516:4 10544:18,23 10546:18 10583:17
- 6.000 10588:27
- 60 10473:5 10505:25
- 60% 10501:17
- 64 10493:27
- **64A** 10450:3,4,6 10459:22 10481:16 10493:9 10494:3 10588:8.13
- **64B** 10494:7
- **64C** 10451:22,26 10452:4, 10,17,20 10494:11
- **64D** 10448:2,15,17 10485:7 10494:15
- 65% 10611:17

7

- **7** 10448:17,18,23 10449:1 10454:14,17,24 10459:2 10486:24
- 770 10591:26

8

- **8** 10463:24 10548:7 10572:17 10586:13 10644:4
- 8:00 10445:21
- 8:15 10447:18
- **8:17** 10447:21
- **8:30** 10454:6
- **8:31** 10454:8
- 8th 10485:28 10492:20

9

- **9** 10464:6 10474:1 10512:10 10535:10
- **99%** 10504:19 10527:13
- 99-plus 10581:14
- 9:45 10482:6,9

Α

- A-U-T-A-U-G-A 10512:6
- a.m. 10445:21
- **A/grade** 10504:23 10586:22

- ability 10628:10
- above-and-beyond 10566:8
- absolutely 10448:16
- 10451:26 10453:26
- 10454:17 10463:12
- 10470:24 10491:25
- 10492:12 10500:24
- 10504:13 10512:5 10535:23
- 10539:1 10558:24 10567:15
- 10587:4 10596:19 10599:28 10602:21 10603:26
- 10602:21 10603:26 10605:14 10613:2
- absorbing 10537:27
- **accept** 10470:1 10583:16,19 10618:22 10636:12
- acceptable 10451:18
- acceptance 10631:2
- **accepted** 10515:28 10516:5, 17 10575:5
- accepting 10630:5
- accommodated 10615:21
- account 10487:11,13,23 10488:16 10507:14 10530:3 10554:26 10600:2.9
- accountable 10601:3
- accountant 10529:15
- accounting 10581:25
- accumulating 10615:21
- accurate 10447:15 10452:18
- achievable 10526:18
- achieve 10614:23 10617:23
- act 10466:28 10532:22
- Act's 10579:19
- acting 10500:17 10504:3
- actions 10629:3
- actively 10515:22
- **activities** 10538:9 10557:25 10560:11 10564:24 10602:27 10603:11,12
- activity 10560:4 10563:6,7,8 10616:13
- acts 10580:9
- actual 10458:15 10478:18 10480:25,28 10481:9 10492:6 10508:8 10542:7,10 10564:14,26 10581:27 10597:13 10604:19 10616:9 10621:10,12 10636:27 10639:24

Index: 29..actual



adapt 10479:14 10506:8

add 10493:10 10508:16 10540:7

added 10461:2 10467:18 10489:22 10498:8 10609:25, 27 10620:12 10626:10,19

addition 10538:1

additional 10446:9 10456:10 10458:25 10500:18 10504:5 10505:17 10520:5 10536:16 10546:3 10547:21 10563:22, 26 10569:9 10612:23 10641:14

address 10447:13 10509:26

addressed 10577:7 10603:21

addresses 10499:7 10600:13

addressing 10458:1 10492:8 10576:27

adequacy 10502:21

adequate 10568:17 10579:20 10582:15 10611:9 10619:2 10642:22

adequately 10513:9 10567:13

adjacent 10572:11 10598:2

adjust 10466:19 10479:13 10491:19,20

adjusted 10464:3 10466:11 10467:12 10503:12

adjustment 10465:27 10467:28 10469:16

adjustments 10465:23 10469:14 10470:2 10519:28 10520:27

Administrator 10517:8

admission 10444:25 10445:3 10492:16 10493:3 10606:18,27 10607:7,16 10641:19,24 10642:3,10

admit 10493:23,26 10494:2, 6,10,14 10606:10

admitted 10444:26 10445:4 10493:6 10606:20 10607:1, 9,18 10641:26 10642:5,13

adopted 10458:19 10469:2 10510:10 10512:26 10549:17 10570:21 10574:17

adopting 10631:13

advance 10478:11

Advanced 10498:6

advantageous 10572:5

advocate 10469:13

advocating 10469:15 10566:14 10633:9,12 10640:11,16

affect 10610:5 10636:10

afforded 10550:20

afternoon 10557:1,13 10579:10,11 10587:28 10588:1 10643:13,15

agree 10467:27 10489:20 10502:16 10550:25,27 10559:27 10571:21 10614:9 10631:15 10639:13

Agreed 10495:25

agricultural 10444:10 10451:14 10452:22 10470:13,15 10578:20 10579:2,4 10608:20,22

Agriculture's 10444:16

aid 10447:28

Alabama 10511:22 10512:5

aligned 10508:19

alignment 10575:26 10576:1,2,4

alike 10612:11

allies 10525:7

allocate 10506:24 10573:5

allocated 10483:25 10540:6 10564:21 10600:26

Allowance 10631:4

Allowances 10478:6 10535:2

allowed 10619:27

allowing 10541:13

alphabetically 10560:19

Alternatively 10472:22

altogether 10515:21

AMAA 10532:18,21

American 10575:17

amount 10463:7 10467:14 10480:26,28 10546:3 10558:22 10560:27 10582:17,18 10596:23 10600:13 10601:15 10603:14 10610:22 10611:8 10614:4 10618:20 10632:25

amounts 10458:25 10584:3

ample 10471:2

AMS 10516:18 10587:13 10612:7 10622:1

analyses 10456:23

analysis 10456:10,12,26 10457:27 10466:17 10467:7, 11,15 10468:3,12,17,19 10483:13 10484:1 10506:15 10521:4,6,16 10522:27 10523:19,28 10524:14,20 10525:5,22 10526:13 10529:3 10531:7,9 10536:22 10537:17,21 10541:22 10551:1 10569:12 10572:13 10640:6

analyst 10455:24 10456:13

analyst's 10456:16

analyze 10490:20 10531:10

analyzed 10569:18

anchor 10454:27

Anderson 10560:13 10643:8

announce 10555:21

annual 10584:12

anonymized 10524:5

antiquated 10582:3,6

antitrust 10531:14

anymore 10540:1 10617:26 10618:11

Anyplace 10622:5

apologies 10462:1

apologize 10446:21 10511:22 10586:14

Appalachian 10461:8 10480:19

Apparently 10512:4

appearance 10457:18

appeared 10452:7 10634:14

appearing 10630:21

appears 10483:18 10570:2 10588:19 10594:2

applicable 10475:23 10569:6

applied 10549:11

applies 10600:19

approach 10636:13

10639:23 10640:22

approved 10458:4

approximate 10622:23

approximately 10445:18 10521:27 10599:16

area 10476:6,27 10581:4,7 10623:17

areas 10465:28 10575:9 10611:7 10618:28 10623:10 10626:8,15,24,26 10637:4 10639:6 10640:13

argument 10477:7 10582:12,24 10585:7

arguments 10627:19

Arizona 10454:21 10455:7 10598:14

arrangement 10583:5

arrangements 10562:8 10582:22 10585:1

artificially 10577:25

ascendant 10628:27

aseptic 10558:13

Ashley 10447:7 10495:11 10598:23

aspect 10469:25 10470:6 10473:13

aspects 10580:5

assembling 10616:2

assembly 10515:26 10616:7

Association 10555:24 10587:25

assume 10569:1 10582:13 10585:9.11

assumed 10612:26

assuming 10458:9,27 10480:26 10524:17

assumption 10507:13 10538:5 10561:28 10562:1 10582:17

astray 10570:13

atop 10527:20

attempt 10613:17

attention 10460:5 10588:6

attract 10500:18 10503:5 10504:4 10508:17 10513:25 10555:1 10626:12 10628:14 10629:21



attractant 10507:22

attracting 10569:25

attracts 10630:14

audience 10521:8

Aurora 10551:19 10558:18 10560:13 10562:6,16,19,22 10643:23

Austin 10464:18

Autauga 10511:22 10512:3,

authorized 10610:17

automatically 10467:18

avalanches 10489:4

average 10450:9 10452:2 10456:7 10459:5,15,20 10460:9,18,20,23,25 10461:2,5,7,14,17,22,23,26 10462:5,6,14,15,20,22,27 10463:1,4,18,21 10484:5,10, 11,12,17,22,23 10485:1 10487:23 10512:13 10553:19 10554:2 10593:14, 15 10595:4 10627:3,4,6 10638:27 10639:12

average-of 10458:21

averages 10459:27 10460:26 10471:6,8

avoid 10450:26 10576:6

aware 10487:25 10490:28 10524:24,25 10526:6 10529:1 10542:11 10560:24 10584:5 10624:15

В

back 10444:2 10446:10 10447:20,21 10450:2 10454:8 10455:20 10457:23 10458:4 10461:3 10470:27 10474:20 10482:6,9 10490:18 10494:27 10495:5, 7,8 10496:27,28 10501:15 10516:4 10521:13 10525:10 10530:9,11,15 10534:9 10546:13 10556:2 10557:2,3 10568:13,22 10575:22 10578:24 10587:16,18,20,21 10606:7 10608:24 10609:11, 23 10610:15 10611:15 10612:2 10614:22 10616:22 10623:28 10624:2,5 10634:6 10635:26 10636:20 10638:11,24

background 10455:19 10514:25 10515:16 balance 10536:23 10537:6 10561:20 10563:20 10573:25 10578:12,13,14 10600:19 10618:26 10628:14,20

balancing 10498:23 10504:16 10505:23,25,27 10506:10,12,17,19,25 10507:1,5 10515:26 10523:23 10535:14,21,22 10536:1,12,17,18,28 10537:18,21 10538:6 10539:6,23,27 10540:2 10544:19,26 10545:6,13,16, 18,21 10546:3,21 10547:9, 22 10548:3 10555:3 10557:20,23,24 10558:2,10, 11 10559:28 10560:3,4 10561:24 10562:12,24,26 10563:7,11,22,27 10564:4,8, 22,24,27 10565:13,28 10566:2,19,23 10567:3,4,7, 13,17,21 10568:1,3,9 10573:27 10574:4,28 10578:11 10582:20,21 10583:15 10585:8 10587:8 10600:24,27,28 10601:11, 14,20,25 10602:7,13,15,19, 24,27 10603:8,11,12,14,17, 25 10618:8,10,18,26 10620:17 10626:20,27 10627:21 10628:2 10630:4, 6.9.12 10635:9 10637:14 10638:1

balancings 10618:16

band 10485:13 10584:11

bands 10625:13,14

bar 10450:11 10528:25 10589:20

bargaining 10541:4 10546:9,11

barrier 10475:13

bars 10450:8 10611:16

base 10457:7,14,15,19,22, 24,26,27 10458:7,13,15,17, 21.25 10469:10 10477:12 10482:17 10483:4,8,12,14, 17,19 10498:4,5,7,9,10,14, 26 10499:8,9,15 10503:8,10, 16.19 10504:11.14 10506:11,22 10510:13,17,19 10519:4 10520:20,25 10526:17 10533:15 10534:28 10539:28 10541:16 10547:12 10548:17 10557:20 10563:15 10564:17 10566:26 10567:26 10568:11 10570:25 10571:3, 5,12 10572:10,23 10573:5

10576:11 10586:21 10601:2 10628:28

base/excess 10544:10

based 10456:21,23 10463:1 10470:25 10471:20 10483:28 10485:24 10490:24 10492:10 10519:24 10520:7 10537:20 10541:26 10549:4 10551:15 10576:19 10622:13,16 10625:7

basic 10502:25 10541:27 10542:17

basically 10499:6 10591:11

basin 10489:2

basis 10491:22,27 10507:2 10575:25 10576:1 10582:27 10595:27 10617:17,18 10618:7 10629:8

bear 10514:22 10575:1

bearing 10506:16,18,20 10563:3,16 10602:6 10603:7

bears 10449:1

began 10464:4 10610:15

begin 10453:28 10482:25 10509:6 10623:28

beginning 10480:16 10501:15 10522:21

begins 10453:28 10583:18

behalf 10444:10 10522:5

behavior 10618:16

belabor 10610:13

belief 10573:20,21

believes 10469:25 10503:10 10510:13 10519:16

belonging 10634:10

belongs 10537:10,11 10540:8

benchmark 10616:17

benefit 10510:18 10584:14, 19.21 10586:1 10641:2

benefits 10585:24 10586:4, 7,9 10631:7 10632:28

betray 10559:7

beverage 10610:3 10611:2, 23

big 10474:16,17 10476:2 10536:24 10541:28 10597:11 10613:17

bigger 10509:2 10534:25 10537:12 10639:1

biggest 10538:7

bin 10449:23

bins 10449:20,21

birds 10519:8

bit 10459:9 10467:2 10478:3 10486:27 10497:28 10503:13 10509:9 10512:27, 28 10514:23,24 10518:16 10521:5 10528:12 10533:2 10558:5 10567:11 10585:17 10586:6 10600:23 10613:4, 21 10624:13 10625:12,19,26 10627:10 10629:17 10632:27 10633:25 10634:24 10636:17 10639:19 10641:3

bite 10479:17

blend 10500:23,24 10512:9, 11,13,18 10514:5 10535:9 10549:8,27

block 10500:4,22 10557:18, 27,28 10568:14,21,28

blue 10611:16 blunt 10612:17 bolsters 10627:19

boom/bust 10543:6

borne 10505:27 10506:1,2,3 10507:9,10 10536:17 10563:27,28 10564:1

bottled 10504:6

bottling 10464:21 10465:12 10498:25 10499:27 10508:3 10513:26 10532:14 10569:4, 21 10628:25

bottom 10453:18,27 10460:21 10485:17 10490:7, 13 10493:10 10592:16,27 10595:15.18

bottom-up 10474:15

bound 10469:28

box 10448:18 10462:26 10589:11,24,27 10590:3 10591:4 10592:15,16,17 10593:1,2,19,20 10594:18 10596:6 10597:18,19

box-and-whisker 10450:5 10481:21,26

box-and-whiskers 10589:8

boxes 10485:17,18 10490:7, 23 10589:13,14 10590:6



10599:6.9

boy 10491:17 10607:8 10642:12

breach 10614:21

break 10446:18 10447:16 10482:5,8 10483:24 10494:23 10495:6 10497:14 10530:8,10,16 10555:17 10587:16,19 10589:6,7 10591:15 10606:2 10623:25, 27 10624:4,8,10

breakdown 10484:18 10499:10,11,12

breaking 10446:19

breaks 10485:24

briefly 10600:25

bring 10446:10 10579:20 10580:27

bringing 10626:20

brings 10471:14 10517:15

broad 10534:24

broader 10521:8,21 10522:19 10598:7

broke 10523:2

broken 10449:15 10599:16

brought 10586:7

Brown 10576:16

bucket 10448:19,20 10584:7

buckets 10449:20,21,22

10485:11

budgets 10548:28

build 10527:20 10535:22 10602:10 10603:3

builds 10602:25,28

built 10527:19 10535:28 10536:2,15 10538:2,4 10544:26 10545:21 10548:3 10602:5 10612:2

bullet 10533:15 10587:8

bumping 10604:17

Bureau 10575:18

business 10515:4 10525:27 10559:7 10602:11

businesses 10476:15 10479:14 10603:24

butter 10508:28

butterfat 10498:6

buy 10544:13 10555:14 10560:27 10640:3

buyer 10543:2,4,16 10544:1 10565:20

buyers 10528:20 10613:10

buying 10612:9

C

calculate 10459:6 10529:5 10616:10

calculated 10553:19

calculating 10552:26

calculation 10458:5 10459:20 10549:23,27 10554:1,9 10609:21

calculations 10452:1 10549:4 10553:17 10596:5 10636:4

California 10472:26 10476:3 10484:24 10488:23 10489:1 10546:14 10551:26 10576:15,20 10598:5 10617:1 10625:18 10637:20

call 10470:13 10488:19 10492:15 10493:24 10507:22 10521:26 10570:20 10591:2 10592:15 10605:27 10614:8 10621:19 10632:9

called 10589:4,7

calling 10460:5 10470:5 10494:20 10588:6

calls 10495:12

cancelled 10446:5 10578:26

Cap 10587:9,10

capita 10611:22

capital 10587:11 10603:2

captive/retailer 10599:17

capture 10449:26 10473:19

captured 10454:5

capturing 10472:15 10621:10

care 10532:12,20 10540:4 10548:2 10613:4 10630:8

careful 10466:24

cargo 10488:19 carried 10603:18

carry 10600:28

carrying 10559:8,9 10601:10

Carson's 10586:5

case 10458:6,11 10472:16 10476:14 10584:15 10586:22 10588:23 10602:6 10612:28 10618:11 10626:16 10637:23 10643:17

cases 10475:3 10506:25,26, 27 10512:24 10560:15 10561:26 10564:20,23 10566:10,12 10575:7 10577:18 10617:17,18

cat 10584:13 10607:17

categories 10638:13

categorized 10490:13

category 10460:14 10480:7 10612:27

cell 10617:21

center 10622:5

centers 10621:6

central 10471:12 10486:21 10489:1 10601:10 10624:28 10637:19

certified 10516:10,12

cetera 10483:26

chain 10538:12 10562:13

chains 10487:23

challenged 10630:6

challenges 10569:25

challenging 10633:10

champagne 10489:16

chance 10497:14 10616:16

change 10453:24 10454:5,9 10460:10,15 10462:8,23 10469:24 10475:24 10477:2, 4,5 10478:8 10479:14 10480:20 10481:5 10484:12 10488:6 10508:11,19 10509:12 10512:11 10513:12 10532:15 10566:14 10600:1 10609:18 10628:11 10632:2 10638:5 10640:27

changed 10471:6 10472:21 10486:15 10507:23 10523:7, 8 10542:19 10546:16 10565:26 10566:3 10569:5,7 10598:11 10610:21 10618:15 10631:9

changing 10508:5 10519:28 10542:4 10609:28 10611:13

characterize 10455:26

charge 10601:18 10622:24 10625:4

charged 10612:19

charges 10638:1

charging 10613:1

chart 10448:28 10450:5 10463:25 10466:13 10481:21,22 10484:10 10491:3 10501:10,11,15,27 10502:2,3 10588:11,12,13, 18,23,26 10589:8,12 10594:2

charts 10448:3 10484:3 10588:5 10589:16

cheapest 10597:3

cheese 10478:5 10504:27 10508:28 10518:5 10554:16 10569:3,21,27 10622:9,11, 20 10623:1,13,15,17 10626:25,28 10627:8,15,26 10628:4 10640:14

cheeses 10577:19

Chip 10446:1 10605:22,26 10607:23

choice 10612:5

choices 10631:26

choose 10520:3 10612:6 10640:2

choosing 10628:18

chronically 10613:12

Chuck 10643:20

chunk 10540:26

circles 10476:11

circulated 10450:4

circulating 10522:13

cities 10454:20,21,27 10455:6,7 10459:15

city 10454:22 10455:7

claim 10487:9

clarification 10458:23 10587:6

clarified 10524:12

clarify 10460:7 10479:26 10520:13,17 10634:14

class 10451:27 10453:21



10454:2 10456:4 10457:8 10458:7,9,15,20,21,26,27 10460:27,28 10464:2 10465:15 10466:20,23,25,28 10467:1,12,19,25,26 10469:1,3,8,14,16,19 10474:2,10 10476:3,24,27 10477:8,11,12,20 10479:11 10482:17 10483:4,8,12,14, 17 10496:5 10497:25 10498:2,3,4,5,6,7,8,9,10,12, 13,16,20,26 10499:8,14,22, 23,24 10500:9,11,13,14,19, 28 10501:16,19,20,26,28 10502:4,5,10,12,17 10503:9, 10,15,16,19,23,28 10504:2, 6,11,15 10505:10,13 10506:9,22 10507:19 10508:3,7,12,14,21,25 10509:3,5,6,7,11,20,25,28 10510:2,11,14,17,19,28 10511:3,5,12,14 10512:19, 23 10513:3,14,17,18 10514:1,4,7 10516:13 10519:4 10520:21,22,25 10522:15,18,19,20,23 10523:4,13,14 10526:17 10527:14,15,19,20,21,26,27 10528:1,4,8,15,16 10529:9, 22,23 10530:4,26 10531:11, 21,28 10532:11,14,19 10533:6,7,12,16 10534:26, 28 10539:25,28 10541:16 10542:15,19 10543:12,15,26 10544:1 10545:13,16,22 10546:15,20 10547:12,25,27 10548:4,9,17,18,20,21,24 10549:9.10.11.15.26 10554:1,26 10555:8,11,12, 13 10559:20 10561:17 10563:4,19 10564:9,16 10566:9.22.26 10567:25.27 10568:12,16 10569:14,19,27 10571:12,19 10572:20,23 10573:6,16,23 10575:24,25, 28 10576:1,2,4,5,8,11,13,18, 27 10577:9,11,14,23,24,25 10578:2 10579:27 10580:2. 6,9,15,16,17 10581:17,18,21 10582:9 10586:21,23,27 10590:8,9,20,23 10592:9,11 10593:15 10594:5.26 10595:4,22 10596:24,25 10597:4 10599:15,20 10600:2,27 10601:2,3,9,12, 15,18 10602:3,9 10604:1 10605:1 10616:19,24 10617:9 10618:28 10619:3, 4,10,14,22 10620:5,7,10 10621:15,17 10623:2 10626:11 10627:5 10628:13, 19,26 10629:20 10630:13,15 10636:1,3,13,19 10638:26 10639:23,25 10640:15

classes 10458:8 10500:20 10502:11 10503:27,28 10504:7 10505:16 10509:18 10527:18 10528:14 10543:20 10580:11 10635:23

classic 10581:24

classified 10610:9 10612:17 10613:6

clean 10493:16 10591:15

clear 10449:25 10454:21,28 10455:6 10463:17 10478:20 10479:25 10482:22 10570:5 10586:19 10589:1 10613:14, 17 10636:4

clearest 10542:22

clearing 10505:14 10581:19 10615:22

clears 10614:10

clients 10515:2 10528:26 10540:23

climb 10611:19

close 10589:2 10627:27 10637:7,19 10639:3

closed 10464:20,26

closely 10471:11 10484:26 10486:28 10510:23 10620:27

closer 10621:6,7

closure 10464:25

closures 10452:12 10489:8

co-op 10524:10 10560:20 10562:2 10617:17

Co-ops 10618:14

Coale 10445:10,11

code 10452:8 10558:14

coin 10476:16

coincidence 10444:23

colleagues 10524:23

collection 10517:10,14,19 10518:12 10534:12,21

color 10449:4 10623:14

Colorado 10489:19

coloring 10449:1

colors 10448:21 10449:3,15 10450:8,10 10623:11 10625:11

column 10480:14,22

Comanche 10465:4

combination 10573:13 10600:4 10629:17

comfortable 10553:13

command 10503:3 10632:11

commensurate 10574:21

comment 10475:21 10609:25,27 10612:23

commented 10576:23

comments 10475:20 10477:25 10493:21 10579:28 10629:22

commitment 10584:12

commodified 10618:2,5

commodity 10577:19

common 10618:17

Company 10643:20

compare 10594:27

compared 10461:25 10463:2,19 10554:24

comparison 10451:27 10459:26 10460:8 10461:21 10484:4 10572:9 10590:8 10596:16 10597:26 10622:22 10624:18

compelling 10457:6

compensate 10508:8 10511:5 10513:7,14 10527:22 10531:5 10532:10 10545:3 10567:21 10573:24 10601:13 10630:16

compensated 10567:13,28 10581:16 10585:21 10604:1 10621:21 10623:18 10627:25 10630:21

compensating 10513:24 10545:2 10626:19

compensation 10498:22 10513:2 10526:24,27,28 10533:16 10582:3 10585:21 10586:22 10617:7

compete 10629:9

competing 10569:26

competitive 10568:18 10640:22.24

compiled 10456:17

complete 10447:14 10451:1 10452:18 10454:1 10493:17

completed 10642:11

completely 10572:7

complex 10475:12,15 10520:28 10616:2

complexities 10633:18

complicated 10551:12

complied 10444:19

comply 10518:1

component 10498:28 10519:14,18,23 10525:10,19 10557:19 10569:2 10574:1,2

components 10483:24 10542:25,28 10558:1 10572:22

computer 10606:3

conceived 10628:24

concept 10639:23

concepts 10612:4

concern 10485:11 10567:11, 12 10634:15

concerned 10510:4 10532:15 10541:20 10567:16 10577:1,3 10643:3

concerns 10531:14 10560:6, 11 10634:18

concise 10588:28

conclude 10445:18,22,23 10643:5

concluded 10644:6

concludes 10635:15 10641:17

conclusion 10457:13 10521:2 10539:26 10541:26 10569:5

conclusions 10456:21 10632:2

condition 10547:24 10548:5

conditions 10500:8 10503:15 10506:9 10528:19 10530:2 10540:4 10541:14 10544:20,22 10575:9 10612:8 10628:23 10632:8

conduct 10468:17 10521:3

conducted 10521:5,15 10522:26 10523:1,19 10537:17

confident 10474:25 10530:18



conform 10561:28 10562:1

confusion 10634:1 10640:10

Congratulations 10605:19

conscious 10531:14

considerably 10614:1 10625:2

consideration 10480:24 10491:23 10515:24,28 10516:5,17,19 10521:20 10523:17 10553:9 10571:8 10575:3 10577:6 10585:15

considerations 10492:6 10602:11

considered 10472:3 10486:2 10488:25 10489:8, 10 10526:16 10559:28 10619:11 10632:24

consistency 10576:8

consistent 10450:10 10484:27,28 10485:6 10487:28 10488:1,2,7 10492:4 10600:18,22 10618:12 10621:8,9 10625:21

consolidated 10636:5

consolidation 10631:18

constraint 10472:20 10473:2 10622:6.7

constraints 10526:14 10616:9

constructed 10612:13

consultant 10455:22 10517:25 10521:22 10523:11 10528:27

consulting 10514:26 10515:4,14,15

consumer 10471:2 10539:3 10580:24 10612:22

consumers 10491:18 10499:27 10539:5 10555:13 10580:14,19,25 10612:11 10613:27 10614:9 10616:5

consumption 10579:22 10580:1.26.28

Cont'd 10448:10

contained 10573:1

contention 10581:14 10582:12

context 10514:6 10530:16 10539:17 10593:10

contextually 10455:20

contiguous 10616:3

continental 10461:9

continue 10508:21 10517:9 10519:23 10530:22 10578:8 10641:12

continued 10611:19,26

continues 10572:18

continuing 10448:21 10547:27 10560:19 10590:18

contract 10545:23 10546:27 10547:8

contracts 10543:9

contradictory 10477:9

contrasting 10478:25

contribute 10578:5

contributing 10509:18 10510:14

control 10530:18

conundrum 10639:19

conveniently 10642:17

conventional 10473:25 10515:2 10546:14 10551:11, 15,20 10573:23 10574:14,16 10576:22

conventionally 10551:13

convergence 10617:7

conversion 10527:4 10617:4 10630:1

converting 10526:28

convey 10588:26

conveys 10570:23

cooperative 10506:3,26 10524:7,10 10534:3 10538:27 10544:12 10551:18,19 10559:28 10560:2,21,27 10561:5,25 10562:20 10563:23 10564:1, 5 10565:13,14,17 10567:8, 24 10604:9

cooperative-handled 10533:5

cooperative-owned 10599:16

cooperatives 10524:8,13 10540:28 10544:8,15 10550:23 10560:3,8 10561:16 10628:7 10638:15 copies 10451:16 10588:9

copy 10453:5,24 10454:9 10462:17 10493:14,16 10497:5,8

core 10471:13

Cornell 10635:27

corners 10624:23 **correct** 10448:25,26

10449:18 10450:6 10452:24 10453:10,12,22 10456:12 10469:11,12 10471:4 10487:7,19 10499:7,19 10503:1 10504:2 10505:6 10506:14 10510:12 10511:13,20,21 10514:27 10526:16 10553:16 10561:3, 8.17 10562:22 10563:20 10564:6,9,18,19 10566:20, 24 10567:14 10568:1 10570:7,8,14,22,26 10572:1 10573:2,7,10,11,18,19 10574:10,19 10578:12 10583:17 10588:17,25 10589:25 10590:1,7,10,12, 15,21,27 10591:4,17,27 10592:2,10,20,25,26 10593:20,24,27 10594:2,7, 16,17,20,23 10595:11,16,19, 23,24,27 10596:14,25 10597:5,14,17,22,28 10598:3,8,12,14,15,17 10599:22,23 10600:7,8,10, 16 10601:7,20,25 10602:7, 13,28 10603:4 10604:2 10608:10,11 10609:14 10632:22 10634:11 10636:25,28 10637:1,5,6,8,

corrected 10450:4,13,18 10451:17,21 10452:4,8,20 10453:17 10454:20 10464:2 10468:13 10481:16 10493:9 10494:11 10588:3,10,11,14, 15 10607:25 10609:11 10641:25

9,15,16 10638:9

correction 10452:5 10454:13 10455:9 10464:12, 28 10465:2

corrections 10447:13 10450:8 10451:25 10453:10 10464:13 10465:22,26 10609:13,18

correctly 10460:13 10472:15 10506:23 10512:4 10563:1

correlates 10620:27

correspond 10625:23

corresponds 10526:22

cosmetic 10450:8,20 10451:2

cost 10505:11,14 10507:9, 10,14 10527:3 10529:4,7,11, 20 10535:14,22 10537:3 10538:23 10548:3 10552:3, 6,27 10553:17,20 10554:10, 27,28 10555:2,5,9 10559:8,9 10562:11 10563:3,11,16,19 10564:1,22 10566:8,12 10572:20 10582:25 10584:23 10585:2 10602:7 10603:9,24,26 10612:20 10618:10 10619:7 10620:17 10623:8,20 10625:5 10626:19 10627:7,21 10634:5 10637:15

costing 10563:7,8

costs 10472:12,13,14,18 10505:6,7,27 10506:17,19 10507:1 10512:17 10529:5 10531:3 10535:15,21 10536:3,12,17,23,28 10537:6,18,22 10538:12 10539:22.23 10540:5 10544:19,26 10545:21 10546:3,8 10547:9,22 10549:16,21 10550:4,19 10552:11,28 10553:1,2,4,14 10554:12,21 10557:20,23 10562:26,27 10563:23,27 10564:4,8,14,27 10565:8,13, 28 10566:2,11 10567:7,12 10580:17 10600:27,28 10601:11,14,20,25 10603:8, 13 10620:22 10623:12,19 10626:26,27 10627:21 10628:3 10635:9.10

counsel 10446:3

count 10617:21

countercyclical 10630:10

counties 10448:20,21,22 10449:4,8,15 10454:19 10455:5 10456:27 10458:16, 17,18,24,26 10460:19,20,22 10461:2,4,7,8,9 10462:28 10464:1,2,7 10465:21 10466:4 10474:16 10484:11 10485:10,13,18,21 10486:19 10487:16,17 10490:8,9,13, 16,26,27 10491:2,5,15 10499:4 10570:10 10590:22, 26 10591:11,20,25,26 10593:9,10,17 10597:7 10623:6 10627:4

countries 10487:15 10633:5

country 10465:21 10479:9 10486:25 10487:15,17 10489:21 10490:26 10492:5 10511:13 10512:1 10531:22



10569:8 10590:21 10611:12 10618:24 10619:1,16 10621:1,2 10625:1,21 10639:4,7

countryside 10476:8

county 10452:8,10,19 10458:12 10464:18 10469:23 10496:6 10497:28 10511:12,19,22 10570:20, 22,25 10571:1,4,15 10572:10 10591:16

county-by-county 10477:22 10520:6 10526:13

county-level 10511:19,26 10519:28 10520:27

couple 10445:13 10473:28 10476:7 10481:25 10490:4 10514:21 10560:26 10588:9 10618:17

COURT 10444:2,21,24 10445:2,8,27 10446:13 10447:1,5,9,18,20 10448:6 10450:23 10451:13 10452:21,26 10453:25 10454:4,8 10455:9 10460:2 10462:8,10,16,23 10470:12 10482:5,9,21,25 10488:13 10489:3,14,20,27 10492:15, 18,22,26,28 10493:2,5,20 10494:2,6,10,14,18,25 10495:4,7,14,18,25 10496:18,24,27 10497:17,20 10512:3 10529:26,28 10530:7,11 10535:10 10555:17,25 10557:2,6 10558:23,27 10559:1 10564:11 10571:24,26 10575:14,16 10578:19 10579:1,15 10581:6 10587:15,20 10591:7 10598:21,27 10599:6,8 10605:16,23 10606:5,7,12, 17,26 10607:6,15,28 10608:7,11,14,24 10623:22, 24 10624:5 10635:5 10638:12,17 10641:21 10642:2,9,20,27 10643:27

cover 10518:18 10531:2 10546:3 10547:22 10550:19

coverage 10535:20

covered 10498:5 10548:14 10567:4,8 10599:1

covers 10540:19 10591:24

cows 10538:28

cream 10505:1

Creamery 10551:20

creams 10528:16

create 10498:7 10541:19 10544:19,28 10573:16 10583:4 10596:6 10640:22, 24

created 10536:16 10544:22 10612:2

creates 10466:23 10544:27 10547:2 10613:13

creating 10547:7,9,20,23 10548:4 10640:4

credit 10480:25 10540:16 10573:17

credits 10466:15,26,27 10467:3,4,5,9,12,21,22 10468:18 10476:26,27 10480:1 10507:6 10515:26 10584:28

cringing 10479:22

crisp 10614:7 10615:4

criticism 10640:21,26

criticisms 10483:11

criticizing 10483:21

CROPP 10524:9,10

cross-examination

10447:12,15 10455:13,14 10468:21 10470:12,17 10492:25 10514:16 10555:20 10557:10 10575:19 10578:19 10579:8 10585:18 10587:26 10641:15,22 10642:22

cross-examine 10557:6

cross-examining 10594:11

cross-reference 10519:7

Cryan 10555:26 10575:13, 14,15,17,20,22 10578:18

Crystal 10551:20,23,26,27 10560:16

Crystal's 10560:17

current 10452:2 10456:4 10459:27 10460:9,14,16 10461:13 10462:3,4,5,14,20, 21 10466:14 10475:5,7 10477:6 10479:11 10480:13, 19 10484:5 10497:25 10498:2,3,20 10503:8,10 10510:11 10518:8 10520:1 10528:19 10535:27 10536:10 10539:28 10554:5, 6 10571:18 10586:16,20,21 10590:8,20 10591:24 10592:7 10594:26 10595:15, 23 10596:20,28 10597:11,27 10604:15,16 10621:15,20,24 10629:10 10630:2 10634:9, 10,27

cuts 10612:12

Cuyahoga 10570:20,22,25 10571:4,15

D

daily 10558:1,10 10602:19,

Dairies 10643:21

dairy 10445:11 10505:1 10516:22 10517:25,26 10518:4 10527:22 10528:3,4 10533:4 10534:3,14,16,20 10542:3 10543:7 10544:3 10550:8,14,17,28 10551:2,8, 9,10,15,17,18,19,21 10553:4,6 10554:15,17 10555:9,24 10558:18 10570:6 10580:7 10587:25 10604:5 10608:21,22 10610:19 10611:28 10612:10 10613:14 10615:21 10616:1,3,4,17 10617:14 10619:12 10627:12 10628:22 10629:6 10631:8 10633:19 10635:27 10643:8,12,23

Dallas 10572:9

Dana 10445:10,11

Danone 10558:18 10560:20

dark 10625:11 10626:15

darker 10625:10

data 10449:22 10450:17 10461:8 10490:18 10517:9, 14,19,20,28 10518:10,12 10525:9 10534:12,21 10586:10 10608:4 10626:3 10634:2,4,6,7,9,10,15,16,19, 27 10636:23,27

data-intensive 10525:20

dates 10499:12 10558:14

David 10448:7

Davis 10522:2,4

day 10444:3,22 10485:28 10583:21,22,28 10584:2 10616:21

days 10558:15 10584:3 10635:27

deal 10451:15 10463:6 10472:23 10520:2 10529:16

10614:20

dealers 10612:10

deals 10499:5

decades 10618:17

December 10470:28 10471:9 10485:28 10492:20 10576:17

decide 10471:24

decides 10602:10

deciding 10471:16

decision 10458:3 10480:4 10517:24 10518:6 10557:19 10559:11 10565:25

10581:12

decisions 10633:26

decline 10502:4 10543:20

declined 10611:5,23

declining 10548:22 10617:17

decrease 10512:13,15 10513:12 10549:26 10574:8 10578:8

decreased 10520:26

decreases 10459:18 10580:11

decreasing 10502:18

dedicate 10502:8

dedicated 10561:21

deemed 10631:20

defer 10495:1 10532:22

deficit 10621:3

define 10583:28 10593:4

definite 10615:5

degree 10486:18,20

degrees 10608:20

delay 10478:19,22,26

delayed 10477:28 10478:16

delete 10455:5

deleted 10454:18

delighted 10446:14

deliver 10584:16

delivering 10622:24 10623:7,15

delivery 10466:15,27



10467:5,9,22 10476:27 10480:1

demand 10500:8 10541:24 10542:18 10543:23 10558:8 10577:28 10612:22 10613:22,25,26,28 10614:13 10630:9 10634:4

demanded 10614:15,18

demonstrated 10612:3

denominator 10502:2 10509:2

Department 10444:16 10520:3

depend 10612:11

depending 10549:6 10575:9 10610:28

depends 10603:8

depooling 10510:5 10577:3, 4,8 10629:3

deregulated 10633:5

describe 10474:3 10499:3 10521:1 10522:28 10616:27

describing 10457:3 10488:22 10529:19 10601:28

designed 10499:24 10549:20

desired 10618:21

detail 10457:20 10471:23 10507:27

detailed 10481:6 10557:27

details 10504:20 10517:6

determine 10466:18 10467:11 10468:1,12 10536:22 10539:24 10603:9, 23

determined 10569:2 10603:16 10620:4

develop 10453:21 10454:2 10616:9

developed 10464:24 10477:22 10620:19

developing 10515:23

deviate 10487:19

deviated 10487:22

deviating 10472:1 10491:12

deviation 10461:24 10463:4, 20 10472:9,10 10473:8 10485:25 10491:23,25

deviations 10473:13 10484:20 10486:2,6 10487:11,28 10491:10,15

diced 10456:1

dictate 10534:7,11 10599:25,26

dictator 10616:14

differ 10621:13 10622:13,16

difference 10452:1 10558:8 10571:3 10575:2,5 10597:3 10601:19,24 10614:15 10622:28 10637:11,27

differences 10473:26 10474:2,4 10491:5 10622:27 10624:24 10627:4 10636:2 10639:5

differential 10457:15,16,19, 22,25,26,28 10458:7,14,15, 16,17,25 10460:27,28 10464:3 10466:24,25 10467:1,13,19,26 10469:3, 10 10477:12 10482:17 10483:5,9,12,14,17 10497:26 10498:16,27 10499:8,14,15,22,24 10500:6,12,13 10501:1 10502:6 10503:9,11,16,20, 23 10504:11,15 10506:23 10510:11,14,17,19 10511:3, 12,19,24 10513:14,18 10519:5 10520:21,26 10523:13 10526:17 10527:14 10534:28 10536:1 10538:5 10539:28 10541:17 10547:12 10548:4.18.21 10554:2 10555:11 10564:18 10566:26 10567:26 10568:16 10569:2.19 10570:21 10571:2,5,12 10572:20 10573:6 10577:14, 24 10578:3 10579:21 10580:2,9,15 10581:10 10586:21 10592:9 10593:16 10594:5 10595:4 10596:11, 13 10597:4 10601:2 10616:19,24,28 10618:7 10619:3 10620:11.14 10626:10 10629:12.20

differentials 10451:28 10453:21 10454:3 10456:4 10457:8 10459:6,21 10460:17 10461:14 10466:20 10468:9 10469:8, 14,16,19 10471:1,17 10474:11 10475:3,24,25 10476:3,24,28 10477:8,20, 27 10479:12 10480:23 10490:25 10496:6 10497:28 10498:8,11,14,20 10511:15, 26 10518:24 10519:12 10520:20,23 10522:18,19 10533:14,15 10534:26,27 10535:3,28 10536:10 10538:3 10539:25 10542:15, 19 10543:12 10554:26 10555:8 10571:19 10579:27 10580:6,23 10590:8,9,20,23 10592:12 10594:27 10595:22 10596:24,25 10616:22 10621:16,17 10638:27 10639:7,24

differently 10603:18

differing 10621:14

difficult 10475:17 10476:18 10489:23 10550:26 10565:6 10621:26 10632:11

difficulty 10636:19

dig 10539:20

digestion 10451:3

dilute 10627:20

diluted 10508:9 10546:21 10601:6

diluting 10627:22 10630:17

dilution 10604:1

dipping 10547:23

direct 10448:10 10496:20 10513:22 10534:4 10545:17 10560:6,10,12,13,14,18,20, 25 10561:2,11,15,16,20,23 10562:19 10573:22 10574:8 10583:4 10609:6 10638:8 10641:18

directed 10560:22 10588:3 10600:27 10628:10 10630:16

direction 10520:4 10621:23 10629:11 10632:17

directions 10486:7 10621:21

directly 10506:4,27 10507:9 10508:4,8 10511:5 10513:3, 22,23 10527:24 10533:3,16, 27,28 10534:2 10546:15 10619:28 10620:8 10624:17 10628:6,13 10629:12,21

disagree 10641:4

disasters 10489:3,6

discourage 10628:16

discover 10555:7

discovering 10632:6

discovery 10631:3

discriminatory 10582:4,7,8, 10

discussed 10447:26 10448:12 10484:6,11 10511:10 10551:5 10557:22, 24 10558:4,5 10579:13 10631:28 10632:25

discussing 10457:17 10482:16 10571:17

discussion 10447:19 10454:7 10482:18 10483:4 10496:26 10509:9 10521:6 10522:12 10529:13,15,16 10536:28 10578:16 10584:27 10585:17 10606:6 10616:20 10633:27

discussions 10531:15 10557:21 10581:1

disincentives 10546:16

disorder 10586:18

disorderly 10503:14 10510:12,14 10544:19,21, 27,28 10545:1 10547:2,20, 23,25 10548:4 10585:19,23 10604:22

display 10497:4

Disposition 10496:1

distances 10621:25

distant 10628:17

distracted 10536:5

distribute 10494:24 10628:16

distributed 10447:24 10495:22 10616:5

distributing 10466:15,27 10467:5,9,22 10476:26 10480:1

distribution 10485:10,12 10593:7 10616:8

diversi- 10509:13

diversion 10619:8

diversity 10565:7

divide 10591:11,25

document 10447:25 10452:23,24,28 10453:3,10 10572:28 10588:4 10590:7, 12 10612:7 10616:26 10617:3

documentation 10616:23

documents 10447:24 10481:7 10522:12 10523:3



10606:1 10607:24 10616:27 10632:23

dog 10448:2

dollars 10537:24 10548:27 10565:2,14,17 10638:4

dominant 10508:7 10627:13 10628:26

dominated 10569:27

dominating 10501:16

dot 10594:9

dots 10481:25 10594:6

double 10547:1,23 10566:24

double-counted 10546:2

double-counting 10527:10 10529:17,20 10581:25 10600:24 10601:27

double-sided 10497:9

Dragnet 10590:14

dramatic 10488:22 10578:4

dramatically 10485:14,15 10509:4.21

draw 10569:3 10631:24 10640:24

drawn 10632:2

drinking 10624:8

drive 10473:5 10535:20

driven 10536:3

drivers 10488:16

drives 10509:14

driving 10509:10

drop 10508:22 10574:18

dropped 10536:5

dropping 10501:21

drops 10489:22

dry 10624:7

dual 10620:24 10622:1,2,12, 16,23,28 10623:2 10635:23

due 10568:17 10631:3

dump 10578:9

dumping 10577:18 10578:3

dynamics 10475:7 10503:20,26 10578:1

Ε

earlier 10458:5 10510:9 10511:10 10512:27 10520:14 10526:9,14 10527:9 10530:24 10548:23 10554:8 10562:16 10565:1 10567:11 10570:4 10571:17 10573:2 10575:24 10594:11 10599:13,14,24 10634:2 10635:12

early 10494:27 10521:24 10610:8 10611:1,20

easier 10450:10,24 10588:10

easiest 10448:16

easily 10541:3 10638:3

east 10486:26

Eastern 10572:11

easy 10473:17 10476:22 10525:1 10595:13 10619:22

eat 10479:17

ec- 10572:4

economic 10501:6 10502:26 10541:27 10542:18 10572:15 10621:15,20

economically 10572:5

economics 10608:21,22

economies 10632:12

economist 10613:24

economists 10613:21

economy 10553:1 10554:14,

edge 10613:15

effect 10465:14 10466:3,4, 19 10467:26 10468:1,12 10517:22 10631:24

effective 10467:1 10480:25 10511:23 10571:2 10603:24, 27 10620:6

effectively 10466:23 10513:24 10546:20 10555:12 10627:25 10639:14

effects 10463:27 10475:10

efficient 10471:20 10489:11 10514:12 10583:5,9,10 10603:26 10616:6,17 10618:12 10623:9

efficiently 10493:15

10513:25

effort 10591:11

elaborate 10474:4,9 10478:2 10480:8 10586:17

elastic 10612:28

elasticities 10609:28 10610:3

elasticity 10581:1,4 10609:25

electronic 10493:18

element 10477:20 10504:12 10505:22,24 10507:18,20,26 10511:27 10526:24 10533:13 10535:24 10569:12 10571:16

elements 10483:28 10498:26 10499:15 10503:11 10504:14 10518:23 10519:10 10520:25 10541:12 10554:25 10558:3 10559:27 10568:11 10571:13 10581:10 10584:9 10617:2

elephant 10479:17

eligible 10504:20 10516:9

eliminate 10533:14

eliminated 10520:20 10572:21

eliminating 10535:14 10541:12.13

elucidate 10636:17

embedded 10505:15 10529:21 10572:19 10586:26

embedding 10583:12

enact 10534:15

enacted 10532:19.21

encounter 10508:17 10589:15

encourage 10562:5

encouraged 10516:18

end 10447:26 10464:5 10491:24 10527:27 10533:23 10535:4 10565:19 10580:13.20 10631:13

ends 10460:28 10591:17

energy 10552:28 10553:2 10554:19

English 10445:28 10446:1,2 10605:20,22,24,26 10607:23

10608:3,8 10609:4,7 10623:24 10629:24 10635:6 10638:12,22,23 10641:17 10642:17,23,25,28 10643:16

English's 10522:3

enhancement 10503:18,22

enhances 10500:17

enhancing 10500:15

ensure 10499:24 10501:3 10505:18 10508:14 10512:19 10513:18 10568:17 10603:28 10620:5 10630:15

enter 10444:12 entered 10481:17

entering 10444:18

entice 10569:20 10573:24

entire 10452:24 10590:21 10611:25 10620:10 10630:13,17

entitled 10484:4 10495:28 10497:25

entrant 10475:12 10476:20

entrants 10475:8,10 10476:21

entrench 10475:26

entry 10475:13

envision 10543:14

equal 10458:20 10625:15

equals 10616:28

equilibrium 10577:21

Erickson 10560:13 10643:8

err 10615:23

ESL 10558:17,18,19,20,21 10559:21 10602:10,22,25 10603:1,3 10630:7

essential 10508:11

essentially 10502:14 10503:27 10506:11 10530:5 10562:17 10627:27

established 10476:15 10500:2

establishing 10530:4

estimate 10512:11,12 10531:19 10537:5 10552:10

estimated 10554:2

estimates 10456:6 10469:26 10484:23 10487:5 10609:28



estimation 10499:17

evaluate 10483:14 10522:11 10523:28 10526:19 10623:26

evaluating 10525:19

even-day 10507:6 10584:4

evenness 10584:9

events 10489:7

eventually 10480:27 10577:20

everybody's 10525:27

everyday 10583:16,20

everyone's 10447:28

everything's 10479:24

evidence 10444:25,27 10445:1,3,5,7 10492:23 10493:6,23,26 10494:1,2,5, 6,9,10,13,14,17 10606:18, 21,23,27 10607:2,4,7,10,12, 16,19,21 10616:23 10640:2 10641:22,24,27 10642:1,3,6, 8,10,16

evident 10642:14

evolution 10620:26 10627:10

evolve 10631:21

evolved 10628:22

exact 10565:3 10592:5,24

examination 10448:10 10482:12,26 10496:20 10599:11 10609:6 10643:5

examined 10447:3 10499:9 10505:24 10507:21 10563:12 10609:2

examining 10472:7

examples 10463:26 10507:3.5 10530:25 10561:27 10570:18 10597:10

exceeded 10516:12

exceeds 10500:24

Excel 10481:26

excellent 10493:20 10643:27

excess 10528:20,27

exclude 10475:7 **excluded** 10516:3

exclusively 10504:26

10566:9

excuse 10453:4 10485:11 10592:9 10598:26

exempted 10516:6

exemption 10516:10

exhibit 10444:13,15,22,25, 26,28 10445:3,4,6 10448:2, 5,6,7,8,15,17,24 10450:3,4, 6,7 10451:18,21,22,23,24,26 10452:14,17,19,20 10453:1, 2,4,5,8 10454:14 10455:18, 23,27 10456:1,11,18,20 10457:2 10459:2,22,26 10460:4 10462:11,12,19 10463:23 10466:9 10467:16 10481:16 10482:14,28 10484:2 10485:7,8 10490:5 10491:1,3,8 10492:19 10493:9,17,23,26,27,28 10494:2,3,4,6,7,8,10,11,12, 14,15,16 10495:22,24,26,28 10496:2,3,5,6,7,9,11,12 10497:5,24,25 10504:21,22 10511:16,17,18 10518:20 10519:9 10526:21 10533:11 10538:18 10548:8 10557:14. 17 10570:9,11,12 10579:15, 17 10587:5 10588:4,7,8,13, 19 10598:25 10606:16,18, 19,20,22,24,25,27,28 10607:1,3,5,7,8,9,11,13,14, 17,18,20,25 10608:1,3,4,5,8, 12 10609:9,10 10610:11 10623:28 10636:24 10641:24.25.26.28 10642:3. 4,5,7,10,12,13,15

Exhibit-64a 10451:17 10456:8

exhibits 10444:12 10447:13, 15 10474:6 10492:17.22 10493:3,6 10495:21 10606:8,11 10641:19

exist 10467:22 10472:2,3 10534:17 10550:26 10590:20

existed 10610:20 10624:15

existing 10476:21 10596:24

exists 10489:17 10576:19 10582:19

expect 10485:5,6 10503:5 10512:8,24 10516:13 10575:7

expectation 10480:15 10481:3,8

expected 10484:26 10643:9, 10

expects 10446:5 10574:20

expenditure 10603:2

expenditures 10587:11

expense 10603:9 10618:12 10637:14

expenses 10506:1

expensive 10597:4 10603:3 10618:4 10621:26

experience 10492:10 10540:23 10541:27 10542:7, 13 10602:18 10604:5 10605:9

experienced 10446:15

experiences 10523:22,23,27 10539:18

expertise 10581:4,7

experts 10581:3

explain 10521:7 10594:11 10608:16

explanation 10574:24

explicitly 10612:7 10624:17

exploit 10612:22

exploration 10635:8

explore 10549:1

export 10578:10

express 10634:14

expressly 10446:6,11

extended 10510:26 10558:13

extensively 10537:4

extent 10466:18 10467:11 10531:10.20 10546:1 10549:14,19,25 10612:20 10630:6 10641:8

extra 10543:15 10566:8 10581:15 10584:17 10602:4,

extraordinarily 10576:20

extraordinary 10566:11

extrapolates 10456:21

extreme 10577:17,18

extremely 10479:10 10598:21

eyeball 10592:4 10596:9,16

eyeballing 10592:23 10595:21 10596:12

F

fa!rlife 10558:20 10560:21

faces 10625:5

facilitate 10517:9 10602:24

facilities 10560:17 10568:18

facility 10561:21 10602:25

fact 10477:9 10592:6,8 10594:22 10597:14 10604:13 10610:20 10620:18 10622:3 10623:21 10625:17 10628:2 10632:19 10635:19 10636:9 10637:17

factor 10483:26 10509:17 10552:26 10553:9 10576:26 10619:10

factored 10468:1

factors 10471:28 10472:2 10485:2 10492:3 10498:16 10578:7

facts 10590:14

failed 10457:6

failing 10548:9

faint 10482:23

fair 10455:26 10456:22 10457:12 10458:23 10491:21 10502:26 10505:20,21 10507:12 10509:9 10520:13 10521:5 10525:1 10529:19 10530:6, 20 10539:13 10540:28 10541:1,15 10545:24 10553:12 10574:14 10596:4, 18,23 10610:21 10614:4

fairly 10571:20 10617:23 10620:3

fall 10456:7 10487:4 10553:19 10554:11,23 10558:16 10592:1 10602:17 10639:5

familiar 10552:2

10632:25

family 10479:22

fancier 10508:28

farm 10476:7 10502:8 10507:7 10527:7,8 10529:5, 8 10533:8,28 10538:15,20, 24 10540:10,12 10542:4,24 10544:5 10558:7 10560:5 10561:23 10562:17,19 10564:2 10567:7 10575:17 10577:17 10622:5 10628:15, 25 10633:21 10635:24,28

Index: estimation..farm



10636:6

farmer 10507:9 10518:4 10533:4 10534:3 10553:6 10555:9 10564:5 10572:3 10601:17 10643:12

farmers 10506:26 10527:22 10534:15,16,20 10550:8,14, 28 10551:3,9,10 10554:15 10567:27 10612:10

farming 10551:15,21

farms 10502:20 10551:13, 17,20,22 10573:6,16,22,24 10574:23 10616:3 10617:16, 23 10618:4 10628:6

fashion 10467:23 10596:27

fat 10542:26 10615:9 10632:5

favorable 10627:15.17

feasible 10477:24

feature 10449:12

February 10445:24

Federal 10444:14 10463:1,6, 11 10475:22 10515:20 10516:3,21 10517:13,23 10518:28 10528:7.9 10533:22 10534:13,14 10535:22 10536:11 10545:8 10546:22 10547:7,14,19 10548:12 10550:21 10552:1 10604:28 10610:14,17,27 10611:14,17 10612:1,8,13, 15 10613:8 10614:28 10616:25 10628:11,23 10629:10,14 10630:23,24,28 10631:6,13,17 10632:19,28 10633:3,6,9 10636:1 10641:9

Federation 10575:18 10638:25

feedback 10551:6

feel 10469:19 10471:12 10473:12 10474:4,22 10475:26 10506:7 10530:17 10546:8 10553:12 10582:16 10583:9 10585:23

feels 10469:20 10504:18 10621:8

fees 10517:8

feet 10489:15 10640:6

fell 10489:15

felt 10586:7 10613:15 10634:8 10636:16

fewer 10545:17

figure 10539:23 10543:11,28

fill 10614:21

filling 10512:25

final 10454:13 10461:9 10466:12 10481:2 10507:20 10565:24 10572:18 10608:8 10616:8

finalized 10465:3

finally 10640:21 10641:14

find 10460:3 10462:18 10474:17 10493:13 10507:13 10516:1 10535:8 10577:21 10578:15 10612:24 10614:22,27 10616:6 10621:3 10623:16 10625:18 10626:17

fine 10540:3

finer 10510:9

finished 10539:3,7 10557:4 10622:13

firm 10514:26 10522:3

fit 10517:27

fixed 10452:6 10620:12 10629:28 10637:21

flat 10611:22

flexibility 10566:15

flight 10446:4 10578:25

flip-flopped 10474:20

flooding 10489:21

Florida 10499:1

flow 10575:8

fluid 10451:26 10452:18 10479:5 10498:25 10499:25, 27 10500:26 10502:11,15,28 10503:4,6 10504:20,25 10505:19 10506:27 10507:10 10510:18.21 10513:20,25 10520:10 10522:15,25 10528:16,19,28 10530:26 10531:11 10534:1 10542:15 10546:26 10549:1, 15,20 10550:4,7 10552:20 10554:14 10560:10 10570:2 10571:28 10572:19,26 10573:27 10574:1,2 10579:22 10580:1,18 10610:18,25 10611:10,20,21 10612:3,4,9,19,26 10613:1 10615:25,26 10618:15 10619:6,17,27 10621:3,4 10622:3,10,19,22,24 10623:1,7,9,13,16,19 10624:19 10625:2,6,15,19

10626:16,25 10627:8,17,21 10628:5,17,20,24,25,28 10629:8,9 10630:4,9,15 10631:10 10638:17 10640:23,24 10641:8

fluid-dominated 10627:12

flush 10639:9

fly 10537:15

FMMO 10484:5 10501:13,23 10502:1,3,15 10504:18 10507:2 10508:13 10512:23 10526:1 10534:27 10547:12 10551:27 10595:1 10605:5

FMMOS 10471:10 10475:11 10484:18,21 10501:12,21,25 10508:6 10512:14 10513:17 10516:7 10550:12 10600:2 10604:7 10605:8,11 10628:27

focus 10522:15 10589:19 10629:19

focused 10522:22 10565:8 10572:25 10573:26 10579:27

folks 10510:22 10515:7,10 10524:23 10562:5 10629:19

follow 10450:24 10469:7,18 10475:1 10489:24 10507:28 10539:15 10585:7 10599:9

follow-up 10598:27

Foods 10555:24 10587:25 10643:20

foot 10643:1

footer 10493:18

forced 10545:15 10546:8

forces 10528:6,18 10530:18, 21 10534:6,11,22 10535:20, 21 10536:2,15 10577:21 10599:25,26 10600:2,4,15, 20

foremost 10475:13 10477:15

forget 10573:4 10574:6

form 10447:28 10515:6 10600:5

formatting 10450:21

formula 10472:19

formulas 10527:20,22,26,27 10535:5 10631:5

forward 10446:6,12

found 10464:16 10499:2

10508:1 10566:1 10617:16

four-part 10499:6

fourth 10519:14 10521:25 10592:11

frankly 10465:3,27 10477:20 10478:10 10488:3 10506:19 10509:19 10522:22 10537:7 10550:13 10569:9 10577:2,6 10604:11

free 10510:20 10587:1,3

freeing 10513:21

frequent 10578:6

frequently 10461:21 10560:8 10562:13 10589:16 10591:14

Friday 10445:17,18,20

front 10490:6 10557:14 10606:8 10607:24

fruition 10534:19

fuel 10473:11

full 10446:14 10454:26 10493:14 10579:19 10583:18 10628:1 10632:18

fully 10621:21 10631:23

fully-regulated 10548:15

function 10508:5 10530:22 10568:4 10602:13 10615:15 10618:26 10641:11

functioning 10628:28

fund 10510:25 10550:15 10566:28 10567:18 10601:4

fundamental 10472:17 10501:6,8

fundamentally 10469:7,20 10477:19 10508:1 10513:7 10523:7 10550:12 10555:10 10567:15 10600:1,3

funds 10602:7

fungible 10474:3

future 10480:20 10508:26 10532:10,12 10633:11

G

garbled 10575:27

gas 10552:24

gather 10524:4

gathering 10518:10 10644:2

gave 10492:18 10530:24



10549:27 10567:10

general 10475:21 10479:5

generally 10471:19 10486:26 10545:16 10552:4

generate 10456:14 10622:4

generated 10569:10

generates 10481:26

generic 10563:9 10564:3

geographic 10469:21,24 10470:6 10477:14,19,22 10498:28 10511:27 10519:14,17,23 10571:16 10629:7

give 10444:16 10450:25 10473:20 10476:19 10497:8, 14 10543:10 10552:15 10565:6 10590:25 10621:27 10623:17

give-up 10622:24 10625:4 10635:10 10638:1

giving 10553:13

glad 10446:17 10606:13

glass 10465:12

global 10473:10 10491:27 10622:21 10623:8 10625:23

globally 10616:12

goal 10475:4

goals 10618:13

good 10444:8 10446:1,27 10455:16,17 10468:23,24 10470:19,20 10494:23 10495:16 10497:17 10514:9, 18,20,24 10534:16 10535:1, 2 10540:26 10557:13 10571:20 10579:10,11 10583:1 10587:28 10588:1 10617:22 10641:16 10644:2

goodness 10489:12

goods 10539:3,7

gosh 10523:21

govern 10530:18 10534:22 10541:14.16

government 10476:12 10578:27

gradation 10621:18

gradations 10625:9

Grade 10498:22 10504:15, 17,18,19,23,26 10505:2,4,6, 8,15,18 10526:24,27,28 10527:1,4,6,8,12,23

10528:2,5,9,10,15,17,21,25, 28 10529:2,5,7,12,14,20 10531:3,5 10574:26 10581:11,13,15,20,21,23 10582:3,14,17,19 10586:22 10604:27 10605:2,6,8,10,12 10609:22 10611:5,8,10,11 10616:19 10617:4,8 10618:3 10629:28 10638:7

Grand 10571:1,20

grandfather's 10633:19

Grapevine 10472:26 10488:23

graph 10613:19 10614:6

graphic 10611:14

gray 10448:18 10485:17 10490:7 10625:12,14 10637:4

great 10451:10 10463:6 10497:21 10517:12 10520:2 10529:16 10536:24 10541:28 10618:27 10637:14

greater 10612:20 10617:20 10618:20 10623:19 10625:2,

green 10450:11 10588:5 10589:20 10590:2,19 10593:20 10595:15 10596:24 10597:12,13 10623:3 10626:15,26 10627:17 10637:2

green-colored 10623:6

grew 10611:24

group 10447:8 10485:20 10495:11,12 10521:5,15,16, 18,19 10522:11,21,22,26 10523:20,27 10524:22 10525:4,8,16 10526:20 10537:4,6 10542:3 10551:3 10557:22,24 10565:7,8,9 10598:24 10605:22,26

group's 10539:27

groups 10524:8

grow 10509:3 10611:26

growing 10473:21

growth 10552:3,11,27

guaranteed 10584:20

guess 10476:16 10479:2 10480:8 10535:17 10552:13 10573:20 10582:11 10584:25 10588:21 10589:20 10592:14 guiding 10500:28 10501:2

H

half 10481:28 10487:15,16, 17 10502:18 10593:7,9 10642:18

Hancock 10455:15,16 10460:3,6,12 10462:24 10468:20 10479:28 10482:15 10483:4 10484:6 10490:2,3 10492:14 10511:10 10514:17,19,20 10530:1,7,12,13,14 10535:11,12 10555:16 10557:4,5 10562:25 10563:26 10574:6 10578:15 10643:2

hand 10605:28 10632:3,15 10633:6

handle 10603:25

handler 10465:10 10466:28 10467:25 10506:9 10514:7 10551:23,27,28 10560:1,6 10561:24 10564:17 10566:23 10567:26 10573:16,23 10601:3 10629:3,16

handlers 10517:22 10546:16 10549:15,20 10561:15 10566:19

handlers' 10550:4

handling 10451:12

happen 10486:6 10491:26 10503:3 10520:16 10545:5 10559:12 10580:8 10615:2 10621:8 10622:10 10630:12 10632:16

happened 10452:5 10471:23 10542:20 10552:2,5 10554:10

happening 10484:20 10485:22 10507:14 10534:13 10538:6 10578:7 10596:21 10633:17,18

happy 10444:23 10577:22 10629:23

hard 10468:6 10474:25,26 10475:1 10478:8 10617:23 10618:5 10633:22

he'll 10601:18

head 10490:17 10532:1,8 10552:8 10559:23

heading 10462:13

health 10522:22

hear 10531:24 10541:9 10610:1

heard 10445:23 10470:27 10471:15 10472:25 10474:26 10475:3 10479:19 10484:1 10506:28 10507:5 10512:16 10540:27 10541:2, 5 10546:12 10550:23 10581:2 10589:8 10604:9,10 10631:12,25,28 10632:1

hearing 10444:14,17,22 10445:22 10458:6 10464:4 10481:2 10498:6 10504:22 10515:19,24,28 10516:5,16, 18 10519:6 10523:18 10525:7 10540:27 10559:24 10565:12 10570:4 10573:2,9 10575:4 10577:6 10584:27 10588:4,7 10610:1 10612:24 10617:1 10634:2 10639:21, 22 10640:7

hearings 10629:3

heart 10612:12

Heath 10643:12

heavier 10633:13

heavily 10640:14

heavy 10619:15 10621:1 10628:19 10632:3 10633:6

heavy-handed 10640:18

hedges 10478:27

held 10525:27

helped 10455:22

helpful 10597:9 10598:22

helps 10479:14 10518:13 10628:14

hey 10584:15

hierarchy 10576:8

high 10500:12,14 10503:17, 20 10504:3 10509:21,23 10543:22 10565:2 10576:20 10577:13,23,24 10579:21,28 10580:2,6 10604:17 10611:7,8 10615:25 10618:25 10639:3

higher 10458:9,28 10487:2 10503:23 10509:22 10544:4 10570:2 10576:5 10578:2 10595:22 10612:19 10613:1, 27 10614:3,12,24 10621:21

higher-level 10523:15

higher-of 10458:5,21

highest 10516:14 10596:11



10597:12 10616:12

highlighted 10581:12

highly 10620:26

hilarious 10479:21

Hill 10493:7,8,19

historically 10636:2

history 10475:15 10532:22 10610:14,15 10612:22 10616:22

hit 10641:3

hitting 10615:14,15,17

hold 10507:25 10641:18

holidays 10470:23

home 10479:16

homogeneous 10565:10

honest 10541:7

honestly 10464:23 10465:7 10479:8 10524:22 10559:16

Honor 10444:8 10445:11,15, 23 10446:1 10447:10,23 10448:4 10450:14 10451:19 10452:16 10453:6,23 10455:11 10482:11 10492:17 10494:19 10495:10,20 10496:17 10514:15 10530:13 10535:11 10575:13 10578:23 10579:6,16 10598:23 10605:20 10606:9 10607:22,23 10609:4

10638:22 10641:17 10642:17,25 **Hood** 10558:19 10643:9

hope 10445:22 10514:2 10550:13 10570:13 10578:6

horizontal 10592:20

hosted 10521:7,11,12

hour 10446:21 10473:5

house 10446:14

housekeeping 10447:12 10453:8 10455:12

HP 10558:19 10643:9

HTST 10515:9 10559:13

huge 10475:13

hundreds 10485:20

hundredweight 10498:21 10505:26 10506:13 10512:14 10526:27 10533:13 10535:28 10536:2, 11,14 10537:25 10549:6 10550:1 10565:15,18 10602:26 10627:15,16

hurdle 10528:25

hurricanes 10489:4

hypothetical 10565:18

hypothetically 10567:25

- 1

l's 10509:3

ice 10505:1

idea 10475:28 10478:9,25 10499:26 10566:7 10575:5 10615:7 10620:2,3 10621:27

ideas 10521:8,20 10526:1,2 10575:4 10625:28 10633:20 10640:2.5

identification 10448:9 10495:27 10496:4,8,13 10608:2,6,13

identified 10483:25 10487:12 10570:4 10619:4,7

identify 10447:5 10451:25 10487:27 10488:1 10587:22 10608:15

identities 10524:4

IDFA 10446:4 10478:5 10521:7,20 10525:23,24,25, 27 10551:6 10576:16

IDFA's 10526:2

ignorable 10639:3

ignore 10598:8

II 10502:11 10528:15,16

III 10502:11 10505:13 10509:18 10527:20,21,26 10530:4 10569:27 10576:13 10581:17,18 10623:2 10627:5 10640:15

III/IV 10582:13

illustrates 10613:20

illustration 10615:3

imagine 10446:15 10515:16 10601:9,10 10602:3,9 10643:10,16

impact 10467:2 10468:7 10476:14 10477:3 10509:12 10512:8 10513:28 10514:4,5 10522:14 10549:8,9 10580:25,27,28 10634:20 **impacted** 10479:6

impacting 10549:12

impacts 10466:12 10468:14

implement 10544:10

implementation 10478:1,4,

implemented 10480:3,6,10 10616:25 10641:10

implication 10476:4

implicit 10527:25

important 10446:11 10484:16,19 10497:15 10502:12 10508:4 10509:17 10512:1,22 10513:1,5,6,13 10519:17 10531:23 10553:3 10576:2 10610:19,20 10613:20 10617:5 10628:25 10630:25 10634:25

improve 10514:10

improved 10617:24

improving 10514:12

incent 10619:24 10638:18

incentive 10500:26 10504:16 10507:19,21,23,25 10508:2,9 10520:10 10532:19 10533:12 10555:1, 4 10568:11 10572:15,19,26 10573:27 10574:1,3 10618:1 10619:4 10622:23 10624:27 10626:13 10637:15

incentives 10618:15 10620:18 10621:10

incentivize 10498:24 10549:20 10550:6 10617:11 10637:28

incentivized 10618:22

include 10505:17 10506:7 10507:6 10526:10 10527:13 10550:28 10563:22 10564:5 10620:7

included 10454:21 10455:7 10489:4 10506:10 10516:15 10536:11 10540:1 10555:8 10557:23 10565:24 10619:26 10637:26

includes 10533:8

including 10519:1 10530:25 10539:25 10557:26 10590:26 10635:24 10637:20 10638:6

inclusive 10623:4

income 10496:1 10580:12

inconsistency 10488:4

inconsistent 10488:5 10547:28

incorrectly 10452:10

increase 10459:6,16 10460:15 10461:13 10466:23,25 10467:1,8,13, 14 10508:26 10509:6,7,11, 19 10541:24 10542:14 10553:18 10554:2,10,21 10574:21 10576:18 10580:16,17 10628:18

increased 10469:4,9 10502:20 10512:17 10520:23 10541:18 10543:12 10552:12 10553:1, 15 10554:22

increases 10459:4,14,20 10479:12 10542:5,27

increasing 10509:6 10541:23 10544:4 10577:9 10580:15 10613:3 10630:7

increment 10626:18 10629:28

incur 10538:24,27 10567:12 10585:2

incurred 10538:12 10563:19,23 10564:4,8,27 10566:3 10567:7

incurring 10506:12 10565:17,18

independent 10526:13 10620:3 10639:26

index 10552:20 Indiana 10489:17 indirect 10585:24

individual 10456:27 10507:2 10571:12 10596:2,6 10603:24 10618:14 10629:16,18

induce 10572:23

induces 10579:21

industry 10469:21 10473:21,23 10479:6 10505:20 10510:18 10516:25 10517:15,20 10522:13 10541:27 10552:19 10554:17 10562:10 10581:23 10605:10,12 10611:28 10627:11,12 10628:14 10630:26 10631:8,12,21

10633:3,17,19,20



industry's 10628:22

industrywide 10521:3 10617:10

inelastic 10612:22,26

10613:7

inflate 10577:25,26

inflation 10554:24

inflationary 10552:2,11,26 10553:20 10554:10,12,13,21

influence 10544:6

info 10517:12

inform 10520:3

information 10451:4 10452:13 10472:14 10474:14 10499:13 10517:3, 10 10518:10,12 10521:9,11 10524:3 10525:6 10526:7 10539:17 10552:18 10585:26 10586:10 10588:27 10590:17,19 10592:7 10594:15,19 10595:26 10597:24

information-gathering 10526:4

informative 10539:18 10541:9

ingredients 10504:28 10509:1

innovation 10447:7 10495:11,12 10513:28 10514:11 10521:18 10549:20 10550:4,7 10598:24 10605:22,26

innovations 10550:16

innovative 10510:26 10548:24 10549:1,15 10550:9

inputs 10520:7

insider 10583:24

insights 10620:21 10626:6

insignificant 10486:17

install 10618:22

instance 10545:12,15 10566:22 10567:23 10637:13

instances 10506:28

instructive 10541:9

instruments 10612:17

intended 10452:17

intensity 10623:14

inter-quartile 10481:28

interact 10517:28

interacts 10522:23 10523:15

interest 10579:24 10580:3,4,

interesting 10464:10,16,22 10465:18,25 10466:7 10514:3 10559:8 10580:28 10612:25

internal 10524:2

internally 10632:23

International 10555:24 10587:25

intersect 10614:7

intra-week 10618:18 10630:4

introduce 10495:12

introduced 10450:19 10485:8

introduction 10624:12

inventories 10602:23

inventory 10558:9,11 10559:10 10614:16

inverse 10614:2

inversion 10509:21 10576:19 10577:2

inversions 10509:10,13,16, 19,27 10510:2,4,5 10576:6, 7,27 10577:1,3

investing 10514:10

investment 10510:25

investments 10507:7

invisible 10632:15

invite 10470:15 10489:25 10578:20 10579:2.4

invited 10524:8,13,17,19 10525:4

involve 10632:4

involved 10541:23

irrelevant 10615:17

isolation 10619:11

issue 10498:5 10504:23 10509:16 10525:10,19 10527:10 10617:9 10618:4 10640:23

issues 10497:2 10503:19

10543:7 10546:17 10558:10, 12 10629:2 10640:19,25

item 10453:8

items 10456:11

iterations 10474:5

IV 10502:11 10505:13 10509:18 10527:20,21,26 10576:13 10581:17,18 10640:15

J

January 10444:1,3 10445:16,17,22 10557:1

jargon 10583:24

job 10510:3

join 10524:8,13,17,19

journal 10536:25

judge 10608:17 10609:19

judgment 10590:13,16 10635:15

jump 10514:23 10632:18

June 10474:7,13

jurisdiction 10492:3 10549:7

justification 10457:7,14,24, 27 10555:8 10618:9 10634:22 10635:9,10

justifications 10483:28 10610:8 10613:5 10629:27

justified 10572:20 10630:1

justify 10491:10 10618:6 10620:12

justifying 10491:23

Κ

K-E-E-F-E 10446:28 10495:17

Keefe 10446:7,28 10447:2, 11,27 10448:14 10451:2,24 10453:11 10454:13 10455:12 10468:23 10482:14 10498:12,13 10494:21 10495:1,12,14,17, 23 10496:14,23 10497:23 10514:18 10530:15 10557:7, 12 10575:21 10587:28 10605:19 10640:3

Keefe's 10495:23 10496:10 10497:5 10606:10 10610:24

keeping 10476:11 10553:20

Kelly 10643:19

Kent 10571:1,4,15

kind 10449:12 10455:19 10456:26 10466:17 10467:6, 11,28 10471:20 10477:28 10481:22 10501:6,8 10521:3 10525:20 10526:12 10530:15 10543:6 10552:14 10566:25 10583:15 10584:28 10585:7 10612:12 10613:15 10615:10 10624:16

kinds 10626:23

knew 10555:20 10635:28

knife's 10613:15

knowing 10478:7 10512:17

knowledge 10475:13 10542:2 10551:28

L

L.A. 10472:27 10489:2

labeled 10594:22

lack 10550:17 10604:6 10640:24

Lamers 10569:24 10570:3,5,

landscape 10589:12 10611:13

language 10507:22 10533:2

laptops 10497:3

large 10477:5 10478:7 10479:11 10503:18 10537:24 10639:7

largely 10508:28 10561:21 10619:8

larger 10502:1 10519:5 10597:19

largest 10611:27

late 10555:20 10612:2

law 10522:3

lay 10490:22 10640:6

lead 10462:11 10532:15 10541:21 10567:10 10570:13 10631:13

leading 10570:3

leads 10562:9 10577:17

learn 10479:15



leave 10548:18 10583:2 10585:8 10603:20,22,23

leaves 10545:16

leaving 10604:19

left 10448:28 10449:2,15,20 10452:4 10485:9 10492:20 10582:25 10589:20 10600:14 10624:12 10642:17 10643:28

left-hand 10624:21

legend 10448:17,18 10449:1

legislation 10610:16

lens 10546:7

lets 10628:5

letters 10558:26

letting 10632:14

level 10480:11,13,14,21 10487:11,15 10497:28 10500:6,12,14,16 10527:7,9 10529:6,8 10533:8 10538:15,20,28 10540:11, 12,15 10544:6 10564:2 10576:17 10577:17 10579:28 10614:20,24 10628:20 10633:21 10635:24 10636:6

levels 10480:11 10486:13 10487:2 10502:13 10520:1 10579:21

leverage 10550:17 10604:6

leveraged 10541:4

levers 10577:5

life 10510:26 10558:9,13 10602:22

lighter 10633:13,15,25

likewise 10452:16

limited 10557:26

lines 10614:7 10615:3,9 10632:5

lingo 10583:24

link 10510:23

list 10451:26 10452:18 10456:7 10499:6 10643:23, 24

listed 10452:10 10456:2 10538:14

listening 10565:11 10609:28

litany 10558:1

literally 10584:2 10589:24 10622:11

live 10479:15 10502:26

loads 10584:16,17

local 10456:26 10491:23 10492:3,6,9,11 10629:9

localized 10476:6 10491:27

located 10490:12,15,27 10491:6 10621:6,7 10623:16

location 10469:22 10520:27 10622:15,20 10625:8

locations 10463:27 10499:2 10536:4 10623:6 10625:25 10629:8

logistical 10526:14

logistics 10477:21

long 10469:18 10470:26 10474:25 10477:2,10,27 10532:7 10542:19 10606:1 10618:3 10621:26 10628:22 10631:3

long-term 10578:3

longer 10464:21 10500:15 10505:3,4 10508:7 10518:25 10519:11 10539:24 10543:22 10568:16 10569:6 10597:20 10617:9,16,19,28 10618:25

looked 10461:22 10466:1 10474:18 10477:16 10504:14,15 10523:21,22, 23,24,26 10526:17 10529:8 10532:7 10537:3,6 10553:28 10554:9,21 10559:20 10571:12 10572:8 10618:6 10619:20 10624:17,24 10626:5 10632:23 10635:23 10639:4

losers 10641:1

loss 10633:9,12

lost 10553:27 10631:16

lot 10464:11 10465:7 10471:15 10472:13 10474:10,26 10475:26 10479:16 10481:7 10485:12 10487:3,4 10488:3,6 10491:17,18 10499:13 10506:6,7 10507:3,6,27 10508:15 10514:28 10515:15 10517:5,11 10521:6 10523:3 10526:25 10534:27 10536:20,27 10537:13 10538:9 10539:16 10540:17 10542:2 10543:6 10559:10,17 10566:3 10567:5 10568:2 10569:25 10572:14 10581:2 10583:7 10588:26 10589:15 10595:22 10596:28 10602:11,26 10620:6 10626:15 10631:7 10633:8

lots 10514:13 10523:2,21 10584:12

loud 10482:22

love 10529:15

low 10528:25 10560:27 10565:2,19 10566:13 10577:19 10601:5 10617:21 10619:20

lower 10500:20 10503:6 10504:7 10580:11 10601:16 10613:2,28 10614:4 10615:23 10623:8,12 10624:23

lowest 10499:26 10500:1,7 10501:3 10591:3,23 10592:8,14 10596:13 10597:12

luck 10641:16

lucky 10489:14

lunch 10446:19,20 10497:13 10555:18 10556:4 10589:6 10605:24

М

M-A-R-K 10608:18

M-C-M-U-R-T-R-A-Y 10444:10

M-I-C-H-E-L-L-E 10444:9

made 10451:25 10454:9,10 10455:9,10 10462:17,23 10464:13 10465:1,2 10469:24 10470:5 10471:24 10477:2,4,10 10498:3 10505:2,19 10522:24 10528:15,17 10555:24 10564:16 10572:28 10581:19 10609:13 10616:4 10634:6

magnitude 10488:4 10491:4 10531:23 10595:9 10600:12

main 10504:24

Maine 10487:2 10643:13

maintain 10500:8 10509:10 10529:5 10531:3 10576:7 10581:22 10617:8

maintaining 10505:6,8 10527:4,6,8,23 10529:7,12, 20 10575:25 10576:1,5 10581:13 10618:4

maintenance 10527:11 10582:14 10630:1

majority 10498:11,13 10515:7,13 10599:21

make 10444:18 10447:11 10449:25 10450:8,21 10454:5 10455:12 10457:11 10462:8 10463:16 10470:1 10475:16 10476:20 10478:6 10479:14,24 10486:14 10498:16,26 10509:20,22 10522:24 10532:25,27 10535:2 10569:5 10588:9 10589:1 10590:6 10592:5 10601:19,24 10603:13 10612:9 10615:13 10629:20 10631:4 10633:25 10639:28 10640:28 10642:25,28

Makers 10478:5

makes 10464:22 10473:9 10481:24 10498:11 10501:4 10504:12 10506:7 10515:13 10578:28 10581:14 10603:20 10641:10

making 10457:13 10464:8,9 10478:18 10489:23 10504:11 10520:5 10532:13 10555:11 10570:12 10622:20 10626:20

management 10478:17,19,

managing 10602:23

mandatory 10640:15

manner 10504:3 10559:14, 15 10594:26 10603:8

manufacture 10518:5

manufactured 10618:25 10622:18 10625:25 10629:6

manufacturer 10554:16

manufacturers' 10619:9

manufacturing 10458:8,9,27 10500:20,25 10505:16 10508:27 10527:18 10529:22 10543:20 10552:21 10568:18 10569:9,10 10571:28 10572:3,14 10611:18,27 10612:5 10615:2,26 10619:6,15,17 10621:1,4,5,6 10622:1,25 10623:10 10624:18 10625:5, 11,16,20 10626:12 10627:13,22 10628:7,19,26 10631:10 10633:20



10638:16

manufacturing-dominant 10629:1

manufacturing-oriented 10500:10

map 10448:17,18,23 10449:1,4,21 10456:3,4,5,6, 11 10486:24 10622:27 10623:26 10624:12,22,23 10625:13 10626:8 10636:21, 22,24

mapping 10455:22,25,27 10456:10,13,14,21,23 10491:7

maps 10456:8,14,25 10484:3 10621:16

margin 10514:10

marginal 10500:25 10622:15,28 10624:18,19,28 10625:15,18 10639:5

mark 10495:21 10507:26 10569:24 10605:27 10608:18 10609:1

marked 10444:13,15 10448:5,6,8 10452:11 10485:8 10495:24,26 10496:2,3,7,12 10606:18,27 10607:5,7,14,16,26 10608:1, 5,12 10609:10 10642:3,11

marker 10604:25

markers 10450:9

market 10465:15 10475:7 10476:21 10477:6 10478:11 10489:11 10492:11 10498:23 10500:18 10501:4, 5,16,22 10502:4 10505:4,14, 15,25,27 10506:23 10507:4, 16 10510:13,21,28 10512:20.21 10513:18 10514:1 10516:26 10517:2,8 10518:13 10528:6,18,19,20 10530:2,5,18,21,22 10531:21,28 10532:11 10534:6,11,13,22 10535:20, 24 10536:2,15,19 10539:27 10540:4 10541:13 10543:1 10544:20,21 10545:26 10547:23 10548:4,9,18 10549:1.11 10550:6.14 10554:27,28 10555:1,6,9 10559:21 10566:3,12 10568:4,8 10569:22,26 10575:6 10576:15,20 10577:21 10578:10,14 10581:19 10582:19 10583:3, 10 10585:9,11,27 10586:10, 11,25 10599:25,26 10600:2, 4,6,14,19 10601:12

10603:18,20,22 10604:11,20 10610:20,21,26 10611:13 10613:14 10614:11,22 10615:19,22 10619:15 10623:9 10632:8,21,26

market allows 10532:26

market's 10548:1

market-balancing 10506:1

market-clearing 10505:16 10527:18 10613:13 10614:8, 20,23,25 10615:6

market-wide 10511:9 10618:11 10620:15

marketing 10444:10 10451:14 10452:22 10470:13,15 10503:15 10510:12,15 10544:27,28 10547:2,20 10578:20 10579:3,4 10585:19,28 10604:22 10605:1 10610:14, 17,27 10611:15 10612:1,13, 15 10614:28 10618:13 10630:23 10631:14,17

marketplace 10467:2 10477:16 10499:28 10501:28 10502:15 10503:24 10504:4 10505:19 10507:13 10508:20 10513:19 10517:11 10523:7 10542:23 10578:1 10614:18, 19 10616:14,18 10618:1 10621:11 10632:15 10633:7, 25

markets 10467:24 10473:27 10476:4 10500:9 10531:12 10543:7 10578:12,13 10609:23 10611:10 10613:14,17 10615:15 10635:27

marketwide 10628:15 10629:15,27 10630:13

marks 10570:12

master's 10608:20

match 10449:21 10544:14

material 10465:14

math 10567:27 10596:5 10619:22

mathematically 10487:12

matter 10446:18 10528:4 10576:3 10612:5

matters 10444:5,7 10445:9 10447:12 10455:12

maximum 10480:11,14,17,

20,26 10481:4,9 10594:5 10638:28 10639:12

Mcmurtray 10444:8,9,23

meaning 10503:22 10546:8 10548:27

meaningfully 10509:5

means 10511:6 10514:6 10545:13 10589:1 10593:11 10613:9 10619:1 10637:11,

meant 10589:10

meantime 10497:19

mechanics 10573:12

mechanism 10511:4,9 10533:26 10568:6 10628:11 10631:3,7

mechanisms 10550:20

median 10593:2,4,6

meet 10471:2 10499:27 10502:14,28 10503:4 10505:9,19 10545:26

meeting 10525:23

meetings 10521:3,7 10525:28 10551:6

member 10513:10 10524:11 10551:17 10560:24 10563:9, 11,19,24,28 10564:3,9 10565:18

members 10477:15 10479:5 10508:1,10,16 10512:19 10513:1,6,13 10521:19,21 10522:3 10524:7,9,16,17,19, 27,28 10525:9,24,25 10531:24,28 10539:16 10540:18 10546:6 10551:2, 12,16 10557:22 10558:3,17 10559:3 10560:9,12,22 10561:9,11,27 10562:8,26 10564:27 10565:7,9 10567:16 10574:7 10575:7

members' 10506:15 10544:9

membership 10522:6 10523:11,12,27 10525:4 10526:2 10529:10 10537:22, 27 10539:11 10540:20 10551:9,14 10565:7 10599:14,21

memory 10551:21

mention 10444:6 10477:26 10582:21 10635:22

mentioned 10486:3 10487:18 10512:27 10551:4 10574:5 10611:16,26 10615:20 10617:13 10631:9 10639:1,26

met 10508:14 10513:21

method 10510:1 10616:6

methodologically 10596:1

methods 10488:2

metro 10476:6

Mexico 10567:24 10572:11

mic 10457:11

Michelle 10444:9

Michigan 10571:1,15

microphone 10482:24

middle 10582:21 10583:17 10593:3,6 10615:10

Mideast 10484:21

midmorning 10446:5

Midwest 10476:2 10499:3 10568:25 10569:1,4,15,17, 20 10570:7

MIG 10448:1 10450:4,6 10451:17,22 10456:8 10459:22 10468:28 10469:7. 13,15,19,25 10477:11,14,15 10483:10 10493:9,24,27 10494:3,7,11,15,20 10499:9, 17 10503:10 10504:11.14. 18,21 10505:24 10508:1 10510:13 10511:16 10512:19 10513:1,10 10515:23,27 10516:4,18 10519:11,16 10520:10,22 10521:21 10522:1,3,5 10523:11,12 10524:17,27,28 10525:3,22,24 10526:1 10529:10 10531:28 10532:16 10539:11 10540:21,23 10549:19 10551:5,15,17 10557:22,24 10558:17 10559:24 10560:22,24 10562:8,26 10563:9,11,19,24,27 10564:3,8,27 10565:18 10572:28 10573:14 10574:7, 22 10588:8,13 10599:14,21 10600:17 10603:16 10606:24 10620:2,18 10630:21 10631:11 10635:18.20 10642:12

MIG's 10457:18 10458:13,19 10469:3,5,10,27 10472:2 10477:8 10483:7 10499:5,7 10503:8 10505:5,7,8 10507:12 10510:10 10511:11,20,25 10512:11 10513:6,20,23 10515:18 10519:24,27 10520:17



10524:9 10525:8 10531:13, 24 10537:22,27 10539:15,16 10551:4,8,16 10566:13 10567:12,15 10573:20,21 10582:11 10585:7 10600:1 10639:20

MIG-15 10495:22 10606:16, 19

MIG-15A 10495:28 10606:24,28

MIG-15B 10496:5 10570:10, 15 10607:5,8

MIG-15C 10496:9 10497:24 10607:13,17

MIG-16 10607:25 10609:10 10641:25

MIG-16A 10608:4 10636:24 10642:4

MIG-64 10453:9

MIG-64A 10448:24

MIG-64C-CORRECTED 10453:2

MIG-64D 10448:7

Mike 10643:9

miles 10473:5

milk 10447:7 10455:16 10457:6 10459:7,21 10461:25 10464:12,21 10465:8 10466:20 10468:25 10471:2,20 10473:4,20 10474:2 10476:7,9 10477:17 10487:18,24 10490:3,27 10491:2.11.17.22.24 10495:11,12,28 10498:24 10499:25,27 10500:9,25 10501:12,13,14,23,24,28 10502:1,3,7,9,13,14,18,20, 22,27,28 10503:4,6,21,24 10504:1,18,19,26 10505:2,9, 12,18 10506:13 10507:7,8 10508:3,12,15,18,26 10510:24 10512:17 10513:2, 15,25 10514:19 10515:5,19 10516:6,11,12,22 10517:7 10518:3,4 10521:18 10522:15,25 10524:16,18 10527:12 10528:5.9.10.13. 17,24,28 10529:12,22 10530:26 10531:3,6,11 10532:13,28 10533:3,4,5,6, 7,23,28 10534:1,3,4,7,11 10538:20 10540:14 10541:19,24 10542:4,15,16, 24 10543:2,4,8,9,12,15,17, 18,20 10544:1,9 10546:26 10549:11,13,15,20 10550:4 10551:25 10552:20

10553:18 10555:12 10557:9 10558:2,6 10560:5,27 10561:17,19 10562:20,22 10565:19,20 10568:17 10569:3,21,25 10570:1 10571:9,21 10572:6,14,15, 23 10573:24,25 10574:15 10576:22,24 10577:14,15, 16,17,26 10578:3,9 10579:21,22 10580:8,11,18 10581:15,20,23 10582:17,19 10584:3 10587:9 10590:10 10598:23 10599:25,26 10601:18 10602:4,16,28 10603:1,3 10604:28 10605:2,6,7,10,12,22,26 10609:22 10610:4,14,17,18, 20,25,26,27 10611:1,2,3,5,7, 8,10,11,15,17,18,20,21,23, 26,27,28 10612:1,3,9,10,13, 15,19,26 10613:1,6,10,16, 22,27 10614:3,4,18,28 10616:3,7,10,11 10617:4,12, 15,21,22,24 10618:3,19,22, 25,27 10619:2,5,8,17,24,27 10620:23 10621:7,12,20,28 10622:24 10623:7,9,12,15, 18,20 10624:18,19,26,28 10625:4 10626:12.16.17.21. 24 10627:7,26 10628:3,8,14, 15,17,24,25,26,27 10629:6, 8,9,21 10630:5,9,10,11,14, 23 10631:2,10,14,17 10632:6,28 10634:4,11,15, 19 10635:24,28 10636:7,19 10637:9,28 10638:9,17,19, 21,25 10639:17,25 10640:3, 4,13,23 10641:8 10642:18

Milk's 10455:28 10457:4 10461:13 10463:2,3,19,20, 28 10490:25 10492:2 10554:1,11,20,23

milked 10538:28

milks 10515:6 10573:17

Miller 10643:12,18

Miltner 10468:22,24,25 10470:8 10557:8,11,13 10558:26 10559:2 10564:13 10571:27 10575:11 10585:13

mind 10575:1 10623:24

mine 10507:28 10569:11

mini 10524:2

minimizing 10477:3

minimum 10456:6 10469:6, 26 10470:6 10489:10 10500:6,16 10506:8 10512:23 10516:7,14,25 10517:21 10528:25 10544:27 10547:15 10548:15,16 10549:24 10550:13,20 10568:16 10573:24 10583:13 10600:4, 6,14,19 10603:16 10604:15, 16,18,20 10613:8 10614:19, 26 10628:13 10638:28 10639:2,12,15,17

minimums 10471:6,7 10641:6

minus 10449:8,23 10485:5, 13 10486:5 10613:16 10623:2 10627:5

minute 10460:2 10495:2 10640:12

minutes 10494:25 10624:2 10642:18,21 10643:27

mispronouncing 10511:23

missed 10558:26

mission 10612:14

Mississippi 10486:27

mistakes 10615:13

misunderstand 10576:9

model 10451:28 10452:2 10456:6 10459:15,16,27 10460:9 10461:16,22,23,25 10462:5,6,13,14,20,22,26 10463:2,4,19,21 10469:1,26 10470:5 10471:6.18.19.25 10472:1,4,5,11,13,21,23 10473:1,3,8,18,23 10484:5, 10,12,22,23 10485:1,25 10486:9,19,20,27 10487:5, 23 10488:15,20 10489:6,11 10491:12 10561:22 10583:7, 8 10616:1,2,9 10620:16,21, 25,27 10621:8,9,14,16,27 10622:3,17,27 10623:5,8,12 10625:27 10627:7,19 10633:28 10634:5 10635:17, 21 10636:14,27 10638:27,28

model's 10471:20 10472:15 10616:6

modeling 10469:7,20 10471:7,10,12 10472:18 10479:10 10483:16 10484:25 10486:1,14 10488:26 10489:11 10491:10,19 10519:25 10520:2,8,9,11,18 10571:18

modelling 10469:5

moment 10454:4 10496:24 10573:21 10610:23

Monday 10618:21

money 10513:13,21

10567:16 10574:9 10600:13 10619:26 10625:7 10628:8 10639:8 10641:4

monitor 10625:14

month 10584:4,11 10589:7 10610:28 10639:9

monthly 10584:8 10602:22

months 10474:7 10523:9

morning 10444:1,8 10446:1, 27 10455:16,17 10468:23,24 10470:19,20 10481:17 10495:16 10514:18,20 10554:8 10588:16 10616:20 10643:4 10644:5

motivation 10491:1

move 10446:6,12 10492:16 10493:3 10530:26,27 10566:16 10568:10 10569:21 10605:20,23 10606:10 10619:5,7,17,21, 24 10620:18 10621:20,22,23 10624:26 10625:4 10627:26 10629:11 10637:28 10641:19

moved 10492:22,24 10612:27

movement 10534:7,11 10599:25,26 10620:23 10621:22

movements 10471:20 10621:12

mover 10576:12

moving 10497:18 10596:27 10616:7,15 10617:27 10619:24

multiple 10450:26

myriad 10538:8

N

NAICS 10553:4

names 10608:16

narrower 10519:4

national 10455:16,27 10457:4,5 10459:7,21 10461:12,25 10463:1,3,19, 20,27 10466:20 10474:2 10490:3,24 10491:26 10492:2 10514:19 10524:16, 18 10543:12 10553:18 10554:1,11,20,22 10583:12 10590:10 10627:6 10634:10, 15,19 10638:25 10642:18

Index: MIG-15..national



national-regulated 10583:13

10000.10

nationwide 10484:17

natural 10489:6 10552:24

naturally 10530:3

nature 10452:3 10467:3 10502:12 10565:3 10568:18

necessarily 10464:23 10471:12 10474:23 10475:23 10485:16 10488:27 10506:18 10520:24 10560:15 10562:4, 14 10566:4 10567:6,9 10568:8 10574:14 10584:6,8 10585:19 10601:1 10620:10 10626:16

needed 10465:27 10468:4 10499:27 10501:3 10502:14 10503:3,5 10509:20 10512:21 10519:12 10540:21 10543:19 10555:13 10567:4 10569:3 10617:8 10618:17 10619:5,9 10624:8 10625:4 10626:11, 25 10628:20 10632:2 10638:18 10640:8

negative 10448:19 10449:9, 27 10485:3 10549:28 10637:8,18

negatively 10476:14

negligible 10582:18

negotiate 10545:8 10550:18, 27 10604:6

negotiated 10540:25 10541:3 10545:23,25 10546:2,27 10567:18 10618:15

negotiating 10547:21 10548:2

negotiation 10541:10 10547:8 10550:15 10583:4 10584:26 10585:3,6

negotiations 10582:26

net 10468:1,12

network 10473:22 10521:21

Nevada 10625:18

Newell 10643:9,17,19

nice 10575:15,23 10624:11

nicely 10566:16

Nicholson 10634:13 10638:25 10639:13.16

Nicole 10455:16 10490:3

10514:19

night 10446:4

nightmare 10472:28

NMPF 10456:5 10461:20 10464:3 10471:10,15 10474:27 10482:17 10483:16 10484:25 10487:22 10634:19

NMPF's 10454:27 10456:3 10461:19 10464:14 10469:27 10474:11 10479:10 10483:5,12,13,25 10486:21 10487:7,10,21,26, 28 10553:23

non-fluid 10502:11 10570:1

non-fmmo 10454:18 10455:5

non-mig 10524:13 10525:9 10643:11

non-performing 10628:17

non-rbst 10617:15

nonetheless 10638:5

noon 10446:19

normal 10634:4

Northeast 10454:22 10455:8 10461:7

Northwest 10454:22 10455:8

note 10446:7 10465:19 10493:9 10501:22 10504:24

noted 10463:5,11 10466:2 10467:14 10471:8 10490:16

notes 10455:21 10459:10 10470:25 10514:21 10579:14 10581:27

notice 10444:13,16 10445:19 10555:26 10573:9 10614:6 10624:28 10639:21,

noticed 10624:20

nowadays 10619:12

nuance 10481:7

number 10444:22,28 10445:6 10448:8 10449:3,7 10450:25 10456:4,5 10461:6 10483:18 10485:16 10486:19 10490:23 10492:26 10493:25,28 10494:4,8,12,16 10495:26 10496:3,7,12 10514:3 10515:26 10519:19 10526:2, 24 10532:1,7 10544:15 10551:5 10553:13 10559:23 10562:7 10573:1 10577:5 10584:4 10588:18 10590:26 10591:27 10606:14,22 10607:3,11,20 10608:1,5,12 10615:28 10638:7 10641:28 10642:7,15

numbering 10570:13

numbers 10448:1,13 10492:28 10499:17 10588:24,25,27 10590:25 10592:5,23,24 10593:22 10597:13

numerous 10540:27

0

object 10641:21

objection 10444:24 10445:2 10452:26 10493:5,8 10606:17,26 10607:6,15 10641:23 10642:2,9

objections 10451:11,14 10493:21

objective 10456:9

objectives 10642:23

obligated 10544:9

obligation 10566:28 10574:18

obligations 10568:1

observation 10487:10,21,26

observe 10487:6

observed 10537:22

obvious 10473:17 10631:1

October 10546:13 10569:24

off-the-record 10447:19 10454:7 10496:26 10606:6

offer 10471:25 10483:12 10518:27 10585:13 10618:14 10640:1.5

offered 10471:26 10518:22

offering 10457:13

offers 10517:23

offloaded 10488:18

offset 10466:19 10467:12

offsets 10612:20

offsetting 10467:28

Ohio 10570:20 10571:15

older 10634:19

one-year 10478:26

online 10451:15 10453:5 10454:10 10455:10 10493:14

open 10478:27

operate 10514:25 10551:16 10575:10 10604:20 10632:21

operated 10551:20 10567:24

operates 10551:19 10600:22

operating 10464:25 10492:10 10507:12

operation 10586:8

operations 10506:16 10508:18 10551:21

operators 10452:9 10599:15,21 10605:1

opine 10535:4

opinion 10457:13,22 10471:28 10486:22,23 10518:22,28 10519:4 10566:19,21 10569:5,19 10632:18 10634:12

opportunities 10548:28 10615:28

opportunity 10510:20 10617:27 10623:19 10625:5

oppose 10470:28 10630:23 10640:18

10627:21 10628:3

opposed 10451:4 10478:16 10485:1 10508:9 10511:8 10522:16 10575:4 10579:28

opposite 10476:12 10525:11 10614:17 10623:11 10630:24

opposition 10581:3

opt 10615:1,25

optimal 10616:15 10620:25, 27 10621:13

optimally 10473:24

optimistic 10643:25

optimization 10472:21

Option 10568:15 10632:20

optional 10545:22,26

options 10550:21 10614:27, 28 10632:24

orange 10450:12 10589:11



10594:15 10597:18

order 10447:28 10449:26 10450:12 10456:11 10461:3, 4,5 10462:28 10475:22 10499:12,13,18 10500:3,5 10501:18 10502:23,27,28 10505:18 10507:22 10508:2 10512:12 10515:20 10516:3, 22 10517:13,23 10518:24,28 10521:2 10523:3,5 10526:11 10528:7 10529:4 10533:22 10534:13,14 10535:22 10536:12 10542:21,25 10543:17 10545:9 10546:22 10547:7,14,19 10548:13,28 10550:21 10552:1 10554:11 10555:6 10561:19 10565:25, 26 10566:1,4 10569:16 10570:7,26 10571:10 10572:10 10577:7 10586:7 10591:26 10596:4,10,12,17, 18,23,26 10597:3,4,7,10,19, 26 10598:5,6,13 10601:10, 11,24 10605:7 10611:15 10616:25 10619:19 10627:24 10628:11 10629:10 10630:28 10631:7, 22,24 10632:19 10633:7 10641:10 10643:5,6

order-by-order 10595:26

Order-required 10528:9

orderly 10476:21 10585:28 10612:10 10618:13

orders 10463:1,6,11 10466:11 10474:16 10501:25 10522:23 10523:15 10533:3 10596:21 10598:2 10601:5 10605:1 10610:14,17,27 10611:18 10612:1,8,13,15 10613:8 10615:1 10628:24 10629:14, 15 10630:14,23,25 10631:14,17,21 10633:1,3, 10 10636:2,3,5,8 10641:9

organic 10473:21,22,24 10487:19,23 10491:11,17, 18,22 10509:23 10514:28 10515:1,6,11,12,15,19,25 10516:6,11,12 10517:5,7 10524:9 10551:9,10,18,19 10558:18 10560:19 10562:22 10565:8 10576:24 10643:23

organics 10515:4 10516:2

organization 10561:1

organized 10514:22

orientation 10589:12,14,18

oriented 10632:26,27

original 10450:11 10452:10, 25 10474:12 10588:13 10608:3 10632:20

originally 10450:18 10452:19 10532:19 10589:5 10609:11

originated 10446:16

outdated 10503:9,11

outlets 10539:4 10578:11

outlier 10481:24 10482:1

outliers 10481:25 10594:6, 12 10595:17 10598:6,8,10

outline 10474:1

outsider's 10474:22

outward 10526:3

over-order 10511:2,4 10512:24 10513:1 10530:25 10531:2,5,10,16,17,20,22,25 10532:9,26 10540:11,13,14, 16,22,24 10541:3 10545:18 10547:21 10550:19,24,25 10564:21,23 10566:23,28 10567:2,19 10569:14,17 10600:5,9 10604:4,6,14

overlap 10518:17 10524:18 10525:25 10596:24,28

overnight 10489:16

overpay 10639:17

overpaying 10639:10

overproduce 10500:26

overproduction 10503:14 10541:19 10542:16 10544:2 10577:14,15,16 10579:22 10580:10

overstates 10501:27

overstimulates 10503:28

oversupply 10541:21

owned 10599:17

Р

p.m. 10445:20,23

Pacific 10454:22 10455:8

packet 10451:1 10493:17

pages 10475:2

paid 10507:1 10527:16,17 10532:26 10535:15 10539:3 10540:11,21,22,25 10549:16,26 10550:26 10567:3,26 10574:22 10617:14,19,20,26 10629:12,18,20 10638:19,21 10639:24

Panhandle 10572:12

paper 10451:16 10453:5 10536:24

paragraph 10454:15,17,26 10455:5 10459:13 10544:25 10545:11 10546:19 10547:2 10572:18,25 10579:19 10582:2,21 10583:18 10585:16 10586:15 10609:27

parameters 10486:15 10488:21

part 10458:2 10465:23 10469:22 10477:1,14,24 10483:10 10484:9 10491:1 10495:23 10502:1 10504:26 10515:18 10527:13 10537:10 10551:8 10552:28 10555:7 10561:19 10562:12 10564:17 10567:11,17,19 10572:1 10582:8,10 10583:15 10584:25 10590:13 10601:2 10617:3 10618:9 10620:15 10630:25 10635:8

participant 10475:7

participants 10477:6 10478:11 10505:28 10516:26 10564:15 10568:9 10578:14 10586:1,25 10605:5 10643:23

participate 10521:7

participated 10515:22 10521:8 10525:8

participating 10501:25

parties 10535:16,18 10536:17,19 10545:7

partly 10612:3 10618:27 10631:17 10636:5

parts 10489:21 10498:4,18, 22 10499:6 10510:6 10527:21 10580:22

party 10537:10

pass 10447:16

past 10453:21 10454:2 10470:3 10475:19 10629:14 10630:27 10636:10 10641:13

path 10542:8

pattern 10474:18 10475:18

patterns 10474:16 10624:20 10625:22

pause 10460:2

pay 10527:15 10529:9,11,22 10533:22 10545:15,17,27 10546:8 10547:9 10567:4,16 10580:18 10582:9 10586:23 10601:24 10613:9,11 10614:26 10619:14 10620:7, 8 10628:6

paying 10516:11 10536:21 10538:2 10545:13 10546:20 10563:18 10566:5,19,23,24, 26,28 10574:27 10601:22 10602:26

payment 10511:6 10545:8 10546:21 10547:1,10 10549:21 10564:16 10567:20 10573:22 10628:13 10630:17 10638:20

payments 10532:27 10550:15

pays 10628:5 peak 10611:20

peaks 10562:4

peer-reviewed 10536:25

pen 10536:5

pending 10466:14,22,26 10480:7,13,17,22 10481:9

people 10460:3 10472:5 10474:24 10494:26 10513:7, 15 10517:26,27 10521:21 10525:28 10526:2,5 10528:22,24 10532:12 10542:28 10545:2 10551:3,7 10560:15 10567:21 10577:1, 2 10580:18 10585:20 10586:12 10589:15 10602:23 10628:1 10632:2

people's 10478:19,27 10523:22,23,26 10524:4

perceived 10500:7

percent 10581:14

percentage 10460:10 10484:12 10515:3 10531:27 10551:14 10552:7,9 10559:20 10609:22

perception 10547:21

perennially 10633:23

perfectly 10583:9

perform 10467:10 10521:22 10545:2 10585:20 10603:27

Index: order..perform



performed 10456:11 10459:19

performing 10506:24 10537:1,2 10567:21 10568:9

period 10501:24 10502:17, 21 10611:2,21,23,25 10612:2 10626:4 10639:11

periods 10502:24

permanent 10610:16

permission 10555:27

person 10479:20 10506:24 10511:7 10552:15 10640:11

personally 10633:15

perspective 10474:15,22 10492:8 10518:28 10523:16 10530:6 10558:6 10580:7 10600:16

persuaded 10619:10

petition 10559:24

Ph.d. 10608:16,21

phase 10478:22

phase-in 10477:4 10478:10, 15 10479:3,8

phased 10478:9

phased-in 10478:1,4

phasing 10478:26 10479:13

phrase 10589:9

phrased 10573:5

pick 10485:25

picked 10485:27

pictorial 10594:25 10595:11

pictorially 10595:3

picture 10474:17 10588:21

piece 10478:3 10479:6 10504:15,16,17 10507:21 10508:2 10523:9 10527:11 10574:28 10581:13,16,21 10582:12,20,24 10585:8

pieces 10498:1 10591:12 10617:2 10618:8 10635:11

pink 10625:10,11

place 10446:17 10447:19 10454:7 10472:11 10496:26 10511:28 10514:9,24 10517:2 10535:19 10577:22 10606:6 10614:9 10618:24 10621:2,18 10625:3

places 10464:10,11

10471:11 10474:19 10479:12 10483:18 10485:22 10488:5,6 10491:18,19 10512:25 10514:21 10531:23

plan 10493:20

planned 10446:20

plans 10479:14

plant 10452:11 10463:27 10464:12,20,21,24 10465:4, 6,7,17 10466:27 10467:5,9, 22 10476:26 10480:1 10490:27 10507:8,11 10561:17,24 10565:20 10567:28 10569:21 10572:3 10573:25 10584:22 10601:9, 18,22,23 10602:10,27 10603:2 10615:2 10619:6,18 10620:7 10622:4,11,20,22, 24,25 10623:7,10,13,15,16 10624:26 10625:2,5,6 10626:28 10627:8,15,17,21 10628:3,4,5,15,17 10638:19,

plants 10451:27 10452:9,18 10464:7 10466:15 10476:7,9 10490:12,15,23 10491:2,5 10504:25 10513:9,16 10546:26 10555:13 10561:25 10568:12 10569:3. 4 10572:1,24 10573:6 10574:23 10584:25,28 10603:3 10612:4,5,21 10613:10 10615:25,26 10616:4 10618:15,18,21 10619:9,14,17,28 10620:6 10621:1,4,5,28 10622:2,3, 10,14 10623:17 10626:12, 16,25 10627:8,22,26,28 10628:6.7 10629:9.12.18.21 10630:4 10635:11 10636:19 10638:16 10640:23

plants' 10623:20

play 10511:2 10558:9,11

plenty 10624:14

plot 10481:27

plural 10565:3

pocket 10571:20

pockets 10550:1

podium 10555:21

point 10461:21 10464:8,9 10467:25 10469:13 10470:5 10479:26 10484:9 10488:17 10499:9 10510:9 10512:28 10519:3 10533:15 10540:3 10542:23 10561:14 10586:5 10592:28 10597:12,13 10610:13,21 10615:6 10617:5,24 10620:19 10621:18 10622:7,18 10625:8 10626:22 10627:2 10632:10 10640:9

points 10449:22,23,24 10509:22 10532:24 10571:9

policy 10635:27

pool 10508:10 10513:21 10514:4 10545:16 10546:21 10549:12 10564:17 10566:27 10568:6 10572:15 10574:18 10601:3,6,13,23 10604:2 10619:16,27 10620:9,15 10627:20,23 10628:15,18 10629:13,18 10630:17 10637:21,26 10638:6 10641:5

pool-wide 10507:25 10618:12

pooled 10571:9 10572:6 10600:26

pooling 10511:9 10516:6 10533:26 10546:17 10586:2 10612:18 10629:15 10630:13 10636:7 10640:15

pools 10500:9 10629:16

population 10611:24 10621:6 10622:5

portfolio 10558:22

portion 10498:14 10533:25 10562:17 10563:3,5,14 10582:3 10603:17 10611:1, 2,12 10618:6 10619:3,21 10620:11 10625:1 10628:6, 13 10629:11,18 10630:15 10639:6

portions 10624:22

portrait 10589:14

position 10457:3,15,17 10468:28 10469:3,5,10 10472:2 10476:18 10477:8 10483:7 10503:8 10505:5,7, 9 10510:10 10513:20,23 10515:19 10520:18 10535:13 10548:19 10614:17

positions 10478:19,20,27

positive 10449:10,27 10485:3 10637:8,18

posted 10474:11

posting 10444:15

potent 10626:7 10629:21

potential 10491:12 10513:28

potentially 10639:8

powder 10489:16 10508:28 10577:20

power 10541:4 10546:9,11 10604:11

Powerpoint 10494:23 10496:10,22 10497:4,5,9,15 10519:20 10526:23 10533:11 10538:19 10608:9

practices 10630:2

pre-submitted 10631:11

preceding 10502:24 10545:10

precise 10499:17 10533:2 10552:14 10553:13 10615:19 10616:26

precisely 10614:17 10632:11 10635:22

predominantly 10500:10

prefer 10444:7

preliminary 10444:5,7,12 10445:8 10446:18.23

premium 10566:23 10567:1, 2,19 10617:16,18 10619:16 10630:13

premiums 10511:2,4 10512:24 10513:2 10530:25 10531:2,5,11,16,17,20,22,25 10532:10,26 10540:11,13, 15,16,22,24 10541:3 10545:18 10547:22 10550:19,24,26 10564:21,23 10569:15,17 10600:5,10 10604:4,7,14 10614:21 10617:11,14,20,22,25,27

prepared 10540:18

prescribe 10632:10

prescription 10640:19

present 10500:8 10525:28

presentation 10471:9 10496:10 10518:17 10519:9 10526:3,23 10530:24 10532:25 10533:11 10538:19 10587:6 10608:9 10609:9 10610:11 10636:21 10642:11

presented 10456:17 10521:20 10525:23 10526:2 10589:17

presenting 10634:13



preserve 10475:5

presiding 10609:19

pressures 10554:13

presumes 10568:15

presumption 10506:11 10507:24

pretty 10523:25 10582:16 10613:16 10636:4 10638:3

prevent 10509:21 10576:18

preventing 10510:1

preview 10555:27

previous 10474:6 10585:18

previously 10447:3 10453:4 10551:20 10553:28 10609:2

price 10458:20.22 10475:14 10476:10,15 10498:2,3,4,5, 7,8,9,10,12,13 10499:23 10500:11,15,16,23,24 10503:3,5,18,22,23,28 10504:2 10508:13 10509:10, 13,16,18,25,26 10510:1,2,4, 5 10512:2,18,21,23 10513:11 10516:11,13 10522:14,17 10527:19,27 10535:4 10542:5,15 10543:22 10544:27 10545:22 10546:27 10547:8, 15 10548:14,16 10549:8,9, 10,12,24,26,27 10550:14 10552:20,24 10555:12 10563:4,19 10567:25 10574:8 10575:25,28 10576:1,2,4,5,6,22,27 10577:1,2,3,9,25 10578:14 10580:25 10591:17 10592:8 10603:17 10604:15,16,19 10613:1,13,26,27,28 10614:3,5,8,10,12,13,15,22, 23,25,26 10615:6,23,24 10621:24 10623:4 10631:3,4 10635:25,28 10636:1,14 10639:12

price-enhancing 10504:3 10541:20 10580:9

priced 10458:8 10500:20

prices 10469:22 10477:23 10489:11 10500:14,17 10502:12 10504:8,19 10505:14,16 10506:8 10509:11,20,23,28 10510:2 10511:28 10512:9,11,13 10516:14,25 10519:18 10523:4 10527:18,19,20 10530:4,19 10535:9 10536:1 10541:23 10542:4 10543:7, 9,19,26 10544:4 10545:23, 25 10549:17,18 10550:13 10575:24 10576:8,13,14,18, 24 10577:19,23,26 10580:8, 17,19 10581:17,18 10582:13 10600:2,19 10604:18 10612:19 10613:17 10614:20 10615:8 10621:21 10629:20 10632:6 10636:3 10639:2

pricing 10469:25 10470:7 10475:5,10,11,22 10476:5 10507:4 10516:7,23 10517:21,22 10522:20 10531:15 10534:22,25,28 10541:14 10544:6 10546:17 10550:20 10585:25 10586:2, 26 10610:9 10612:17 10613:6,9 10614:19 10615:19

primal 10620:24

primary 10503:18 10562:11 10612:14,15 10626:9

principle 10500:2

principled 10474:8

principles 10487:28 10488:2 10500:28 10501:2,7 10502:26 10533:21 10534:5 10541:28 10542:18 10600:18

print 10450:21

printed 10497:4 10589:23

printing 10451:3

prior 10464:5 10546:18 10557:18 10579:26

problem 10477:1,21 10487:14 10488:28 10577:8 10587:2 10604:7 10629:4,5 10639:1,17 10641:8

problems 10446:16 10570:3 10587:3 10604:10 10628:24 10636:7 10640:19

procedural 10640:9

procedure 10452:21,27

proceed 10447:9 10495:19 10497:4 10578:26 10579:5

proceeding 10444:4 10516:20

proceedings 10644:6

process 10474:28 10480:5 10518:4 10521:1 10525:21 10612:10 10618:18 10635:13

processes 10633:20

processing 10507:11

10559:18 10616:7 10618:23 10620:26 10633:21

processor 10506:27 10510:24 10513:4 10516:27 10517:25 10540:9,15 10544:13 10546:15 10560:10 10564:9 10574:14, 15,16,18,20,26 10582:26 10583:19 10602:3,6,9,25 10603:10

processors 10479:5 10506:2,20 10510:18 10511:5 10514:28 10515:9 10528:4 10532:14,19 10538:15 10539:8 10545:13, 16 10546:20 10548:24 10554:15 10559:14 10583:14 10585:25 10603:7,

produce 10518:3 10551:25 10558:17 10614:4

produced 10502:7 10543:15 10602:16 10622:18

producer 10465:10 10498:24 10501:12 10516:27 10517:26 10533:3, 4,6,7 10534:2,4 10540:14 10543:17 10546:13,14 10549:17,18 10550:24 10551:23,27 10552:20 10560:4 10564:2,4,5 10565:20 10566:27 10567:18 10572:4 10580:11 10601:4,9,10,13 10605:7 10613:2 10631:20

producer's 10572:6

producers 10468:25 10480:4 10506:3 10517:22 10531:2,4 10532:11,20,27 10533:22 10540:27 10544:3 10546:25 10549:16,22 10550:1,3,17 10551:8 10557:9 10560:6 10561:20 10569:20 10580:7 10582:14, 26 10603:23 10604:6,10,13 10605:5 10614:9 10617:14 10618:14 10627:25 10628:12 10638:8,13,15,25

produces 10558:18,19,20, 21

producing 10516:10 10532:28 10533:28 10614:2

product 10527:27 10528:14 10535:4 10553:4,6 10558:16,21 10559:14 10610:19 10613:13,28 10614:10,13 10616:7 10620:18 10622:13,16,18 10625:8,24 10631:4 10632:10

production 10496:1 10502:19,20 10504:1 10512:17 10541:24 10542:3, 27 10544:4,5 10550:9 10552:3,6,11,27 10553:14, 21 10554:12 10558:7 10561:23 10562:17,19,20 10571:21 10578:8 10599:22 10611:12 10617:5,12,15,21 10630:2,7,11

products 10473:19 10505:2 10510:26 10515:5,8 10528:3,13 10558:13,17,18, 19,20,21 10559:4,19 10581:19 10602:22 10616:4, 8,15 10622:17 10625:16 10629:6 10630:7,10

professional 10635:15

professional-judgment 10632:27

program 10508:19 10517:2 10587:1,2 10600:22

programs 10445:12 10544:10 10584:5

project 10635:3

promised 10447:27

promotion 10612:21

prompt 10486:9

properties 10613:6

proportion 10618:25 10620:12

proposal 10451:16,28 10452:1.2 10455:28 10456:3,5 10457:4 10458:13,19 10459:26 10460:8,9,14,16,20 10461:13,16,23 10462:3,4, 13,20,26 10463:2,3,19,20,28 10464:3.24 10465:3 10468:9,14 10469:17,27 10470:9 10471:1,13 10474:15.27 10479:10 10483:5,13,18,25 10484:5, 10,13,22 10486:22 10487:7, 22 10488:9,10 10490:25 10492:8 10494:21 10495:13 10497:27 10499:5,7,8 10510:10 10511:11,20,23,25 10512:9,18,26 10513:27 10515:18 10516:2,4,8,15,17 10517:5,7 10519:24,27 10520:12,15 10523:17 10525:12,14 10526:12,19 10529:4 10531:8 10533:14 10534:19 10539:16,27 10549:17,19,25 10551:1,5



10553:23 10554:20,23 10555:7 10566:13 10570:21 10571:7,17 10574:17 10575:3 10578:24 10579:2 10581:2 10583:7 10585:14 10587:16 10590:10 10594:16,19 10595:18,22 10596:13,20 10597:16,19 10598:26 10600:1,6,13,17 10605:17 10620:2,19 10631:13 10635:20 10639:20,27,28 10640:22

proposals 10460:16 10470:1,4 10474:12 10482:17 10515:23,24,25,27 10521:10 10525:17 10559:25 10573:1,4,14 10575:2 10621:15 10640:4

propose 10450:15,27 10451:12 10477:11,14 10519:27 10574:22

proposed 10457:8 10459:4, 6,13,20,21 10466:20,21 10468:18 10471:17 10478:5, 7 10480:15 10481:1 10500:7 10511:15 10532:17 10553:18 10554:1 10568:16 10574:23 10590:9 10594:27 10597:1,27 10632:20

proposes 10504:11 10543:13

proposing 10459:7 10461:25 10490:25 10519:11

proprietary 10599:17,20

protect 10524:4 **protein** 10542:26

proud 10487:8

provide 10447:28 10457:6 10459:23 10518:13 10524:3 10528:5 10548:21 10550:5 10586:1 10602:12 10603:9 10609:8 10610:10 10616:28 10617:14 10643:6

provided 10457:20 10519:9 10525:7,9 10536:19 10586:25 10604:1 10631:7

providing 10511:6,7 10513:8 10603:10 10638:17

provisions 10516:7,8 10534:23,25 10586:3

prudent 10468:16

public 10579:24 10580:3,4,7

pull 10448:17 10496:22,25 10573:21 10626:13,24 10638:3,18

pulled 10499:18

pulling 10626:27 10628:2

purchase 10560:28

purchasing 10602:4

purpose 10513:17 10626:9

purposes 10530:3 10534:1, 21 10570:5 10617:28 10635:28 10638:1

pursue 10626:1

pushing 10626:21

put 10445:19 10480:17 10485:19 10510:9 10515:19 10530:15 10540:3 10558:15 10599:5 10612:23

putting 10540:5 10571:6

C

quadrant 10591:3,17,20,23 10592:8,14 10593:18,26

quadrants 10591:2,10,12,13 10592:28

qualifying 10572:4

Qualitatively 10634:21

qualities 10617:12

quality 10528:23 10617:21, 24

quantitative 10525:15

Quantitatively 10634:23

quantity 10613:23,26 10614:10

quarter 10449:26 10485:24, 25,26,27 10521:25

quartiles 10481:23 10590:4 10591:13,14

question 10458:13 10459:17 10463:13,14 10467:6,10 10468:27 10470:16 10471:14 10477:18 10480:9 10481:15,21 10488:13 10519:5 10520:28 10534:24 10536:7,26,27 10549:25 10550:10 10559:6 10560:22 10561:14 10566:5 10574:5 10586:14 10587:7 10600:12

questioning 10488:16

questions 10445:25 10446:9 10457:1 10468:26 10470:8, 14 10473:28 10482:16 10489:25 10490:4,19 10492:14,16 10532:23 10534:10 10562:25 10566:17 10572:27 10578:21,23,27 10579:2,3, 13 10581:28 10588:2 10605:16 10629:23 10636:15

quick 10447:16 10535:8

quickly 10606:1

quo 10475:16 10477:1

quota 10544:15

quote 10500:4,22 10557:18, 27,28 10568:14,21,28

R

raise 10468:9

raised 10585:13 10629:2

range 10449:14 10459:15 10463:4 10481:28 10486:2 10490:9 10498:21 10511:14 10537:7,14,21,25 10539:11, 12 10549:27 10552:10 10557:25 10564:26,28 10565:3,6,14 10592:1 10595:11,13,15,17,21 10596:28 10597:1,2,6,11,14, 16,21,27 10598:7,10,14,16 10614:14 10615:7,8 10627:14 10637:17 10638:4

ranges 10449:13 10499:1 10549:5

ranging 10523:25

rapidly 10633:18

Rapids 10571:1,20

rationale 10488:2

raw 10507:7,8 10538:20 10587:9 10602:4,28 10616:3,11

rbst 10617:13

rbst-free 10605:9

re-circle 10512:28

re-cross 10489:25,28

re-equilibrates 10543:24

re-evaluation 10535:26

re-examination 10486:9

re-orient 10498:1

re-redirect 10492:15

reach 10521:2 10532:27

reached 10524:23 10541:26

reacted 10542:24

read 10450:10 10453:20 10454:1,20 10455:2,6 10468:8,11 10500:22 10535:13 10568:14

reading 10459:28 10460:13 10480:15 10487:27 10523:2 10526:25

reads 10572:19

ready 10482:6 10495:5 10496:15,16,17 10530:9 10556:2 10587:18 10624:2

real 10505:4 10506:5 10517:1 10559:8 10568:3 10630:2

realistic 10509:4

realities 10513:19

reality 10471:22 10479:15 10503:2 10619:14

realize 10462:1 10489:16

realm 10486:16 10576:21

reason 10474:23,24 10487:19 10491:12 10541:6 10552:28 10565:5 10577:1 10615:8 10633:16

reasonable 10576:21 10578:15 10582:17 10634:8 10636:17

reasons 10544:5 10559:16 10583:1

rebuttal 10520:15

recall 10482:18 10484:7 10486:11 10488:15 10489:3 10525:13 10532:1 10554:4 10564:25,27 10565:11,16 10605:3 10617:1 10639:16

recalled 10483:3

recaptured 10585:14

received 10444:28 10445:6 10452:13 10493:28 10494:4, 8,12,16 10551:6 10606:22 10607:3,11,20 10641:28 10642:7,15

receiving 10507:6 10512:21 10528:22 10545:14 10584:2, 5,28 10604:14

recent 10464:25 10466:12

recently 10513:10 10610:2, 28 10634:8

recess 10556:4

recognition 10585:3,5



recognize 10469:16

recognized 10500:21 10629:7

recognizing 10641:18

recollection 10568:26

recommend 10452:17

recommendations 10474:3

recommended 10458:3 10475:4

reconnected 10606:3

reconvene 10445:21

reconvened 10444:14

reconvening 10445:16

record 10444:2,19 10445:14 10446:11 10447:18,20,21,26 10448:13 10453:23 10454:4, 6,8,9 10462:17 10463:17 10479:3,26 10480:8 10482:7,9 10489:22 10495:7,8 10496:24,27,28 10499:14 10530:11 10541:9 10556:3 10557:2,3 10570:5 10584:27 10585:18 10587:18,20,21 10606:5,7 10624:5,6 10642:21 10644:5

records 10499:18

recovery 10582:25

recreate 10633:4.7

RECROSS-EXAMINATION 10490:1

red 10485:18 10588:4 10595:18 10596:25 10623:3, 11,14 10625:1,9,10,11 10626:9,24 10627:16 10637:3 10640:13

red-colored 10623:16

redirect 10482:12 10598:25 10599:11

reduce 10508:13 10511:12 10543:25

reduced 10549:21 10572:7, 11.12

reduces 10549:23

reducing 10510:16,19 10548:17.20 10579:22

refer 10606:15 10613:21

reference 10533:10 10538:19 10557:28 10572:28

referred 10461:20 10612:16

referring 10448:28 10459:8 10521:17,18 10545:6 10568:20

refers 10480:13,14

refill 10618:21

reflect 10453:24 10512:2 10588:24 10590:13 10616:9

reflected 10460:1 10463:10 10469:1

reflecting 10460:8

reflection 10588:18

reflects 10486:20 10501:10 10511:18 10590:20 10597:21,25

reform 10499:13,18 10500:3,6 10501:18 10502:23,27 10507:23 10518:24 10523:3,5 10536:12 10542:21,25 10552:1 10554:11 10565:25, 27 10566:1,4 10616:25 10632:19 10635:27

refresh 10568:26

regard 10533:23 10555:28

regime 10595:23

region 10468:10 10568:19, 20 10619:25 10623:16 10626:14,20,28 10631:20

regional 10476:1 10582:27, 28 10583:11 10620:26 10623:20

regionally 10582:22

regions 10475:27 10476:2 10479:9 10569:8 10619:15 10620:28 10621:2,5 10625:17 10627:8,9,28 10628:19 10636:18 10639:4

Register 10444:14

regulate 10489:10 10631:26 10632:14,16 10640:14

regulated 10549:24 10550:13 10563:4 10573:23 10583:12 10600:4 10610:19, 26 10611:4 10612:4,6 10613:11 10628:12 10639:17 10640:20,28 10641:6

regulating 10614:12,26 10632:3 10639:2

regulation 10510:6 10516:3, 22 10548:9,12 10611:2 10615:1,26 10628:9 10632:4 10633:8,13,14,15 10634:26

10640:18

regulations 10444:20 10476:13 10515:20 10517:27 10629:10

regulatory 10605:13

reinforce 10475:6,16

reinforced 10476:10

reinforcing 10477:1 10534:5

reinvigorate 10510:21,28

reject 10457:4 10468:9,14 10470:1 10488:9

rejected 10488:10

relate 10457:21

related 10478:24 10498:23 10527:4 10528:10 10544:18 10545:18 10546:17 10566:27 10567:2 10574:3 10580:7,14,23

relationship 10469:22 10476:9 10507:2 10571:8,14 10596:18 10613:25 10624:15

relationships 10475:5,10, 14,26 10476:10,15

relative 10469:23 10477:23 10479:11 10502:15 10519:18 10539:17 10560:2 10571:14 10616:10 10618:28 10620:22 10621:28 10623:4

relatives 10636:14

relaxing 10622:7

relevant 10502:5,7 10504:18 10519:12 10539:24 10634:7

relied 10613:8 10636:2

relief 10640:20

rely 10500:27 10531:2,4

relying 10542:17

remain 10447:1 10517:8 10608:24

remainder 10568:8 10620:14

remedied 10530:5

remember 10470:26 10474:8 10490:10 10512:22 10521:24 10530:7 10532:8 10538:21 10559:22 10568:24 10569:23

remembering 10606:12

remind 10451:24 10470:21 10498:1 10509:15

reminding 10467:20

removing 10506:22

repeat 10453:25 10536:7

repeated 10531:25

repetitive 10586:14

replace 10450:28 10451:5, 17 10452:19,25 10453:3 10455:5

replaced 10451:6,8 10454:19 10462:21 10573:15

replacement 10450:7

replacing 10450:15 10493:12

report 10446:3 10518:1

reported 10616:24

reporting 10518:13

represent 10468:25 10620:24

representations 10621:12

representative 10621:19

represented 10611:6

representing 10557:8

represents 10531:28 10593:1,2 10623:1 10625:10 10627:20

request 10497:6 10609:13

require 10528:5,20 10541:25 10605:1 10620:6

required 10528:14 10624:27 10626:13

requirement 10528:10 10579:20

requirements 10528:21,27 10604:28

requires 10528:2

requiring 10545:3 10585:21

research 10526:25 10536:24,28 10555:6 10626:2

reserve 10558:2

resources 10510:20 10545:17 10548:21

respect 10461:12 10469:5 10470:6 10471:7 10472:17 10473:27 10475:25 10477:3



10501:22 10504:23 10517:5 10522:15 10523:4 10525:12, 13,17,18 10531:5,16 10534:26 10550:9 10555:2 10571:16

respond 10471:27 10544:4

responding 10542:28

responds 10542:4

response 10476:16 10564:11 10574:5 10628:18

responsibility 10539:6 10562:12

rest 10468:3 10470:8 10611:18 10631:6 10636:14

restate 10553:25

restroom 10495:2

resubmitted 10607:26 10609:9

resubmitting 10516:19

result 10503:15 10510:16 10512:18 10571:9 10580:27 10627:19

resulted 10542:16

resulting 10510:11

results 10456:21 10459:16 10461:26 10463:2,4,20,21 10472:1 10485:6 10491:12 10519:25 10520:8,18 10549:26 10600:24 10621:16 10625:27 10634:20 10635:3,7,18 10636:11,14

resume 10530:12 10557:3 10624:9

resumes 10447:15

resuming 10446:24

retail 10539:4 10580:18

retained 10521:22 10522:1, 2.8.10

retention 10522:5

returns 10458:4 10613:3

revealed 10626:6

revelation 10625:26

revenue 10580:12

review 10483:17

reviewed 10503:12

reviewing 10474:10

reward 10508:4

rewards 10628:13

rhetorical 10550:10

rhyme 10474:23,24

rider 10587:1,3

right-hand 10484:9 10624:23

rip 10450:27

ripe 10535:26

risk 10478:17,19,24 10500:11,13,21 10503:14,18 10508:13

road 10473:3 10489:7 10622:12,22

Roger 10575:17

role 10499:22 10510:2 10511:2

rolls 10476:5

room 10525:1

Rosenbaum 10446:3 10555:19,23,28 10578:22,23 10579:7 10587:15,22,24,27 10588:1 10591:9 10598:19, 21,28

rough 10591:27 10627:23

roughly 10589:25 10591:24, 28 10595:5

round 10561:5

routine 10488:16 10560:28 10562:3 10584:20

routinely 10643:2

row 10452:5,6,8 10460:21 10461:6

Rows 10452:11

rule 10466:12,18,22,26 10468:18 10480:15 10481:1, 2 10632:20

ruling 10641:18

run 10472:6 10538:11 10621:26 10634:7

runs 10589:24 10592:9 10634:5

rushed 10606:11

Ryan 10468:25 10557:8

S

S-A-L-L-Y 10446:28 10495:17

S-H-E 10558:27

S-H-E-D-E-Y 10558:25

S-H-E-H-A-D-E-Y 10558:28

S-T-E-P-H-E-N-S-O-N

10608:19

sale 10539:4 10558:16

10559:4

sales 10508:25 10509:3,6,7

10548:22

Sally 10446:28 10447:2 10495:12,16,23

sanitary 10528:11

Saputo 10452:6

Saturday 10618:19

saved 10602:17

saving 10627:7

scale 10560:7 10632:18

scales 10584:10

scenario 10543:14,25 10602:3 10643:17

scenarios 10583:19 10603:7

schedule 10446:22

scheduled 10643:13

scheduling 10445:14

Schuelke 10576:11

Schuelke's 10509:15

science 10608:21,23

scope 10478:7 10522:9

screen 10450:22 10610:11

season 10639:9.10

seasonal 10539:12,14 10558:1,8,10,11 10602:15 10630:6,9,11 10639:4

seasonally 10559:15

secondary 10547:10

secondary-tiered 10547:8

Secretary 10516:18 10534:15

section 10457:3,12,21,23 10458:1 10459:3,12 10462:13 10463:24 10466:10 10526:10 10548:8 10587:8

sector 10549:2 10616:1

seeking 10600:17

seldom 10635:24

Select 10468:25 10557:8

selected 10463:26

self-evident 10559:13

sell 10506:13 10543:17 10601:17 10640:4

seller 10565:20

selling 10612:9

sense 10473:9 10477:25 10478:6 10486:14 10501:4,6 10506:7 10578:28 10591:16 10595:8,11 10603:20 10620:3

sentence 10453:20,28 10454:1,18,20,28 10455:4 10468:13 10544:24 10545:11 10546:19 10568:14 10572:19 10575:27 10579:23,25,26 10582:1 10583:14 10585:17

separate 10477:9 10516:20 10573:17 10574:1,2

separately 10518:18

September 10609:12

series 10525:28

serve 10507:19 10512:21 10533:12 10619:4

served 10469:26 10512:20

serves 10551:21 10618:26

service 10444:11 10451:14 10452:22 10470:13,16 10511:7,8 10513:18 10537:1,2 10545:2,4 10578:20 10579:3,5 10585:20,22 10601:11 10603:27,28 10611:10 10620:5 10631:19

services 10493:14 10506:25 10507:5 10513:8 10536:18 10538:8 10545:13 10568:9 10585:26

servicing 10532:11 10612:20

serving 10505:14 10513:3 10566:11 10604:18

session 10444:1 10474:14 10521:9,11 10526:4 10557:1

sessions 10525:5

set 10476:13 10481:3 10487:28 10488:1 10502:13 10518:24 10530:19 10565:10 10572:27



10579:28 10580:2,6 10586:3 10592:7 10638:26

setting 10500:28 10502:5 10503:23 10535:1,2 10551:1 10554:26

settings 10481:27

settled 10565:24

settlement 10566:27 10567:18 10601:4

shades 10623:3

Shamrock 10551:21 10558:20 10643:20

share 10502:5 10641:4

shared 10511:8 10533:26 10562:14 10629:13

shed 10476:9 10572:14

Shehadey 10558:21,23,24

shelf 10510:26 10558:9,13 10602:22

shelves 10618:21

shift 10536:3 10619:1

shifted 10561:24

shifting 10536:3

ship 10560:6,10 10561:11, 20 10562:20 10640:23

shipment 10560:18

shipper 10561:16

shippers 10560:12,13,14,20, 25 10561:2,16,23

shipping 10546:15 10561:17 10616:4

shoe 10643:1

shooting 10615:11

short 10553:20 10554:12,23 10621:25

shortage 10532:16

shoulder 10550:3

show 10444:19 10449:6 10450:21 10452:1 10499:21 10542:22 10597:6 10610:23 10615:3 10622:26,28 10625:13

10020.10

showed 10632:5

showing 10484:21 10611:14

shown 10453:2 10535:24

shows 10449:3,7,9 10451:27 10481:22

10501:11 10507:16 10512:11 10590:14 10594:4, 28 10619:26 10620:25 10623:14

shrinking 10514:1,4 10598:14

sic 10558:25

side 10449:10 10476:16 10516:27 10541:4,10 10543:16 10546:9 10553:6 10574:21 10580:24 10633:14

sides 10491:20 10545:19

signal 10542:22 10615:22

signals 10543:1

significance 10444:21 10461:17

significant 10468:6 10486:17,19,20 10489:7 10502:4 10505:3 10572:14 10630:27

significantly 10509:13 10611:5

silos 10603:1 10618:22

similar 10467:25 10478:4 10560:6,11 10572:9 10585:1 10596:27 10602:2 10605:9 10624:20 10633:5 10634:22

similarly 10485:9

simple 10460:22,24 10461:1,14 10462:27 10463:1,18 10612:16 10627:3

simply 10450:8 10473:1 10514:11 10626:4 10637:25

Simulator 10616:1,2

single 10591:20

single-page 10448:2

single-sided 10497:9

sit 10531:1,19

situation 10472:24 10491:28 10492:9 10504:5 10506:5 10542:14 10547:7 10562:2, 24 10568:5 10578:5 10603:18

situations 10508:17 10510:23,24 10536:16 10562:11 10569:28

size 10505:4 10509:19

skim 10458:21 10498:5 10576:12

skin 10584:13

sliced 10456:1

slide 10497:23 10498:17 10499:21 10500:5 10501:9, 11 10504:9 10510:8 10519:9 10610:23 10622:26 10629:25 10630:18 10642:10

slides 10623:28

slight 10628:11

slightly 10449:13 10471:25 10615:20

sloppy 10613:21

slowly 10605:23

small 10465:6 10485:16,21 10537:23 10558:22 10611:1 10615:13

smaller 10498:14 10514:5 10536:27 10537:12 10638:2

snow 10489:15

snowfalls 10489:22

sob 10508:23

software 10456:13,14

sold 10617:15

solution 10489:12 10548:9 10583:9 10620:27 10621:13 10622:21 10631:10

solutions 10535:25 10538:8 10544:16 10620:24 10639:21

solve 10577:8,9 10628:24 10641:7

solves 10616:2 10618:26

somatic 10617:21

somebody's 10546:2

sort 10474:15 10478:8,20 10486:2 10543:7 10552:14 10579:14 10580:22 10589:24 10592:4,23 10596:27 10603:2 10631:25

sorts 10473:11,13 10484:26 10505:1 10518:1 10532:23 10558:9 10596:20

sound 10489:19

sounds 10475:21 10568:27 10575:27

source 10499:11 10553:5

sources 10552:19

Southeast 10466:11 10468:5,17 10476:25 10479:28 10480:11 10542:20 10625:17 10627:18

Southeastern 10639:6

Southern 10489:1 10499:1

space 10476:19 10550:7 10604:19

spatial 10626:11

speak 10610:7

speaking 10472:26 10552:4 10572:22 10640:11

speaks 10627:10 10632:1,

special 10566:8 10640:7

specialty 10473:19,20 10487:18,24 10491:11,22 10515:5,6,8,11,12 10573:17 10574:15

specific 10457:6 10488:28 10491:24 10522:18 10539:16 10559:27 10569:5 10590:25 10593:22

specifically 10499:15 10522:14 10525:13 10527:22 10564:21 10574:12

specification 10528:22

specifications 10528:23

specifics 10508:16 10603:21

spectrum 10515:11,13

speculate 10464:15 10478:8 10537:15,16

spell 10446:26 10495:15 10512:3 10558:23 10608:15

spent 10474:10 **spit** 10636:27

spits 10472:4 10623:5

spoke 10471:19

spot 10614:7

spread 10509:17,24 10576:13

spreadsheet 10456:15 10474:11,12,13

spring 10456:6 10477:23 10487:4 10521:6 10525:27 10639:5



sprinkles 10486:28

stabilize 10508:25 10509:8 10578:7 10612:8

stable 10500:9

stand 10446:7 10468:13 10605:27 10608:14 10631:5

standard 10481:27 10505:20 10529:2 10605:10, 12,13 10617:10 10618:3

standards 10528:2,11,23

start 10447:25 10455:18 10482:14 10486:12 10514:9, 24 10518:19 10526:7

started 10511:1 10522:13 10576:24 10635:2

starting 10499:9 10500:23 10504:17 10598:25

starts 10454:27,28 10463:24 10566:16

state 10446:26 10457:5 10468:13 10495:14 10504:21 10548:18 10572:1 10633:23

state-by-state 10617:18

stated 10446:6 10464:5 10471:5 10513:10 10519:15 10527:9 10562:27

statement 10474:1 10477:9 10479:19 10502:16 10545:11 10550:25 10557:15 10572:17 10577:13

statements 10542:17

states 10461:10 10462:20 10593:16 10612:7 10616:3,5 10623:1

stating 10639:14

statistics 10459:23 10589:16

status 10475:16 10477:1 10498:23 10505:6,8 10526:24,27 10527:5,7,8,23 10528:25 10529:21 10581:13 10617:8,9

steeped 10475:15

step 10478:12,13,14 10548:26 10605:19 10614:21 10632:17

Stephenson 10485:28 10507:26 10519:26 10520:10 10532:22 10605:28 10608:18 10609:1, 5 10623:22 10624:7 10630:19 10638:24 10640:12 10642:26 10643:4

Stephenson's 10486:11 10520:8 10569:11

Steve 10555:23

Steven 10587:24

stick 10450:27 10472:4 10585:8 10643:6

sticking 10547:6

stimulates 10580:10

stockpile 10559:3,14

stocks 10615:21

stone 10519:8

stop 10643:22

stopped 10546:15

storage 10507:7,8 10538:20 10587:9 10602:4,28

store 10555:14 10618:21

story 10508:24 10637:24

straight-up 10478:22 10554:24

straightforward 10581:26

strategies 10559:7

streak 10639:27

stretch 10630:2 **strictly** 10450:20

strong 10618:1 10620:3 10637:27

stronger 10625:10

structure 10512:2 10516:9 10517:28 10527:28 10620:26 10628:23 10630:25 10633:3,8 10634:5,22 10635:17

structured 10481:4

struggled 10474:17

struggling 10515:28 10528:11

studied 10537:18

studies 10521:4 10525:5

study 10468:3 10521:5,15, 23 10522:27,28 10523:28 10524:13,19 10525:22 10529:3,4 10536:22,24 10537:17,20 10541:22,28 10542:1,9,10 10551:1 **stuff** 10456:24 10478:17,20 10514:13 10524:5 10557:26 10577:20 10585:27

subject 10501:24 10517:8 10530:17 10616:8

submission 10609:19 10634:3

submit 10493:16

submitted 10451:7 10452:14,20 10453:4 10515:23,24,25,27 10516:4 10517:6 10521:10 10559:24 10572:28 10573:14 10588:14,16 10608:10 10609:11

submitting 10516:19

Subsection 10457:5

subsequently 10576:16

subset 10515:12

subsidize 10550:8

substantial 10467:23 10479:13 10617:23

substantially 10596:17

substantive 10450:17 10451:4 10466:3,4 10518:22

successful 10632:13

successfully 10618:14

suffice 10494:25,28

sufficient 10457:24 10477:17 10499:25 10501:3 10568:17 10569:20 10573:23

suggest 10465:27 10503:2 10541:23 10615:18 10631:6 10632:20

suggested 10568:25

suggesting 10467:17,20 10469:28 10533:25 10578:2 10628:8 10630:8

suggests 10612:28

sum 10459:19 10460:16 10512:12

summarize 10462:25 10468:26 10470:27

summarized 10462:28 10481:6

summary 10459:23 10461:6 10470:21 10496:1 10519:10 10569:13

summation 10505:21

10530:6

summer 10477:23 10516:4 10558:16 10559:4 10602:17

sums 10485:16

Sunday 10618:19

supplied 10498:25 10560:21 10562:20 10573:25 10614:16,18

supplier 10506:12 10534:2 10562:3 10563:23 10584:15, 19 10601:24,25 10620:8 10629:12

suppliers 10506:9,16,18 10508:4,9 10511:6 10512:20 10513:3,22,24 10528:5 10533:17 10545:17 10575:8 10585:4 10600:28 10630:16 10639:24

supplies 10473:20 10533:6, 7 10558:2 10602:20 10611:9 10613:16

supply 10471:2 10476:8 10477:17 10487:23 10499:25 10500:8,18 10501:3 10502:22 10504:4,5 10508:26 10510:24 10513:9 10523:24 10531:11 10532:16 10538:12 10542:4, 18,24 10543:9,23 10544:14 10554:27,28 10555:2,5,9 10558:6 10560:10 10561:2, 5,19,23,25 10562:3,13,18 10566:12 10568:11,17 10572:23 10573:6,16 10577:17,28 10579:20 10581:23 10611:7 10613:22. 24 10614:14 10617:15 10618:27 10619:2 10621:7 10628:7 10629:9 10630:10 10634:4

supplying 10513:15 10546:26 10567:28 10572:3 10573:17,22 10574:23 10614:3 10629:19 10638:9

support 10457:24 10472:1 10477:6 10513:28 10526:20 10617:4.7

supported 10491:16

suppose 10468:19 10543:27

supposed 10493:11 10572:23 10583:20 10586:1

surface 10469:1 10539:20 10621:24 10635:28 10636:1

surfaces 10635:25

surplus 10613:13 10614:16, 25 10620:28 10625:23



surprised 10489:18 10524:22 10631:23

surprising 10465:22

surrounding 10465:28

survey 10522:17 10524:2 10525:10 10531:17

sustain 10621:26

swimming 10621:14,23

swings 10613:17

switch 10494:23

sworn 10447:1,3 10608:25 10609:2

symptom 10604:23,24 10629:4

system 10472:17 10475:11 10507:2 10508:13 10514:12 10515:20 10516:3,22,25,28 10517:13,23 10518:1,8,28 10519:6 10528:7 10533:22 10534:13,14 10535:22 10545:9 10546:22 10547:7, 14,19 10548:13 10550:6,12, 21 10577:5,27 10585:25,28 10586:7,16,20 10605:6 10616:18 10618:10 10619:12 10628:28 10630:28 10639:18 10640:20,28 10641:1,10

systematic 10474:8 10635:14

systematically 10483:15

systemic 10604:7

systems 10544:15

Т

table 10449:2,6,7,14,20,25 10459:23,25 10460:7,22,25 10461:6 10462:2 10464:1 10467:15 10480:12 10481:6 10484:4,6 10485:9,23 10486:20 10512:10 10535:7, 9 10546:10 10570:9,23 10588:7,19 10590:26,27 10592:6,24 10593:23 10594:4 10597:9

tables 10484:3

tackling 10519:8

tag 10539:5

takeaway 10461:11 10538:7

takes 10488:15 10531:3 10554:26 10630:8

taking 10461:1 10537:24,26 10603:14 10621:2 10628:8 10641:21

talk 10459:14,17 10475:2,9 10480:23,25 10503:26 10521:13 10524:5 10528:18 10535:5 10536:21 10540:18 10542:13 10545:19 10562:5 10568:15 10579:19 10581:10 10582:1,20 10599:4 10615:28 10620:1 10635:24 10640:1 10642:20

talked 10458:5 10470:22 10479:27 10486:3,4,12 10503:13 10520:1 10546:14 10557:25 10559:17 10569:25 10579:26 10583:7 10585:20 10586:6,18 10624:13 10635:12 10637:2,

talking 10459:3,13 10465:20 10466:11,14 10472:9 10474:5 10477:13 10478:6, 17,21 10485:20,21 10488:23,26 10490:6,10 10491:21,25,28 10492:1,2,6 10497:27 10501:12 10502:25 10504:27,28 10520:14 10523:10,18 10526:11 10528:6 10529:21 10530:17 10533:5,18 10537:27 10538:21 10539:8 10545:7,12 10553:22 10554:7,18 10555:3,5 10557:19 10558:14 10560:9 10563:26 10568:28 10576:10 10580:26 10582:6, 23 10585:1,27 10613:23,25 10616:21 10619:23

talks 10583:6,14 10616:23

target 10615:10,14 10632:6

targeted 10640:7

task 10476:22 10616:2,6

Taylor 10451:5,9 10452:23 10454:23,25 10470:18 10482:3 10579:6,9,11,16,18 10581:8 10587:13 10643:15

team 10474:27 10497:14

teasing 10473:26

technical 10497:2

technologies 10559:19

tells 10594:26 10595:25 10597:2

temperature 10489:23

ten 10456:8 10494:25,28 10524:28 10531:28

10561:27 10562:8 10584:16 10624:2

ten-minute 10530:8 10587:16 10589:6 10623:27

tend 10475:15 10621:5

tended 10624:20

tending 10486:27 10487:1

tension 10477:25 10559:18

tensions 10636:18

term 10591:14

terms 10517:2

testified 10447:4 10464:14 10485:27,28 10486:21 10550:18 10566:18 10569:23,24 10589:4 10599:15 10602:12 10609:3 10610:2

testify 10487:22 10540:28 10541:2 10562:16 10564:28

testifying 10482:22 10539:21

testimony 10446:24 10447:27 10453:9 10456:20 10458:1 10461:20,21 10463:5 10469:17,18 10471:9,15 10474:26 10475:3 10479:27 10482:15, 16 10483:1,8,11 10484:1 10486:11 10487:7,10,21,26, 27 10488:15 10494:24 10495:22,24 10500:5 10507:28 10509:16,25 10510:9 10511:11 10512:10. 16 10518:16,20 10519:15 10526:22 10527:2 10530:23 10535:8 10540:19 10541:5 10544:17 10546:13 10548:7 10550:23 10563:10 10565:12,16 10568:13 10569:11 10570:4 10571:17 10576:11,12,17 10578:24 10581:3 10586:5 10599:15 10604:9,10 10606:10 10609:8,14 10610:6,24

Texas 10464:18 10465:5 10567:24 10572:10,12

10612:24,25 10631:12

10635:22 10639:14

theme 10488:7 10531:25

thin 10614:7

thing 10446:11 10457:28 10465:25 10473:18 10476:1, 23,24 10478:14,16,28 10486:5 10487:3 10507:8 10525:20 10526:18 10537:23 10543:7 10546:11 10565:1,5 10567:18 10575:1 10576:26 10595:10,14,25 10618:2 10634:9 10636:23

things 10445:13,14 10452:2 10468:2 10470:3 10471:8, 22,24 10473:7,11 10476:11, 19 10477:3 10479:16 10488:22 10497:18 10504:24 10510:27 10512:25 10514:3,10 10517:3,4 10518:2,8 10519:16 10523:22,24 10524:1,26 10537:9 10545:5 10553:7 10558:15 10565:26 10579:26 10580:12 10586:11,12 10596:9 10597:25 10599:13 10605:21 10613:20,22 10620:20 10624:24 10626:23 10629:17 10631:8 10632:4.15

thinking 10522:16 10523:5 10574:27 10613:26 10639:27

thinks 10465:24

thinned 10632:7

thought 10464:10 10465:23 10474:25 10476:1 10517:5

thoughts 10641:14

thousand 10588:22,24

thread 10553:27

throat 10624:7

tide 10548:22

tied 10510:5

ties 10457:22

Tim 10643:19 time 10446:8 10448:13

10455:2 10459:9 10462:18 10469:18 10470:26 10474:10 10478:23,26 10479:13,14,17 10481:12, 13,22 10488:17,18 10494:23 10501:18,24 10502:17,21,23 10509:22,23 10522:12 10523:5 10527:16,17 10532:7,20 10538:7 10540:8 10542:19 10546:25 10555:16.17 10584:7.10 10601:23 10602:3 10609:19 10610:15,19,21 10611:2,6, 15,16,21,23,25 10612:2 10615:6 10617:6,24 10619:16 10620:4,19 10621:18 10625:8 10626:4, 22 10630:27 10631:17,20



10639:11 10641:9 10642:20,

10632:11 10635:19

22

times 10481:28 10506:1,2,3 10518:27 10533:1 10543:5 10546:12 10589:15

timing 10543:6

tires 10473:11

title 10459:28

today 10445:16 10446:15, 19,22 10451:9 10453:1,3 10458:12,14 10460:19 10472:14 10473:19 10480:13,19 10485:8 10489:12 10498:20 10499:2 10501:1,5,20 10502:22,27 10503:6 10504:19,25 10505:2,4 10507:1,15,25 10508:27 10513:19 10519:17 10523:18 10525:11 10528:3 10530:24 10531:1,19 10535:26 10536:16,18 10540:2 10555:18 10563:17 10565:23 10569:15,17,28 10578:13 10581:18 10582:19 10585:5,15 10590:21,23 10593:16 10599:27 10600:10,19,22,26 10610:25 10611:10,27 10612:14 10617:6,7 10629:15 10630:21 10633:22 10640:28 10642:26

today's 10510:13 10523:6 10571:18

told 10590:27

tomorrow 10642:21,24 10643:14,15 10644:5

too-low 10615:24

tool 10469:21 10509:26

tools 10612:15

top 10462:2 10463:25 10467:18 10485:17 10490:8, 16,17 10532:1,8 10548:3 10552:8 10559:23 10570:20 10572:18 10582:1 10593:19, 27 10594:9,23 10595:16,17

topic 10540:19 10573:14

toss 10628:1

total 10448:22 10459:19 10460:16 10463:3,5,7,14,15, 18,22 10501:22 10522:20 10541:11 10611:11,17,21 10623:8,12

totality 10515:13 10619:12

tough 10632:9

tracking 10461:18,19

tradeoffs 10559:10

traditional 10515:9

traffic 10472:24,27 10473:2, 14,17 10487:11,13 10488:14,16,21,22 10491:28

traffic's 10487:14

transaction 10565:19

transactional 10564:15

transparency 10517:3,14,20 10518:11,13 10534:12 10585:27 10586:10

transportation 10466:14,26 10467:4,8,21 10468:18 10472:12,13,14,18 10476:26 10479:28 10480:25 10488:21 10489:23 10554:18

travel 10446:16

Travis 10464:18

treated 10472:10

Tremaine 10522:2

Tremaine's 10522:5

trending 10569:8

triples 10597:16

trouble 10615:16

truck 10473:5

true 10458:6 10528:8,19 10614:2

trusted 10540:20

truthful 10541:7

truthfully 10615:9

Tuesday 10444:1,3 10445:16 10557:1

turn 10450:2,3 10457:2 10466:8 10481:14,16 10484:2,3 10485:7 10497:23,24 10499:20 10501:9 10504:9 10510:8 10533:12 10535:7 10548:7, 22 10557:17 10570:28 10579:14 10586:13 10587:5 10589:12 10606:9 10633:27 10641:15

Turner 10561:10,18 10643:21

turns 10543:8

two-thirds 10611:3

type 10478:14,27 10537:23 10559:11 10573:14 10586:10 10587:1 10622:5 10624:26

types 10486:13 10570:3 10618:16 10621:28 10622:14

typical 10486:2 10561:22

Typically 10561:18

typo 10452:6 10453:10 10462:2 10583:16

U

U.S. 10616:1 10619:13 10620:25

Uh-huh 10453:16 10461:27 10479:1 10517:16 10519:21 10583:14 10585:16 10589:22 10594:24

ultimate 10539:3,4

ultimately 10458:4 10471:17 10580:16

unable 10488:1 10550:18

undergraduate 10608:22

underlying 10570:1 10629:4 10634:2 10636:23

underneath 10462:20 10591:4 10596:6

understand 10448:16 10453:9 10454:14 10463:9 10467:8 10469:21 10472:28 10473:2 10474:14 10482:21 10483:27 10490:24 10492:7 10507:27 10517:26,27 10520:6 10522:4 10527:6 10533:24 10535:27 10536:10 10554:25 10563:1, 10 10577:11 10588:15 10589:2 10632:8

understanding 10448:1 10464:27 10480:14 10481:1 10488:24 10502:9 10522:9 10535:13 10553:2 10594:10

understood 10455:21 10468:10,15 10492:5 10533:18,21

undertake 10531:17

undertaking 10603:12

undoubtedly 10617:6

uniform 10549:12 10626:10 10631:2

uniformly 10485:1

10506:16,18,20 10549:9

unique 10449:12 10473:27 10492:3 10562:24

unit 10622:8 10626:17

United 10586:6 10593:16

unusual 10489:13

unwilling 10623:17

upcoming 10508:22

update 10464:11 10477:8 10493:17 10631:4

updated 10469:19 10472:19 10474:13 10476:28 10477:10.28 10520:7,19,22

updates 10504:10 10520:16

updating 10470:28 10471:1 10477:11,12,19 10520:23

upper 10476:2 10499:3 10568:25,28 10569:4,15,16, 17,20 10570:6 10595:16 10624:21

upset 10475:5

USDA 10453:19,28 10457:4 10468:8,14 10469:28 10470:3 10474:11 10482:3 10484:17 10488:8 10500:2, 6,21,27 10521:11,12 10552:18 10557:19 10565:24,28 10568:20 10569:1 10573:1,9 10594:10 10600:18 10631:25 10632:19 10636:10 10638:26 10639:22 10640:6, 14 10641:15

USDA's 10466:12 10476:17

USDSS 10453:19,20 10454:1 10469:1,20 10479:9 10483:16 10486:1,15,21 10487:19 10519:25 10520:2 10571:18 10583:8 10620:16, 21 10622:21 10638:26

utilization 10460:24 10501:11,13,14,16,19,20,26, 27 10502:9,18 10508:5,21 10509:5 10513:20 10567:27 10569:7 10576:14,19 10580:10 10601:5,15 10611:8,17,20,22 10619:19, 22 10627:24 10628:19

utilize 10560:12

utilized 10519:25 10602:19

Index: times..utilizing

utilizing 10561:15



٧

valid 10627:1 10629:28 10636:13

validate 10626:2

validation 10620:25

Valley 10472:27 10489:1 10524:9 10551:18 10560:20 10637:20

valleys 10562:4

valuable 10518:9 10519:17 10542:26,27 10586:11 10622:21 10624:21,22 10626:17

valuation 10542:25

values 10449:24 10469:6 10517:1 10593:7,8 10616:10,11 10620:24 10622:2,4,9,12,23,28 10623:2,3,5 10624:18,19 10625:10 10626:11 10627:5 10635:23 10636:3,6 10639:5

valuing 10507:4

valve 10640:20

vantage 10467:24

variability 10483:19 10537:13 10538:10 10539:12,14 10582:28 10583:11 10603:19

variable 10472:19

variance 10463:7

variation 10486:18 10487:4 10621:19

variations 10486:24

varied 10471:18

varies 10463:6 10506:21 10575:9

variety 10506:6 10535:16, 18,25 10536:19 10551:7 10617:10 10632:4

vary 10486:19 10488:28 10512:15 10531:22,23 10582:22 10596:17

varying 10485:2

venture 10552:13 10643:22

version 10450:18 10451:16 10452:25 10493:18 10588:14,16

versions 10450:26

versus 10450:18 10460:14 10461:16,23 10462:26 10466:14 10476:2 10478:26 10484:10 10498:10 10554:5, 6 10558:8 10563:7 10584:11,12 10602:27 10603:1 10604:1 10625:23

viable 10500:9

view 10473:18 10488:7 10508:10 10532:14 10576:28 10577:10,16 10580:4 10586:12 10638:5, 20 10640:9

views 10610:5

virtually 10581:14 10625:1

vis-à-vis 10504:12

visual 10451:3

visualize 10595:13

visually 10486:23

vital 10603:27

voila 10473:5 volume 10611:5

voluntary 10617:11

vote 10631:22

voted 10631:18

votina 10480:4

Vulin 10447:5,7,10,22,23 10448:11 10450:14,16,26 10451:7,10,13,19,20 10452:16,24 10453:6,7,23 10454:11,12,24,26 10455:1, 11 10482:10,11,13,27 10488:12 10489:24.26 10490:7 10492:16,21,24,27 10493:1,3,16,24,27 10494:3, 7,11,15,18,19 10495:1,9,10, 11,19,20,28 10496:5,9,14, 17,19,21 10497:1,2,7,10,13, 18,21,22 10512:7 10514:15 10574:6 10598:23 10599:1. 12 10605:15 10606:9,16,24 10607:5,13,22

W

wait 10640:12

walk 10454:16 10489:19 10498:18 10504:10 10518:15 10600:25

walked 10613:15

walking 10542:8

wanted 10444:12 10474:14

10479:24 10481:14 10622:2 10632:7 10635:16,18 10639:28 10640:8

warehouse 10539:7

warehousing 10514:13

warranted 10604:14

Warren 10643:8

water 10624:8

ways 10455:28 10505:28 10507:4,23 10510:20,22 10536:20 10540:1,17 10578:11 10584:13 10617:10 10628:22

weather 10446:15 10489:7, 12 10525:10

website 10444:16 10451:5

Wednesday 10643:13,14

weeds 10517:6 10525:26

week 10479:20,21 10584:3, 11 10607:26 10609:10

week-to-week 10602:19

weekend 10584:17 10618:20

weekends 10618:23 10630:5

weekly 10584:8 10602:21

weighted 10460:23

West 10487:1

western 10459:14 10499:3

whichever 10472:20

whisker 10591:3 10593:27

10595:16

whiskers 10589:13,15,28 10590:1,6 10596:7 10597:20 10599:6,9

wide 10509:24 10523:25 10536:19 10537:7,25 10551:6 10557:25 10565:4 10637:17

widely 10524:26

widely-accepted 10516:24

willy-nilly 10472:6

wind 10504:4

winds 10458:22 10500:19 10543:20

winners 10641:1

winter 10521:26

Wisconsin 10570:6

witnesses 10461:20 10464:14 10471:16 10472:25 10492:2,5,7 10497:16 10539:15 10550:24 10604:9 10610:1 10643:1,3

wondered 10478:2 10571:6

Wonderful 10555:25

wondering 10459:5,19 10474:9 10475:9 10542:8 10544:21 10557:21

word 10454:19 10516:1 10573:20 10590:19

words 10483:23 10587:2 10588:22 10594:18 10613:24 10616:13 10619:5 10620:28 10623:8 10639:9, 10

work 10446:21 10452:21 10456:16 10459:24 10460:8 10490:20 10497:10,14 10514:28 10515:3,7,9,14,15 10521:14,23 10522:24 10523:6 10525:8,15,18 10526:11 10528:26 10531:13 10537:5 10539:23 10567:22 10573:13 10585:12 10610:11 10634:3 10635:1 10638:11,24

worked 10455:22,24 10474:27 10540:21 10617:23

working 10515:4 10523:28 10524:26 10525:5 10526:6 10539:10 10586:16,17,21,28 10614:22

works 10585:10 10600:21

workup 10531:8

world 10471:21 10502:26 10629:1 10631:10

worried 10541:19

worth 10506:12,17,19,20 10588:22 10601:11

worthy 10577:7

wow 10474:21 10632:8

Wright 10522:2,4

writ 10503:18

write 10453:1 10468:2

written 10447:28 10453:9 10471:9 10474:1 10482:28 10487:27 10495:23 10500:5 10512:10 10518:16,20

Index: valid..written



Index: wrong..zones

10526:21 10557:15 10572:17

wrong 10552:13 10609:22

wrote 10470:26 10500:6 10527:3 10585:19

Υ

year 10501:19 10521:27,28 10610:28 10639:10

years 10478:10 10508:22 10544:3 10552:12 10553:14 10554:22

years' 10552:3 yogurt 10505:1

Ζ

zone 10570:25 10571:3,5 10572:10 10636:3

zones 10626:9

