

1
2 IN THE MATTER OF THE
3 NADC WASTE DISPOSAL EVALUATION
4

5 PUBLIC PRESENTATION
6

7 OF FINDINGS
8

9
10 Friday, November 17, 2006

11 3:00 p.m.

12 Ames City Hall

13 City Council Chambers

14 515 Clark Street

15 Ames, Iowa

16 PANEL MEMBERS ALWYNELLE (Nell) S. AHL, Ph.D., D.V.M.

PRESENT: ERMIAS BELAY, M.D.

17 LINDA A. DETWILER, D.V.M.

ROBERT P. ELLIS, Ph.D.

18 FRAN KREMER, Ph.D. (by telephone)

KATHERINE (TRINA) McMAHON, Ph.D.

19 ROBERT G. ROHWER, Ph.D.

20 CO-COORDINATORS THOMAS W. NEUMANN, City of Ames

PRESENT: STEVEN R. SHAFER, Ph.D., USDA ARS, MWA

21 ALSO PRESENT: JOHN R. DUNN, City of Ames

22 DIANA WHIPPLE, USDA ARS, NADC

23
24 REPORTED BY: Suzanne M. E. Sogard, CSR, RPR
25

1 MR. NEUMANN: Good afternoon. Thanks for coming.
2 My name is Tom Neumann, and I'm the director of water and
3 pollution control for the City of Ames. Just to give you
4 a little background, as most of you already know, we
5 started an investigation in cooperation with the USDA NADC
6 facilities back in May based on allegations that we
7 received that some waste from the NADC facility wasn't
8 being properly handled and treated and being discharged
9 into the city sanitary sewers.

10 We initiated conversations with USDA officials,
11 developed a charter and identified panel members, experts
12 in the area of prion contamination and disease materials.
13 And for the last -- seems like a long time -- about three
14 months or so, the panel members have been very diligently
15 working on preparing a report and analysis of the
16 activities at NADC and providing information that will
17 lead to further discussions between the City of Ames and
18 USDA officials regarding the activities at NADC.

19 On behalf of the City, I would very specifically
20 like to thank all of the panel members, those that are
21 here today and Fran Kremer, Dr. Kremer, who is present by
22 telephone, for their efforts over the last three months.

23 They have been extremely diligent. They've been
24 on site. They've conducted on-site inspections at NADC,
25 at NVSL and at the City of Ames treatment facility. They

1 have generated mounds of paper, fortunately most of it by
2 e-mail so it's not flooding my office too badly. And they
3 have been extremely responsible, responsive to concerns
4 that we had trying to get to a stage where we could
5 identify appropriate remediation actions if any were
6 needed.

7 And I just want to thank them for their efforts
8 over the last three months. This is a volunteer panel.
9 You have to understand that. So they were contributing
10 their time and expertise to help us out.

11 I'd like to introduce Steve Shafer now,
12 Dr. Shafer, with the USDA ARS in --

13 DR. SHAFER: Peoria.

14 MR. NEUMANN: -- Peoria, who will make a few
15 comments, and then we'll turn it over to the Panel to
16 present their summary findings and conclusions.

17 DR. SHAFER: Thank you, Mr. Neumann. I want to
18 start by introducing myself. My name is Steve Shafer, and
19 I'm the area director for the Midwest Area of the USDA's
20 Agricultural Research Service. And that's the structure
21 in our organization in which the National Animal Disease
22 Center functions.

23 Let me say right out that I've been extremely
24 impressed by the Panel, and I want to start off by saying
25 thank you very much to the Panel for all of your work.

1 I've been extremely impressed with the expertise and just
2 the intellectual fire power that has been brought to the
3 table for this effort. And I'm very grateful for the
4 vigor and energy and dedication that they brought.

5 Those of you that are gathered today haven't seen
6 that aspect of it, but these people really put their teeth
7 into this. And I just want to say you've done a great
8 service for the U.S. Department of Agriculture and the
9 City of Ames.

10 I also want to acknowledge several people who had
11 significant input into the report. These include Mr. John
12 Dunn, who served as the technical advisor for the City of
13 Ames wastewater treatment plant; Ms. Diana Whipple, who is
14 the deputy director of NADC, she served as the technical
15 advisor on NADC facilities and procedures; and I also want
16 to thank Dr. Elizabeth Lautner for technical input from
17 the National Veterinary Services Laboratories, who's one
18 of our partners on the campus here in town.

19 I think that everyone's in agreement that the
20 NADC's research effort is a major asset to the American
21 public. It contributes a lot to the quantity, the
22 quality, the safety, the security of the American food
23 system, which I think the world recognizes is second to
24 none.

25 So on behalf of the USDA, I'm very pleased that

1 the Panel has recognized the value of that to the public,
2 the value of the NADC facility and the effort there on
3 behalf of the American public and recognize that it's an
4 important aspect to the community here and the City of
5 Ames as well.

6 The complete report will elaborate on the very
7 thoughtful findings and observations and recommendations
8 that are about to be presented to you here. And then I --

9 I also need to point out that none of this really
10 would have been possible without the close partnership on
11 behalf of the City of Ames. To Mr. Neumann; to
12 Mr. Schainker, the city manager, I just want to say I have
13 appreciated your partnership in sorting through this
14 issue.

15 I'm here to pledge to you that the USDA will
16 continue to work very closely with the City to examine how
17 we can take this report and examine it and its
18 recommendations and conclusions and move forward in a way
19 that will reflect confidence on behalf of both the USDA
20 and the City of Ames. So you have my pledge to continue
21 to work with you to use this report appropriately.

22 So in closing I'd like to thank the City for
23 their close collaboration. And I trust that today is the
24 first day of an even better partnership with the City of
25 Ames and with the USDA. So, again, my sincere thanks to

1 the Panel.

2 What I'd like to do now is turn it over to the
3 Panel for self-introductions. I could read those, but I
4 think it would be better off just for each of them going
5 around very quickly telling us who they are. There is
6 somebody on the speaker phone over there. We have one
7 panel member that is not present with us this afternoon,
8 that's Dr. James Colbert, who is a member of the faculty
9 at Iowa State University. He couldn't be with us this
10 afternoon. But I'll just start down on the end there
11 where the speaker phone is. And, Fran, very loudly, if
12 you'll introduce yourself.

13 DR. KREMER: Good afternoon. I'm Dr. Fran
14 Kremer, and I'm the senior science advisor with the U.S.
15 Environmental Protection Agency in the Office of Research
16 and Development.

17 DR. DETWILER: I'm Linda Detwiler. I'm the
18 assistant director of the Center for Corporate and Public
19 Veterinary Medicine at the University of Maryland,
20 Virginia-Maryland Regional College of Veterinary Medicine.
21 And I do consulting in the transmissible spongiform
22 encephalopathy and spent my twenty-some-year career doing
23 that.

24 DR. ELLIS: I'm Bob Ellis. I'm a professor in
25 the Department of Microbiology, Immunology and Pathology

1 in the College of Veterinary Medicine and Biomedical
2 Sciences at Colorado State University. And I'm the
3 University biosafety officer. And I'm a council member of
4 the American Biological Safety Association.

5 DR. ROHWER: My name is Bob Rohwer. I'm the
6 director of the Molecular Neurovirology Laboratory at the
7 V.A. Medical Center in Baltimore. It's a laboratory
8 that's devoted to research on the prion diseases. And I'm
9 also an associate professor of neurology at the University
10 of Maryland.

11 DR. AHL: My name is Nell Ahl. I'm adjunct
12 professor of large animal clinical sciences at Michigan
13 State University in East Lansing, Michigan.

14 DR. McMAHON: I'm Trina McMahon, and I'm an
15 assistant professor in civil and environmental engineering
16 at the University of Wisconsin in Madison.

17 DR. BELAY: I'm Ermias Belay, and I work as a
18 medical epidemiologist at the Centers for Disease Control
19 and Prevention in Atlanta, Georgia. And I apologize that
20 I have to leave very shortly because I have to go to the
21 airport.

22 DR. SHAFER: Okay. Well, again, I appreciate all
23 of your service, individually and collectively.
24 Dr. Belay, I understand that you need to cut out on us.
25 So you feel free to go any time you need to go. And at

1 this point what I'd like to do is just turn it over to the
2 Panel's chair, Dr. Ahl, who will summarize the Panel's
3 findings and recommendations for the final report.

4 DR. AHL: Thank you, Dr. Shafer. I too would
5 like to thank the Panel for their diligent work and their
6 willingness to go a step beyond in committing time to get
7 this project finished in a timely manner.

8 The Panel was tasked to identify acceptable prion
9 decontamination methods, to assess concerns raised about
10 NADC's method for prion decontamination, to determine the
11 risk posed to humans from possible environmental prion
12 contamination, and to provide scientifically sound
13 approaches for the corrective action that may be needed.

14 The cumulative effects of all the steps in the
15 wastewater handling process at NADC creates multiple
16 barriers that are expected to reduce potential residual
17 contamination. After all of these steps have been
18 completed, it must be emphasized that the level of any
19 residual infectivity in the biosolids is expected to be
20 extremely low.

21 Nevertheless, it would be advisable for NADC to
22 limit, where possible, the level of particulate
23 contamination, particularly that containing infectivity --
24 that may contain infectivity, that is discharged to the
25 drains and to maximize the margin of safety.

1 There are three ways that we suggested that that
2 be done:

3 That is to collect and pretreat all liquid and
4 particulate waste from high exposure sites before delivery
5 of this wastewater to the pretreatment plant.

6 We recommend that there be a minimization of
7 discharges of solids into the wastewater system from the
8 source of generation, such as manure in animal pens.

9 If solids cannot be contained at their source, an
10 additional measure could be considered, and that would be
11 removal of solids after pretreatment in the Ames plant.

12 A key element in the successful implementation of
13 an effective prion management program is clear, consistent
14 and accessible standard operating procedures along with
15 well-trained and knowledgeable personnel at all levels.

16 Therefore the Panel additionally recommends that
17 the National Centers for Animal Health, which includes
18 NADC, NVSL and the National Center for Veterinary
19 Biologics, should harmonize prion disease infection
20 control procedures as much as possible.

21 In addition, NADC should ensure that personnel
22 working with prion-disease-infected animals and specimens
23 are trained in infection control issues and safety
24 procedures.

25 It would be wise for NADC to eliminate potential

1 sources of concern with their operations in the interest
2 of maintaining a positive relationship with the Ames
3 community.

4 With that, I would like to close with saying that
5 the Panel recognizes that NADC at Ames constitutes a
6 unique and essential national resource and strongly
7 supports and endorses the research conducted at these
8 laboratories. The findings of this Panel are intended to
9 serve as recommendations for NADC to improve its waste
10 handling procedures and to address potential concerns
11 raised by the general public regarding waste disposal
12 practices.

13 The floor is now open to questions for members of
14 the Panel.

15 MEDIA: Ma'am, can you just talk about past
16 procedures versus recommendations you've made? Were the
17 past procedures safe enough? Is this just in addition to?
18 Or how do you -- you know, for people that were worried in
19 the past.

20 DR. AHL: Bob, do you want to tackle that.

21 DR. ROHWER: The original concern that was voiced
22 to the City regarding the waste disposal practices at the
23 NADC resulted from, by our determination, a
24 misunderstanding on the part of some NADC employees who
25 were asked to do a project on the NVSL side of the

1 facility where the practices were somewhat different. And
2 they did not understand that the operations were similarly
3 secure on both sides of the facility; it's just that they
4 were different.

5 On the NVSL side, they used dry barns so there
6 was no liquid waste. And on the NADC side, they were not
7 aware of the fact that all liquid waste goes to this very
8 impressive pretreatment plant which essentially cooks the
9 stuff at 1 atmosphere of pressure and 121 degrees for half
10 an hour before it's even discharged to the sanitary sewer
11 system.

12 I think that once that understanding was -- once
13 that discrepancy was clarified for them, I hope that the
14 issue disappeared, because both of those methods are
15 secure. But it's part of the reason why we have this
16 recommendation at the end here that there needs to be
17 better communication across the whole facility, the whole
18 campus there so the people -- so those kinds of
19 misunderstandings don't arise in the future.

20 But as far as the past practices, I think we're
21 unanimous in our comfort. You know, as is true for any
22 place, you can always tweak and improve systems, and
23 that's really what we're recommending here. But I
24 don't -- we don't feel that there's any way that there
25 could have been any significant exposure to the Ames

1 wastewater treatment plant or sanitary sewer system from
2 NADC from the practices that are currently and have been
3 in place there.

4 DR. ELLIS: Let me add one other point on that.
5 The 121 degrees that Bob mentioned is centigrade, which is
6 about 250 degrees Fahrenheit.

7 MEDIA: Question for anyone or perhaps Mr. Shafer
8 yourself. Will the end result be any significant changes
9 in the way NADC handles potentially infectious waste?

10 DR. SHAFER: Well, certainly we're going to take
11 a look at this report and see what there is in here that
12 makes sense for us to implement. As Mr. Rohwer said,
13 things were in pretty good shape to start with, but any
14 system can be tweaked, any system can be improved, and
15 we're going to be looking at the recommendations to see if
16 these are something that we indeed implement.

17 At this point, I wouldn't want to go on record as
18 saying we're going to implement this, we're not going to
19 implement that. This is just something that we and the
20 City together have to explore.

21 MEDIA: By "pretreatment," do you mean bleaching
22 or some other technique?

23 DR. ROHWER: Actually we mean all of the above.
24 At various parts of the campus, both chemical and physical
25 methods are used at several levels of pretreatment. So,

1 for example, in the laboratories where highly infectious
2 materials might be used or might be exposed in the process
3 of necropsy or something like that, those wastes are
4 typically pretreated by some sort of chemical contact or
5 something like that before they are incinerated.

6 So there's two levels of -- there's two levels of
7 disinfection there:

8 One, the infectivity is reduced to a very low
9 level and then it's taken to the incinerator and it's
10 completely eliminated by incineration.

11 In the case of wastewater, there are places on
12 the campus where the wastewater is pretreated with
13 chemicals and then sent to the steam sterilization center,
14 what we call the wastewater pretreatment plant. But the
15 end result is that everything that's discharged from that
16 facility goes through that wastewater pretreatment plant
17 regardless of what other pretreatment it sees before that
18 pretreatment.

19 So in the end there is a wastewater pretreatment
20 plant where all the water that's -- that accumulates from
21 the discharges from the various activities at the facility
22 that have the potential for releasing infectious material
23 is cooked at 121 degrees for 30 minutes.

24 And from research in my own laboratory which was
25 conducted in the 1980s, we know that within the first

1 seconds of contact with hydrolytic steam and hydrolytic
2 water at those temperatures, the infectivity is reduced by
3 6 orders of magnitude. That's 99.99999 percent.

4 And so we feel confident that anything -- very
5 little gets that far without having been controlled in
6 some way before it gets there. But even when it gets
7 there, that's the final step which eliminates, as much as
8 possible, any possible discharge of infectivity into the
9 sanitary sewer system.

10 MEDIA: You mentioned that the precharging of the
11 drain would not meet the intent of your recommendation
12 under 4A. That's part of what I'm asking about. Some of
13 the other protocols talked about pouring bleach in there
14 in the necropsy room, for example, for like a half an hour
15 or something. Is that what you're getting at, versus just
16 pretreating the drain, or did you find that they're doing
17 some other chemical process now?

18 DR. ROHWER: What we were referring to in
19 particular is one particular site where necropsies are
20 done. And necropsies are -- These particular agents, let
21 me just explain there, they're not a particular risk as
22 long as the animal is intact. They don't shed large
23 amounts of infectivity as far as we know.

24 But there are large amounts of infectivity in the
25 central nervous system tissues. So when you take the

1 animal apart to study it for pathology and disease and
2 things like that, that's where you have some of your
3 maximum exposures.

4 And what we're asking them to do is to -- one of
5 our recommendations is that they capture all waste from
6 those processes and pretreat them chemically or by some
7 other method, whatever method they choose, before they
8 actually go to the wastewater pretreatment plant.

9 MEDIA: So is it fair to say they have the heat
10 and you're saying that that's going to take care of 99.99
11 percent of the issue, but when other protocols call for
12 some bleaching or some sort of chemical on the front end,
13 you're not really telling them bleach for a half hour;
14 you're telling them some kind of chemical pretreatment
15 would be good for the heat in the case of the necropsy
16 rooms?

17 DR. ROHWER: I don't think we're even so specific
18 as saying some sort of chemical pretreatment. What we're
19 saying is let's segregate that waste as much as possible,
20 pretreat it, and then send it to the NADC pretreatment
21 plant.

22 MEDIA: What else would you do with the solids?
23 And if they pull the solids out after the sewage treatment
24 plant, NADC's plant, what would they do with them?

25 DR. ROHWER: All solids, potentially infected

1 solids are incinerated. So it's a -- yeah. And there is
2 a -- there is an incineration facility on the campus.

3 MEDIA: Okay. So you're -- Okay. So the idea
4 here is that they separate them, incinerate?

5 DR. ROHWER: Yeah. And we had an expert on the
6 panel represented by the telephone over here on
7 incineration. And Fran might want to comment on that.
8 Fran, can you hear that?

9 DR. KREMER: Actually no, I couldn't hear the
10 question.

11 DR. DETWILER: The question was on solids, on
12 what other routes of disposal besides pretreatment. And
13 Bob said that one of the things with solids would be
14 incineration. And he just asked if you'd like to comment
15 on that since that's a specialty of yours.

16 DR. KREMER: That that would be a likely way for
17 disposal of the nature of the types of materials here.
18 And, in fact, they do have that capability on site, or
19 certainly there's off-site capability to manage the solids
20 as well. But I think as what's indicated in the
21 recommendations too, that we're looking more for control
22 of the solids at the source of generation to minimize the
23 presence of the solids in the pretreatment plant.

24 MEDIA: Dr. Shafer, is there something you would
25 have to do with your pretreatment plant or what you do in

1 the necropsy rooms to collect those wastes in an effective
2 manner?

3 DR. SHAFER: Yeah, there might be a couple things
4 that we could do, that my perception is that we could
5 implement. Keep in mind that one of the things that you
6 have out here on Dayton Avenue is the largest construction
7 process in the USDA's history. And a lot of what's going
8 on out there is improvement of infrastructure, improvement
9 of the wastewater pretreatment, so forth. So there's
10 going to be some upgrades just by virtue of the
11 construction that's going on out there. After we take
12 that into consideration, then we can look at some of these
13 other things that are also on the table.

14 MEDIA: In your deliberations, some concern had
15 been raised about the drains, I believe, in Building 230
16 and 231. Can you specifically say how those were
17 addressed in your report, if there was some talk of
18 possibly rerouting those drains or eliminating them?

19 DR. AHL: I might say that Dr. Rohwer and
20 Dr. Ellis, in addition to all the meetings the rest of us
21 have worked through, came back to Ames and spent a couple
22 of days visiting every single animal and laboratory that
23 did -- that does TSE work, and they brought us back a
24 report. So they are literally experts on the places of
25 TSE work at NADC. Bob, go ahead.

1 DR. ELLIS: And that report will be an appendix
2 to our other report. But Bob Rohwer and I were mis -- we
3 were not misinformed. We misunderstood where those drains
4 went. We thought that they went to the sanitary sewer
5 directly, and they, in fact, are not connected in any way
6 to a sewer. They go to a drain that then goes out onto a
7 grassy area, the same grassy area that the pens that the
8 sheep are in at those barns drain off to. There's really
9 no health issue at all involving those and the sewage
10 system of NADC or Ames. So that's going to be corrected
11 in the report.

12 MEDIA: So those drains -- just to clarify, those
13 drains are not connected to a pretreatment process of any
14 sort?

15 DR. ROHWER: No, they aren't. They're not
16 connected to any sewage system at all.

17 MEDIA: I know there are two drains in the sheep
18 scrapie room; is that accurate?

19 DR. ELLIS: It's in 230 and 231. That's what we
20 call those.

21 DR. ROHWER: And let me emphasize that the
22 animals that are kept in those facilities are infected
23 with native North American strains of sheep scrapie, which
24 are unfortunately found in farms quite frequently
25 throughout the United States.

1 DR. AHL: And grocery stores everywhere.

2 MEDIA: So you have no recommendation of NADC
3 looking at a dry barn system, correct?

4 DR. ROHWER: No specific recommendation, but we
5 would not limit NADC in any way of adopting those kinds of
6 methods if they decided they want to address some of these
7 issues in that way.

8 MEDIA: Your opinion is that both of these labs
9 were using protocols that were acceptable?

10 DR. ROHWER: Absolutely.

11 MEDIA: Would I be oversimplifying if I said your
12 recommendations are basically to have the NADC redouble
13 its efforts to ensure that infectious waste doesn't get
14 into the water supply as opposed to doing specific things
15 or changing specific procedures to improve their methods
16 of doing so?

17 DR. DETWILER: I think the best way to maybe look
18 at this is, as Dr. Rohwer said, that the pretreatment and
19 the water sterilization, it's like an autoclave system, it
20 takes out the bulk of the infectivity. With the TSE
21 agents, it's very difficult to say you have absolutely no
22 agent at all, because really you have to do a lot of
23 bioassay studies, which are inoculation -- It's very
24 difficult to get down to prove that you're at zero.

25 So the way we looked at it is almost like lines

1 of picket fences, that you have the bulk removed, but you
2 want to have a lot of different defenses in so that if you
3 have any potential leakage -- and we can't even say that
4 there's been, but you have to assume that there may be --
5 so you have your lines of defenses and the barriers.

6 And that's in the summary, one of the steps, that
7 you have -- one way is if you don't let it into the system
8 to begin with. So you don't let it out of the necropsy
9 room, you don't let any potential come out of the barns.

10 And there's multiple ways to do that. You can do
11 dry labs or you can do -- you know, capture the system
12 there, or you can do filtration after. And so just give
13 them the option, because really for us to prescribe
14 something, that's -- I think we felt that that wasn't
15 ours. The thing is if you take it out, there's multiple
16 ways where you can take it out. And that would be the
17 best approach.

18 MEDIA: Could you describe particulates or define
19 particulates? What does that entail or include?

20 DR. ROHWER: That's a good question, because we
21 struggled with that ourselves. There are a lot of
22 different terminologies that are used which kind of
23 converge on the same idea. What we're talking about is
24 biosolids, insoluble material in the waste stream as
25 opposed to soluble material.

1 And we know that typically, at least, the TSE
2 infectivity, prion infectivity tends to partition with
3 solids as opposed to fluids and that it's much more
4 accessible to inactivation when it's well-dispersed in
5 fluids. So that's -- that's why we've focused on that
6 one.

7 However, it's also important for you to realize
8 that even in the particulate residual from a process like
9 this, the infectivity levels would be extraordinarily low;
10 and, in fact, it's not clear that we have any methods
11 available that we could even measure them even if they
12 were there. They're beyond the limit of detection.

13 And that is probably a -- This might be a good
14 opportunity for me to put in a plug for more research in
15 this area. A lot of the issues that we struggle with in
16 doing risk assessments and evaluating flows and things
17 like that in an analysis like this, we're working from
18 really a dearth of information. It's very hard to make
19 these measurements in this field.

20 That's why it's so important that this research
21 is conducted here, because it's expensive, it's hard to
22 do, it takes a long time, and we need this kind of data.
23 That kind of data is being generated at the NADC, and the
24 more data that is generated, the better off we'll all be
25 in being able to better assess the risks and control risks

1 from these agents.

2 MEDIA: So under the realm of biosolids, does
3 that include tissue or feces or --

4 DR. ROHWER: All of the above.

5 DR. AHL: All of the above.

6 DR. ROHWER: But there could be huge, huge
7 differences, like billion-fold differences in the amount
8 of infectivity that are associated with different
9 biosolids. So the infectivity associated with feces, as
10 far as we know, there isn't any.

11 DR. McMAHON: I'd like to jump in there and say
12 something about the difference in terminology that
13 wastewater engineers use for talking about particulates,
14 because we don't distinguish in the report between
15 particulates that are, say, leaving a laboratory in the
16 drain versus those that are land applied at the end of all
17 of the wastewater treatment. And they are indeed very
18 different.

19 Because part of the, not only the wastewater
20 pretreatment plant at NADC, but then also the wastewater
21 treatment plant for the City of Ames converts those
22 particulates into a different form, which are then
23 stabilized. They don't decompose anymore. They're
24 primarily dead bacterial cells. And so when we talk about
25 biosolids that are land applied, that's not tissue or

1 feces. It's a converted, very stable form of organic
2 matter that are particulates.

3 MEDIA: When do you anticipate your formal report
4 will be available?

5 DR. AHL: It's being edited this weekend, and I
6 believe did we decide on Monday -- or Tuesday. Tuesday.
7 Should be Tuesday the 21st.

8 DR. ELLIS: To Steve at that time.

9 DR. SHAFER: Yeah, let me make a comment about
10 that. The report is complete in terms of its content.
11 These people are pros, and they want something out there
12 on the street that they're proud of and comfortable with.
13 The editing that has to be done, I'd characterize, is for
14 your English teacher. It's to make sure the grammar is
15 correct, the punctuation, so forth.

16 But in terms of the actual content, it's
17 finished. So Dr. Ahl needs a couple days to go through it
18 with a fine tooth comb. And these folks want to take one
19 more look at it to make sure she didn't do something more
20 than her English teacher would have done. And I don't
21 think she's going to do that. But it should -- I would
22 say it's going to be certainly within the next week or so.

23 MEDIA: Dr. Shafer, I understand the Panel
24 believes the risk was extremely low and the protocols were
25 up to speed at the NADC. But recommendations leave more

1 that can be done. Why wasn't the step that they're
2 recommending taken prior to this?

3 DR. SHAFER: Why wasn't it taken prior to this?

4 Well, basically if I hear correctly from the Panel,
5 everything that was being done is consistent with the
6 science. Sort of like you wearing a belt and suspenders
7 at the same time. I don't think the Panel is
8 uncomfortable with what was happening. In terms of sort
9 of the picket fence analogy that Dr. Detwiler has raised,
10 you can always do more. The idea that something gets down
11 below the level of detection, well, you still don't know
12 whether it's there or it's not there because it's below
13 the level of detection.

14 I think the procedures that we had in place were
15 consistent with the science, and we went on that basis.
16 We're in a position now with some new facilities and new
17 infrastructure, we can take a look at some of these
18 additional recommendations and see if these will be
19 necessary off of what we're already implementing in terms
20 of the new facilities.

21 DR. AHL: I think it's also fair that underlying
22 this was the knowledge we had that there's going to be
23 more TSE research done here and they're going to add other
24 agents. And I think also that they do work with
25 transferring an agent that is, quote, natural in one

1 species into another, which is unnatural; for example,
2 putting sheep scrapie into hamsters. In the wild you
3 wouldn't expect to find that.

4 But there's that kind of work that's going to be
5 continuing, and they're going to add bovine spongiform
6 encephalopathy, BSE, and I believe there's just going to
7 be more research here of that sort. And I think that was
8 an underlying basis for us saying, well, you're doing a
9 great job now but, you know, in the future maybe you want
10 to think about these other things too.

11 MEDIA: Dr. Shafer, do you know what your plans
12 are, the BSE work that was delayed for the study, then?

13 DR. SHAFER: Yeah, we had some BSE work that was
14 planned, and when the situation arose, we set it aside.
15 What we need to do is get the final report, get together
16 with the City of Ames, get together with the science staff
17 there at NADC, and determine what it is that we want to do
18 in addition to what some of these new -- what our new
19 infrastructure has to offer. And we certainly won't
20 initiate any BSE work until after we've made a thorough
21 evaluation of what the report says and gotten together
22 with the City.

23 MEDIA: So you're uncertain of the time?

24 DR. SHAFER: Right. We don't know when that will
25 be.

1 MEDIA: So you have construction continuing on
2 new facilities and that's where the BSE work will be done,
3 and that's why some of this, you don't know yet if even
4 new enhancements are needed?

5 DR. SHAFER: Right. Some of the BSE work will be
6 done in new facilities. Also part of that construction is
7 infrastructure, things like these cook systems for the
8 liquid waste. These are -- the existing ones are going to
9 be shut down and decommissioned. We're going to have new
10 improved ones in place. We need to put any
11 recommendations in the context of what's being done there.

12 MEDIA: This is for the Panel again. You
13 mentioned this audit system you recommended in No. 6 here
14 on the back page. Could you describe or compare to -- Is
15 that type of system used in other facilities, or what is
16 all involved in that type of audit system that you're
17 recommending?

18 DR. AHL: Linda, you want to take a crack at
19 that.

20 DR. DETWILER: It's always good when you have any
21 kind of -- either you're private or public companies and
22 whatnot, that you do self-audits, that you have some kind
23 of process controls and you set up -- A lot of times you
24 can refer to it as hazard analysis, hazardous critical
25 control points, and you look at your system and you see

1 those critical control points that actually block your
2 hazards.

3 And so it's good to set up a program where you
4 self-audit and you go through and you look at each one of
5 those critical control points to see how well it's --
6 where humans are responsible for doing a task, how well
7 they're doing the task, are they removing the solids, how
8 well are they doing their job. That would be one.

9 If it's engineering or a piece of equipment, then
10 you need to go and you need to check and see how well that
11 equipment is functioning, what are your checks on the
12 equipment, how well is that doing, and you have this
13 systematic way to review your entire process from start to
14 finish and then to make sure that it's working.

15 And you can even build in things like training
16 for the personnel, have continual training and updates and
17 make sure that the people understand the importance of
18 what they're doing.

19 And so that's kind of the audit system that we
20 thought might be very, very helpful. And it's not only
21 for this facility. It's for any facility that has a
22 process that needs multiple steps. And each process is
23 only as good as the steps, how well they're doing.

24 MEDIA: Dr. Shafer, as she's describing that
25 audit system, in what form was there an audit system

1 previously or currently is there?

2 DR. SHAFER: There are records kept in terms of
3 the operation of the wastewater treatment system. There's
4 log books that are kept, a function of that. So we've got
5 information on how those work.

6 Particularly the way the system works is that if,
7 for example, in the rare event that it didn't completely
8 come up to the temperature it was supposed to operate at,
9 it would be -- the time on that would be reset. So if it
10 was supposed to operate for a particular period of time,
11 we know that if we didn't achieve that, it cycles again
12 and we do achieve that. So those records are kept.

13 In terms of more of a formal audit type system
14 that Dr. Detwiler is talking about, that's something that
15 we're certainly willing to take a look at.

16 DR. ROHWER: I think another intent here was to
17 also produce some sort of document that could be regularly
18 communicated to the City of Ames so that they could feel
19 more comfortable with what was going on at NADC and their
20 relationship to it.

21 DR. AHL: Are there any more questions from the
22 floor?

23 MEDIA: Can you all go around and just give us
24 the spelling of your names?

25 DR. DETWILER: Fran, spell your name, please.

1 DR. KREMER: Fran Kremer is K-r-e-m-e-r.

2 DR. DETWILER: Detwiler, D-e-t-w-i-l-e-r.

3 DR. ELLIS: Bob Ellis, E-l-l-i-s.

4 DR. ROHWER: Rob Rohwer, R-o-h-w-e-r.

5 DR. AHL: Ahl, A-h-l.

6 DR. McMAHON: My first name is actually
7 Katherine. I think I introduced myself at Trina because
8 that's what I go by. But my first name is Katherine,
9 K-a-t-h-e-r-i-n-e, last name is McMahon, M-c-M-a-h-o-n.

10 DR. SHAFER: Dr. Colbert is not here. His last
11 name is C-o-l-b-e-r-t.

12 DR. AHL: Dr. Belay is B-e-l-a-y.

13 MEDIA: Can you spell your name for us?

14 DR. SHAFER: My name is Steve Shafer,
15 S-h-a-f-e-r.

16 MEDIA: What's your title?

17 DR. SHAFER: My title? Director, Midwest Area,
18 USDA ARS.

19 MEDIA: Thank you.

20 DR. AHL: Any more questions? Mr. Neumann.

21 MR. NEUMANN: No, I don't have any questions. If
22 no one has any further questions, thank you for coming.
23 You will hear more from us in the future. We will get the
24 report posted as soon as it becomes available to us. And
25 we'll move on from here and continue working with USDA,

1 NADC, other facilities in Ames.

2 And again, I would like to thank the panel
3 members for their efforts over the last several months,
4 because this has been a very time-consuming, very
5 exhaustive effort on their part. So thank you again. And
6 thanks for coming.

7 (The proceedings were concluded at
3:42 p.m.)

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C E R T I F I C A T E

STATE OF IOWA

COUNTY OF STORY

I, SUZANNE M. E. SOGARD, a Certified Shorthand Reporter in and for the State of Iowa, do hereby certify that I was present during the foregoing proceedings and took down in shorthand the proceedings held;

That said shorthand notes were transcribed by me by way of computer-aided transcription; and that the foregoing pages of transcript contain a true, complete and correct transcript of the proceedings to the best of my ability;

That I am not counsel, attorney or relative of either party or otherwise interested in the event of this proceeding;

IN TESTIMONY WHEREOF, I have hereunto placed my hand this 30th day of November, 2006.

Suzanne M. E. Sogard, CSR
TR Court Reporters
P.O. Box 1866
Ames, IA 50010
(515) 292-2339