NEW MEXICO ENVIRONMENT DEPARTMENT
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF PROPOSED DISCHARGE PERMIT 1132 FOR THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY AT THE LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO	)))))	**No. GWB-19-24(P)**

ENTRY OF APPEARANCES

Lindsay A. Lovejoy, Jr., and Jonathan M. Block hereby enter their appearances on behalf of Concerned Citizens for Nuclear Safety ("CCNS"), Honor Our Pueblo Existence, the New Mexico Acequia Association, and Tewa Women United, (collectively, "Citizens" herein) in this the above captioned matter

Respectfully submitted this 4th day of November, 2019:

BY: Lindsay A. Lovejoy, Jr.

Lindsay A. Lovejoy, Jr.
Attorney at law
3600 Cerrillos Road, Unit 1001A
Santa Fe, NM 87507
(505) 983-1800
lindsay@lindsaylovejoy.com

Jonathan M. Block, Eric D. Jantz,
Douglas Meiklejohn, Jaimie Park
New Mexico Environmental Law Center
1405 Luisa Street, Ste. 5, Santa Fe, NM 87505
(505) 629-4748
jblock@nmelc.org

Co-Counsel for Concerned Citizens for Nuclear Safety, H.O.P.E. (Honor Our Pueblo Existence), New Mexico Acequia Association and Tewa Women United

CERTIFICATE OF SERVICE

I, Jonathan M. Block, hereby certify that on this 4th day of November, 2019, I caused the foregoing *Entry of Appearances* to be served on the parties listed below by email and filing an original and one copy with the Administrator of Boards and Commissions.

Jonathan M. Block

Mr. Stuart R. Butzier and Ms. Christina C. Sheehan
Modrall Sperling Roehl Harris & Sisk, PA
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Co-Counsel for Triad National Security, LLC

Ms. Susan L. McMichael
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Los Alamos National Laboratory
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Counsel for U.S. Department of Energy/NNSA

Mr. John Verheul, Assistant General Counsel,
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Counsel for New Mexico Environment Department

NEW MEXICO ENVIRONMENT DEPARTMENT
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF PROPOSED DISCHARGE PERMIT 1132 FOR THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY AT THE LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO	)))))	**No. GWB-19-24(P)**

STATEMENT OF INTENT TO PRESENT TECHNICAL TESTIMONY

Pursuant to 20.1.4.300 NMAC and the Scheduling Order issued in this matter on October 4, 2019, Concerned Citizens for Nuclear Safety ("CCNS"), Honor Our Pueblo Existence (H.O.P.E.), New Mexico Acequia Association, and Tewa Women United (collectively, "Citizens" herein) hereby enter an appearance in this proceeding in accordance with 20.1.4.300.B NMAC. Citizens are represented in this proceeding by Lindsay A. Lovejoy, Jr., assisted by Jonathan Block, Staff Attorney, New Mexico Environmental Law Center.

1. Citizens will offer at hearing, for approximately one hour, the direct testimony of Joni Arends, Esq., Executive Director of CCNS. Ms. Arends' testimony is in opposition to granting DP-1132.

2. The business address of CCNS is P. O. Box 31147, Santa Fe, NM 87594-1147.

3. Ms. Arends's educational background and experience are fully described in her resumé (Attachment 1) and her testimony (Attachment 4).

4. Citizens' exhibits are comprised of architectural drawings of the RLWTF project which were obtained from Mr. Andrew Romero of NMED Groundwater Quality Bureau. A list and copies of the exhibits are provided as Attachments 3 and 4.

5. Ms. Arends's opinions, the information supporting those opinions and the location of copies of the supporting documents are fully described in her testimony attached hereto. Ms. Arends's testimony also contains the basis of her opinions. Certain technical information upon which she relies is found, as indicated, in the Administrative Record. The following are the locations of other technical information upon which she relies:

(a) Robert H. Gilkeson, Registered Geologist, and Joni Arends, CCNS, seismic comments and reports may be accessed at:

http://nuclearactive.org/gilkeson/

(b) Robert H. Gilkeson Registered Geologist, and Joni Arends, CCNS, comments and reports for the *National Academy of Sciences Review of LANL Groundwater Plans and Practices Report* (2007) which may be accessed at: http://nuclearactive.org/gilkeson/ (scroll down to access)

6. Ms. Arends's testimony may be summarized as follows: Citizens oppose the issuance of DP-1132. The Radioactive Liquid Waste Treatment Facility ("RLWTF") manages hazardous waste and must be regulated by the Resource Conservation and Recovery Act and the New Mexico Hazardous Waste

Act. The history of construction and operation of Los Alamos National Laboratory's shows that the Applicants, United States Department of Energy and Triad National Security, LLC, do not intend to discharge, within the meaning of the Water Quality Act, water contaminants which may move directly or indirectly into ground water from the RLWTF. Neither do they intend to discharge any pollutants within the meaning of the Clean Water Act. Further, regulation of the RLWTF under the Resource Conservation and Recovery Act and the New Mexico Hazardous Waste Act is significantly more protective than regulation under the New Mexico Water Quality Act, notably so with regard to regulation of tanks and seismic safety.

Respectfully submitted this 4th day of November, 2019:

BY: 

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(505) 983-1800
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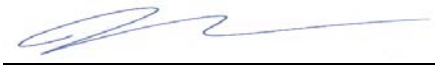

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Co-Counsel for Concerned Citizens for Nuclear Safety, H.O.P.E. (Honor Our Pueblo Existence), New Mexico Acequia Association and Tewa Women United

CERTIFICATE OF SERVICE

I, Jonathan M. Block, hereby certify that on this 4th day of November, 2019, I caused the foregoing *Notice of Intent* to be served on the parties listed below by email and filing an original and one copy with the Administrator of Boards and Commissions.

Jonathan M. Block

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Mr. John Verheul, Assistant General Counsel,
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Counsel for New Mexico Environment Department

Joni Arends

P. O. Box 31147
Santa Fe, NM 87594-1147
(505) 986-1973

Education

Vermont Law School, South Royalton, VT

Juris Doctor and Master of Studies in Environmental Law, May 1998.

- Leopold Schepp Foundation Scholar (character scholarship supporting education that will benefit the general welfare of humankind).
- Jonathon B. Chase Scholarship for Social Justice, internship, Summer 1997.

St. John's College, Santa Fe, NM

Bachelor of Liberal Arts, Great Books Program, May 1994.

Experience

Executive Director/Waste Programs Director, Concerned Citizens for Nuclear Safety (CCNS), Santa Fe, NM, August 1998 to present

- Participating in permitting processes for Los Alamos National Laboratory (LANL) and Waste Isolation Pilot Plant (WIPP), including public hearings.
- Conducting citizen sampling of the springs and biota below LANL along the Rio Grande through the *Rio Grande Watershed Initiative.*
- Bringing attention to problems with, and seeking solutions for, LANL groundwater protection practices and seismic issues on the Pajarito Plateau with Robert H. Gilkeson, an independent Registered Geologist and LANL whistleblower.
- Auditing radioactive emissions from LANL under the federal Clean Air Act citizens' suit CCNS v. Department of Energy (DOE) (D.N.M. 94-1039 M) Consent Decree.
- Monitoring and effecting decision making about radioactive wastes, environmental emissions and transportation issues focusing on DOE sites in New Mexico, including LANL, WIPP, and proposed Holtec and Waste Control Specialists sites for consolidated interim storage facilities for high-level radioactive wastes.
- Providing public outreach, education and legislative review, participating in both local and national organizing efforts focusing on environmental protection, public health, implementing the precautionary principle and networking.
- Fulfilling organizational management duties, including supervising student interns and overseeing communication between the Board of Directors and staff.

Legal Internships

- Nuclear Litigation Section**,** Natural Resources Defense Council, Washington, DC, Spring 1998

  Performed legal research for complex federal court cases about DOE compliance with environmental regulations at nuclear facilities across the United States.

- American Environmental Health Studies Project, Inc., Knoxville, TN, Summer 1997

  Researched legal and health issues for litigation concerning DOE workers and whistleblowers and DOE's proposal to recycle radioactive scrap metal.

Co-Founder and Outreach Director

- Concerned Citizens for Nuclear Safety, Santa Fe, NM, 1988-1992

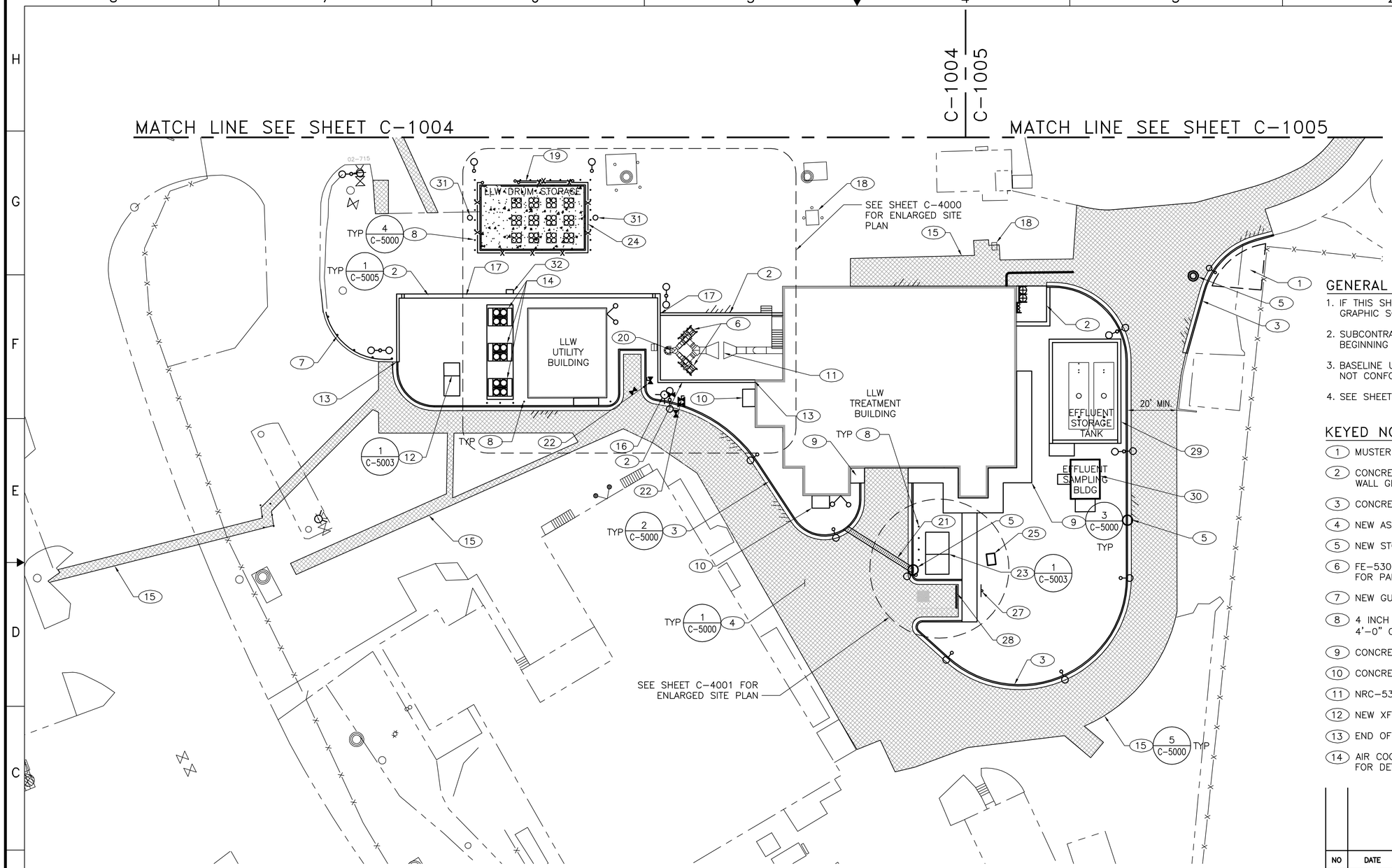
Memberships

- Member, State Bar of New Mexico, May 2000.

CITIZENS' EXHIBIT LIST

Citizens' exhibits are comprised of architectural drawings of the RLWTF project which were obtained from Mr. Andre Romero of NMED Groundwater Bureau. The exhibits are listed and described as follows:

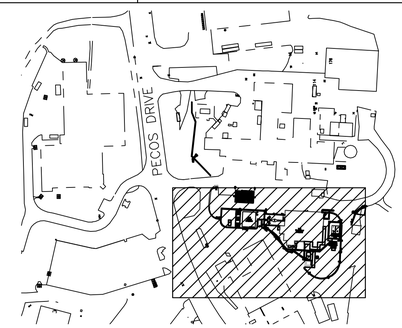
Ex. 1-1	RLWTF Low Level Waste Subproject - Site Plan.
Ex. 2-1	Floor plan of LLW main building
Ex. 2-2	Floor plan of LLW North
Ex. 2-3	Floor plan of LLW South
Ex. 3-1	Process plan North
Ex. 4-1	Process Section North Left
Ex. 4.2	Process Section North Righ
Ex. 4-3	Process Section South Left
Ex. 4-4	Process Section South Right
Ex. 4-5	Process Section East Left
Ex. 4-6	Process Section East Right
Ex. 4-7	Process Section West Left
Ex. 4-8	Process Section West Right
Ex. 4-9	Process Sections
Ex. 4-10	Process Sections



SITE PLAN

20' 10' 0 10' 20'

1"=20'-0"



KEY PLAN

SCALE: NONE

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"X 36" THEN IT IS A REDUCED PLOT. USE GRAPHIC SCALE ACCORDINGLY.
2. SUBCONTRACTOR SHALL FIELD VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
3. BASELINE UTILITY DRAWINGS ARE ORIGINALS FROM LANL UMAP AND DO NOT CONFORM TO LANL DRAFTING STANDARDS MANUAL.
4. SEE SHEETS C-1018 THROUGH C-1022 FOR LAYOUT INFORMATION.

KEYED NOTES

(1) MUSTER AREA LOCATIONS.

(2) CONCRETE RETAINING WALL, SEE SHEETS C-1018 AND C-1019 FOR WALL GEOMETRY.

(3) CONCRETE CURB AND GUTTER.

(4) NEW ASPHALT PAVING.

(5) NEW STORM DRAIN MANHOLE.

(6) FE-5309 AND FE-5310, WITH CONCRETE PAD, REFER TO STRUCTURAL FOR PAD DETAILS.

(7) NEW GUARDRAIL AND POSTS.

(8) 4 INCH CONCRETE FILLED PIPE BOLLARDS (29 TOTAL) SPACED AT 4'-0" O.C.

(9) CONCRETE SIDEWALK.

(10) CONCRETE STOOP, SEE DETAIL 4 ON SHEET C-5007.

(11) NRC-5319A&B AND NRC-5320A&B WITH CONCRETE PAD.

(12) NEW XFMR-B CONCRETE TRANSFORMER PAD.

(13) END OF CONCRETE RETAINING WALL.

(14) AIR COOLED CHILLERS ON CONCRETE PADS, REFER TO STRUCTURAL FOR DETAILS.

KEYED NOTES CONT.

(31) LIGHTNING PROTECTION MAST FOR DRUM STORAGE, SEE SHEET E-1003 FOR LOCATION.

(32) PULL BOX FOR TRANSITION OF TELECOMMUNICATIONS ENTRANCE CONDUIT FROM BELOW GRADE TO ABOVE GRADE.

KEYED NOTES CONT.

(25) NEW STORM DRAIN DROP INLET.

(26) NEW STORM DRAIN CURB INLET.

(27) NEW SIGN "HANDICAP PARKING ONLY".

(28) CONCRETE CAR STOP.

(29) CONCRETE EFFLUENT TANK CONTAINMENT, SEE SHEET C-1018 FOR COORDINATE INFORMATION.

(30) MASONRY EFFLUENT SAMPLE BUILDING, SEE SHEET C-1018 FOR COORDINATE INFORMATION.

KEYED NOTES CONT.

(15) EDGE OF NEW ASPHALT PAVEMENT ABUTTING EXISTING PAVEMENT.

(16) NEW FIRE HYDRANT, SEE DETAIL 5 ON SHEET C-5001.

(17) GUARD RAILS TO BE INSTALLED ON ALL RETAINING WALLS UNLESS OTHERWISE NOTED.

(18) EXISTING F.O. BOX TO REMAIN.

(19) 15'-0" GATE SHOWN IN THE OPEN POSITION, WITH 7'-6" COUNTER BALANCE. SEE DETAILS 1 AND 2 ON SHEET C55866-C-5300.

(20) EXHAUST STACK.

(21) UNDERGROUND STORM DRAINAGE CULVERT.

(22) NEW PIV, SEE DETAIL 4 ON SHEET C-5001.

(23) NEW XFMR-A TRANSFORMER PAD.

(24) NEW CHAINLINK FENCE. SEE DETAIL 1 ON SHEET C55866-C-5300.

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

SITE PLAN

BLDG. 230 TA-50

DRAWN	C. MORGAN
DESIGN	C. MORGAN
CHECKED	M. TARIN
DATE	5/6/14

SUBMITTED: MANNY TARIN

APPROVED FOR RELEASE: ED ARTIGLIA

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545

SHEET C-1003

10 OF 434

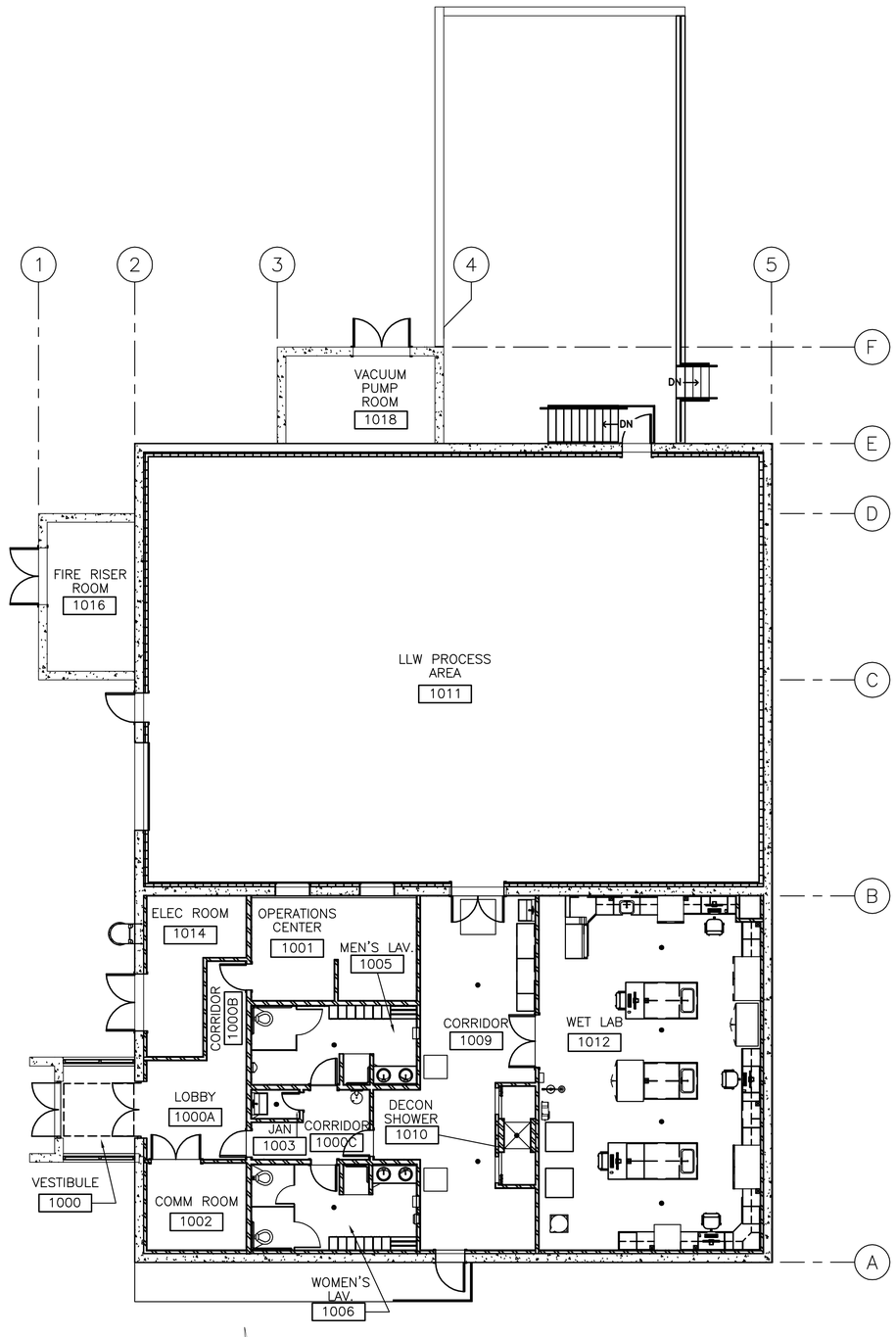
CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

MANUEL TARIN III NEW MEXICO 18741 PROFESSIONAL ENGINEER 5/7/2014

File Location: P:_TECHNOLOGY\60239831 - RLWTF\500 CAD\502 CAD DIRECTORY\AECOM\LLW FACILITY\C\SHEET\55864-C-1003-R0.DWG
Plotted By: BROERMAN, DARLENE; Plot Date: Tuesday, May 06, 2014

18138



FLOOR PLAN OF RECORD

4' 2' 0 4' 8' 12'

1/8"=1'-0"

GENERAL NOTES

1. IF THIS SHEET IS NOT 24" X 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.
2. GROSS MEASURED AREA SHALL MEAN THE TOTAL AREA OF A BUILDING ENCLOSED BY THE DOMINANT PORTION, EXCLUDING PARKING AREAS AND LOADING DOCKS (OR PORTION OF SAME) OUTSIDE THE BUILDING. CALCULATED ON A FLOOR BY FLOOR BASIS.
3. GROSS BUILDING AREA SHALL MEAN THE TOTAL CONSTRUCTED AREA OF A BUILDING.

ROOM NAME	ROOM NUMBER	ROOM AREA
VESTIBULE	1000	82 SF
LOBBY	1000A	128 SF
CORRIDOR	1000B	54 SF
CORRIDOR	1000C	86 SF
OPERATIONS CENTER	1001	202 SF
COMM ROOM	1002	113 SF
JANITORS CLOSET	1003	19 SF
MEN'S LAV.	1005	180 SF
WOMEN'S LAV.	1006	182 SF
CORRIDOR	1009	523 SF
DECON SHOWER	1010	47 SF
LLW PROCESS AREA	1011	3433 SF
WET LAB	1012	1013 SF
ELECTRICAL ROOM	1014	148 SF
FIRE RISER ROOM	1016	170 SF
VACUUM PUMP ROOM	1018	170 SF
TOTAL NET AREA		6,550 SF
TOTAL GROSS MEASURED AREA		6,682 SF
TOTAL GROSS BUILDING AREA		7,324 SF

"PRIORITY DRAWING"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

FLOOR PLAN OF RECORD

BLDG. 230 TA-50

DRAWN	T. VLIET
DESIGN	T. LEACH
CHECKED	R. KASELOW
DATE	5/6/14

SUBMITTED MANNY TARIN

APPROVED FOR RELEASE ED ARTIGLIA

STATE OF NEW MEXICO Richard W. Kaselow 5-14-2014 NO. 2648 REGISTERED ARCHITECT

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545

SHEET A-1001

92 OF 434

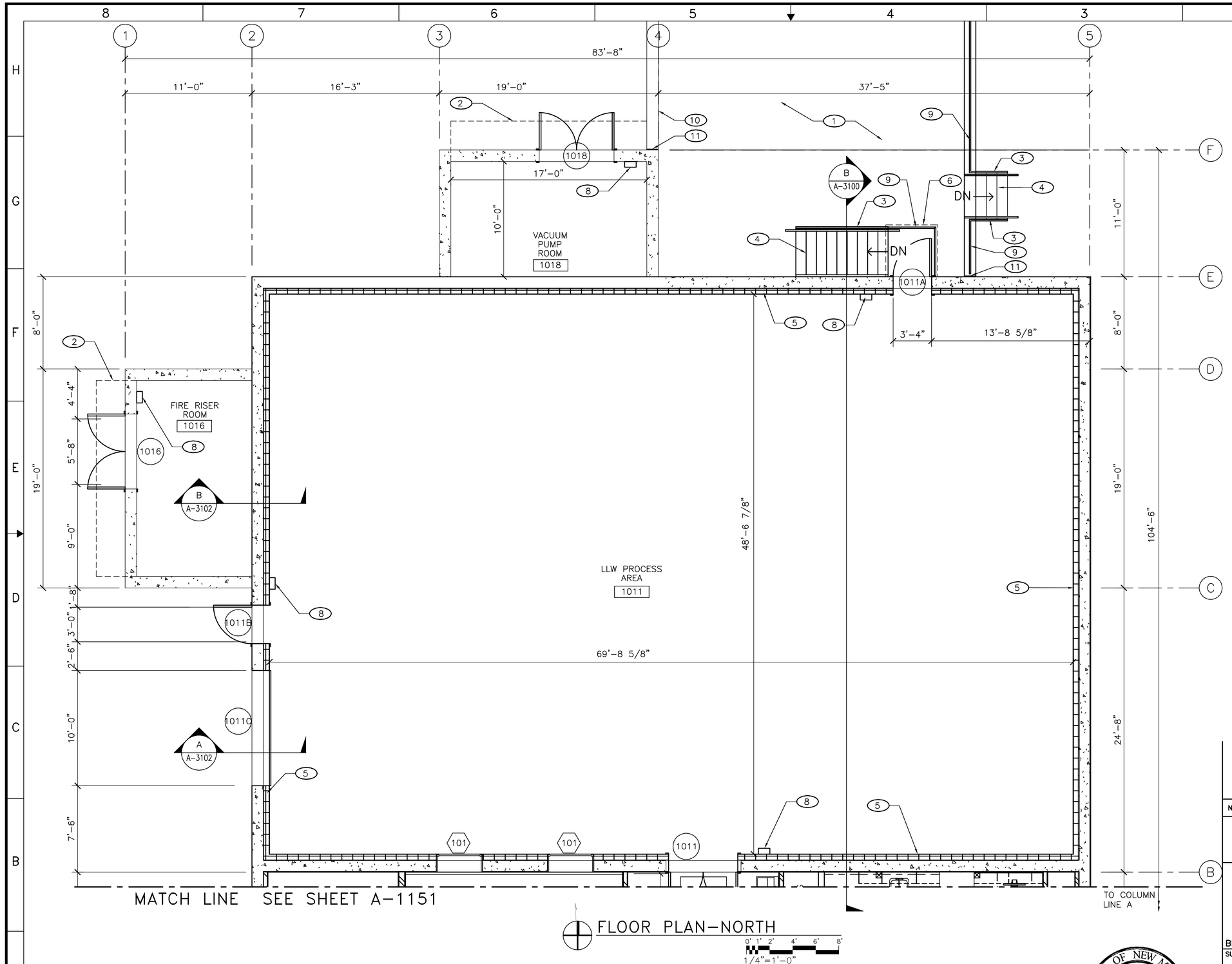
CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761

DRAWING NO C55864

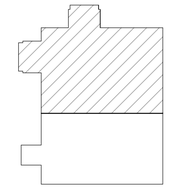
REV 0

18139



FLOOR PLAN–NORTH

0' 1' 2' 4' 6' 8'
1/4"=1'-0"



KEY PLAN
SCALE: NONE

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.
2. PROVIDE AND INSTALL ALL SYSTEMS SHOWN UNLESS NOTED OTHERWISE.

KEYED NOTES

1. EXHAUST STACK AND HEAT RECOVERY PAD
2. LINE OF ROOF OVERHANG ABOVE
3. 42" HIGH STEEL GUARD RAIL AND 36" HAND RAIL
4. STEEL STAIR
5. 6" INSULATED METAL PANEL SYSTEM
6. AWNING ABOVE
7. NOT USED
8. FIRE EXTINGUISHER CABINET
9. 42" HIGH STEEL GUARD RAIL
10. RETAINING WALL TO EXTEND A MINIMUM OF 42" ABOVE HIGH SIDE ADJACENT FINISHED GRADE FOR FALL PROTECTION.
11. EXPANSION JOINT BETWEEN RETAINING WALL AND BUILDING

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

ACOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

FLOOR PLAN–NORTH

BLDG. 230 TA–50

DRAWN	T.VLIET
DESIGN	T. LEACH
CHECKED	R. KASELOW
DATE	5/6/14

SUBMITTED
MANNY TARIN

APPROVED FOR RELEASE
ED ARTIGLIA

STATE OF NEW MEXICO
Richard W. Kaselow
5-14-2014
NO. 2648
REGISTERED ARCHITECT

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET A–1150
96 OF 434

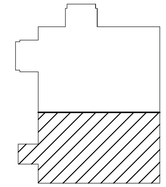
CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

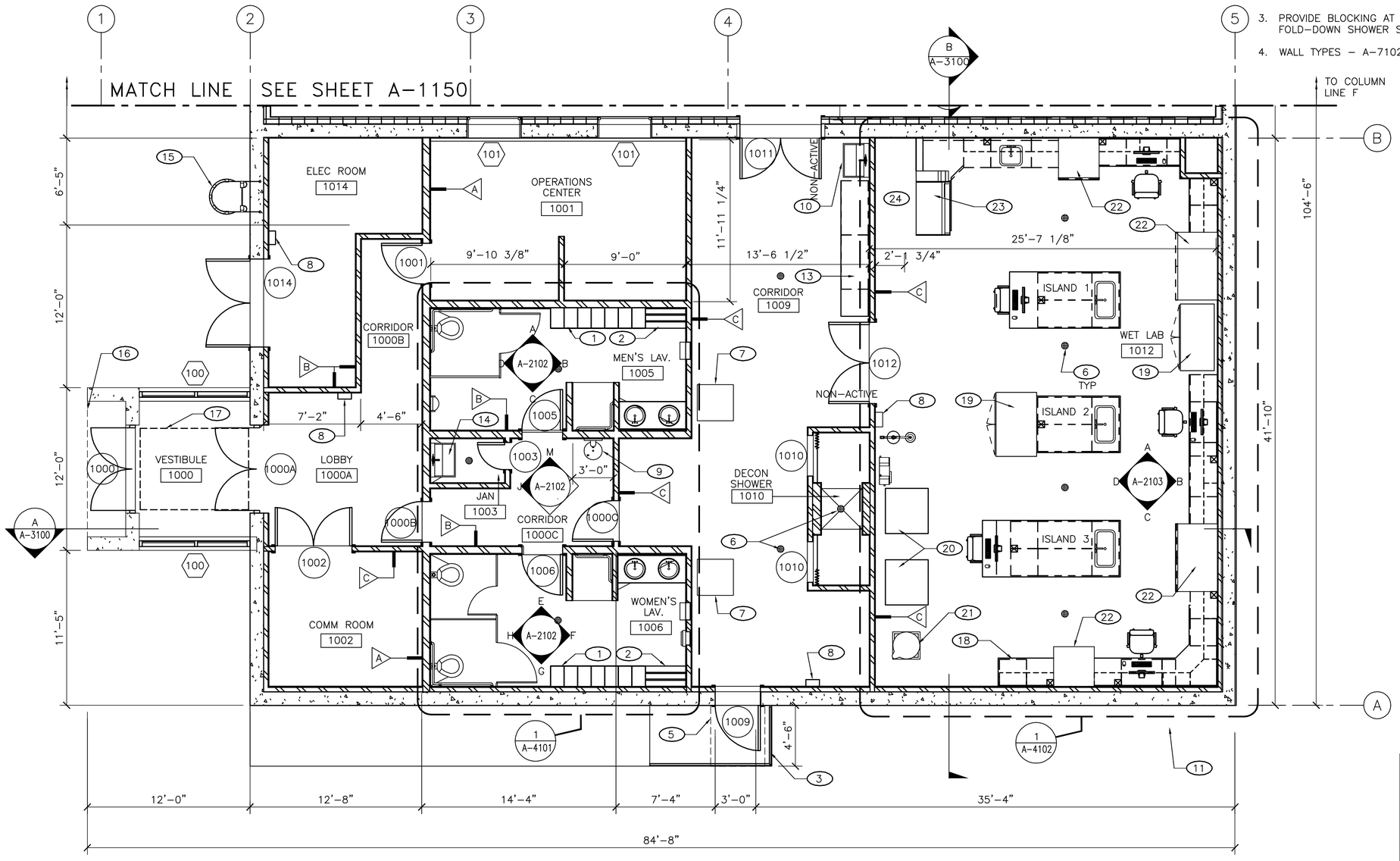
18140

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.
2. PROVIDE AND INSTALL ALL SYSTEMS SHOWN UNLESS NOTED OTHERWISE.
3. PROVIDE BLOCKING AT GRAB BAR, TOILET ACCESSORIES, FOLD–DOWN SHOWER SEAT, AND TOILET PARTITIONS.
4. WALL TYPES – A–7102



KEY PLAN
SCALE: NONE



KEYED NOTES

1. LOCKERS
2. BENCH
3. 42" STEEL GUARD RAIL
4. NOT USED
5. AWNING ABOVE
6. FLOOR DRAIN (TYPICAL)
7. PCM DEVICE
8. FIRE EXTINGUISHER CABINET
9. ELECTRIC WATER COOLER
10. SERVICE SINK
11. ARGON TANKS IN THIS AREA – SEE MECHANICAL
12. NOT USED
13. STORAGE CABINET
14. MOP SINK
15. ROOF ACCESS LADDER
16. ROOF OVERHANG ABOVE
17. 6'X8' RECESSED FLOOR MAT
18. SPECTROPHOTOMETER (GFE)
19. REFRIGERATOR (GFE)
20. LIQUID SCINTILLATION COUNTER (GFE)
21. GAMMA RAY SHIELD (GFE)
22. FUME HOOD
23. MASS SPECTROMETER (GFE)
24. REVERSE OSMOSIS UNIT (GFE)

FLOOR PLAN–SOUTH

0' 1' 2' 4' 6' 8'
1/4"=1'–0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

FLOOR PLAN–SOUTH

DRAWN	T.VLIET
DESIGN	T. LEACH
CHECKED	R. KASELOW
DATE	5/6/14

BLDG. 230 TA–50

SUBMITTED MANNY TARIN

APPROVED FOR RELEASE ED ARTIGLIA

STATE OF NEW MEXICO
Richard W. Kaselow
5-14-2014
NO. 2648
REGISTERED ARCHITECT

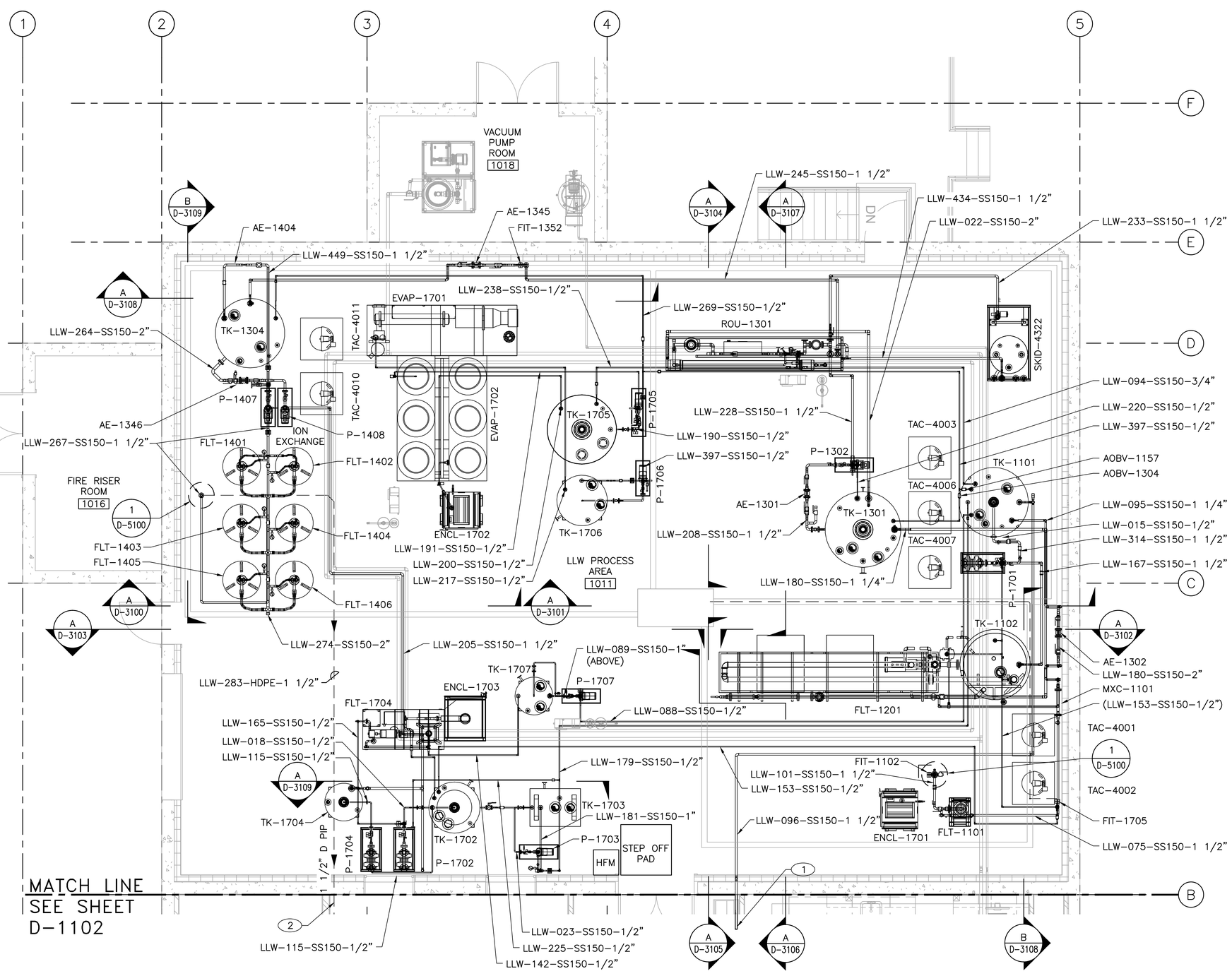
Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET A–1151
97 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761
DRAWING NO C55864
REV 0

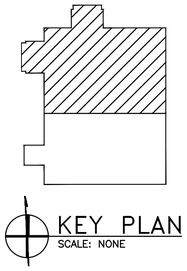
18141



PROCESS PLAN – NORTH

0' 1' 2' 4' 6' 8'

1/4"=1'–0"



KEY PLAN
SCALE: NONE

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.
2. ELEVATION 100'–0" CORRESPONDS TO LLW TREATMENT BUILDING 230 MEAN SEA LEVEL ELEVATION OF 7265.00 FEET.

KEYED NOTES

(1) SEE SHEET P–1107 FOR PIPE LLW–096–SS150–1 1/2" ROUTE TO WET SUMP IN CORRIDOR.

(2) LLW–283–HDPE–1 1/2" IS PIP ROUTED TO EFFLUENT STORAGE AREA.

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS
PLAN – NORTH

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	R ROGERS
DATE	5/6/14

BLDG. 230 TA–50

SUBMITTED: MANNY TARIN

APPROVED FOR RELEASE: ED ARTIGLIA

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET D–1101
206 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

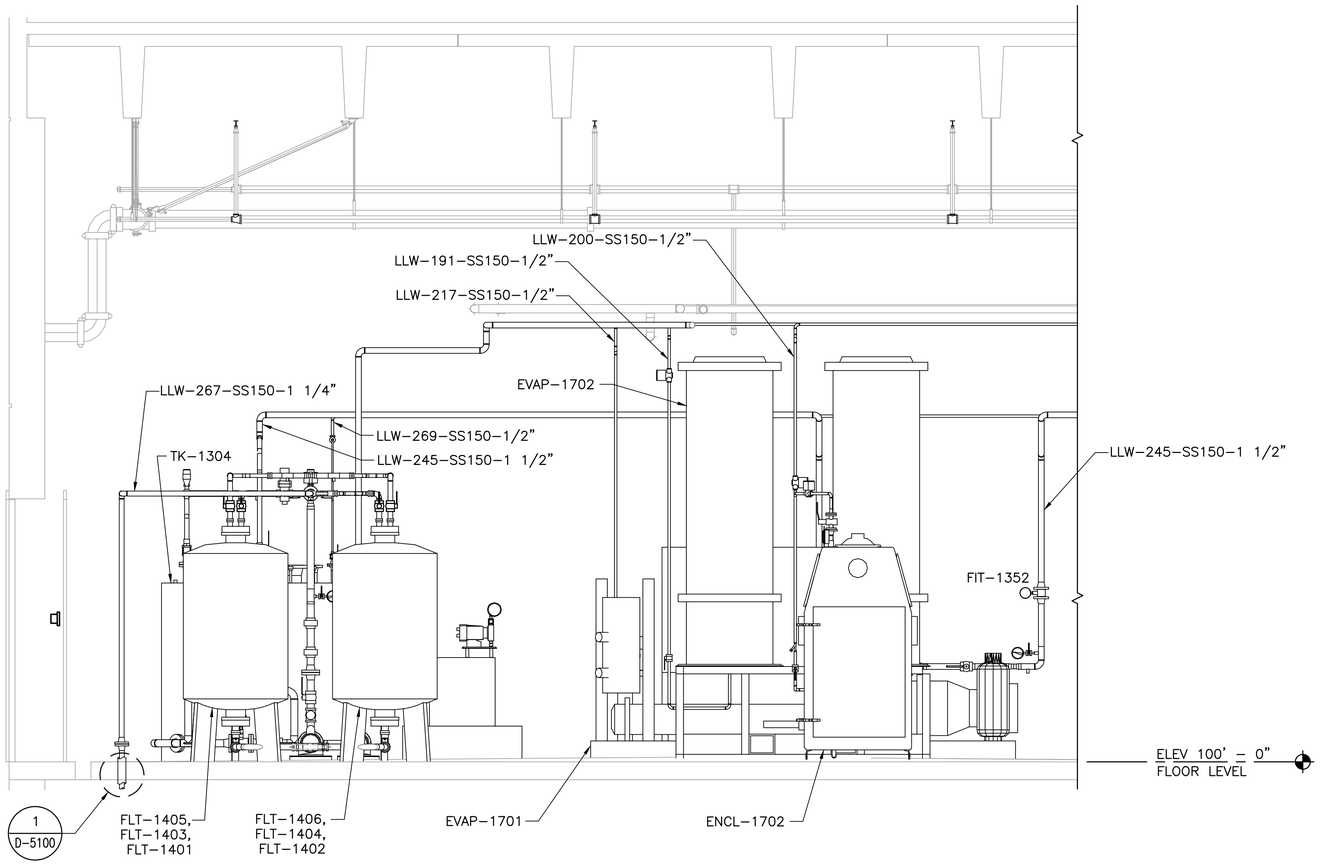
M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER
5/15/14

18142

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-1101-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A / D–1101 PROCESS SECTION

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1/2"=1'–0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION – NORTH

BLDG. 230 TA–50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED MANNY TARIN

APPROVED FOR RELEASE ED ARTIGLIA

Los Alamos NATIONAL LABORATORY P0 Box 1663 Los Alamos, New Mexico 87545

SHEET D–3100

208 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

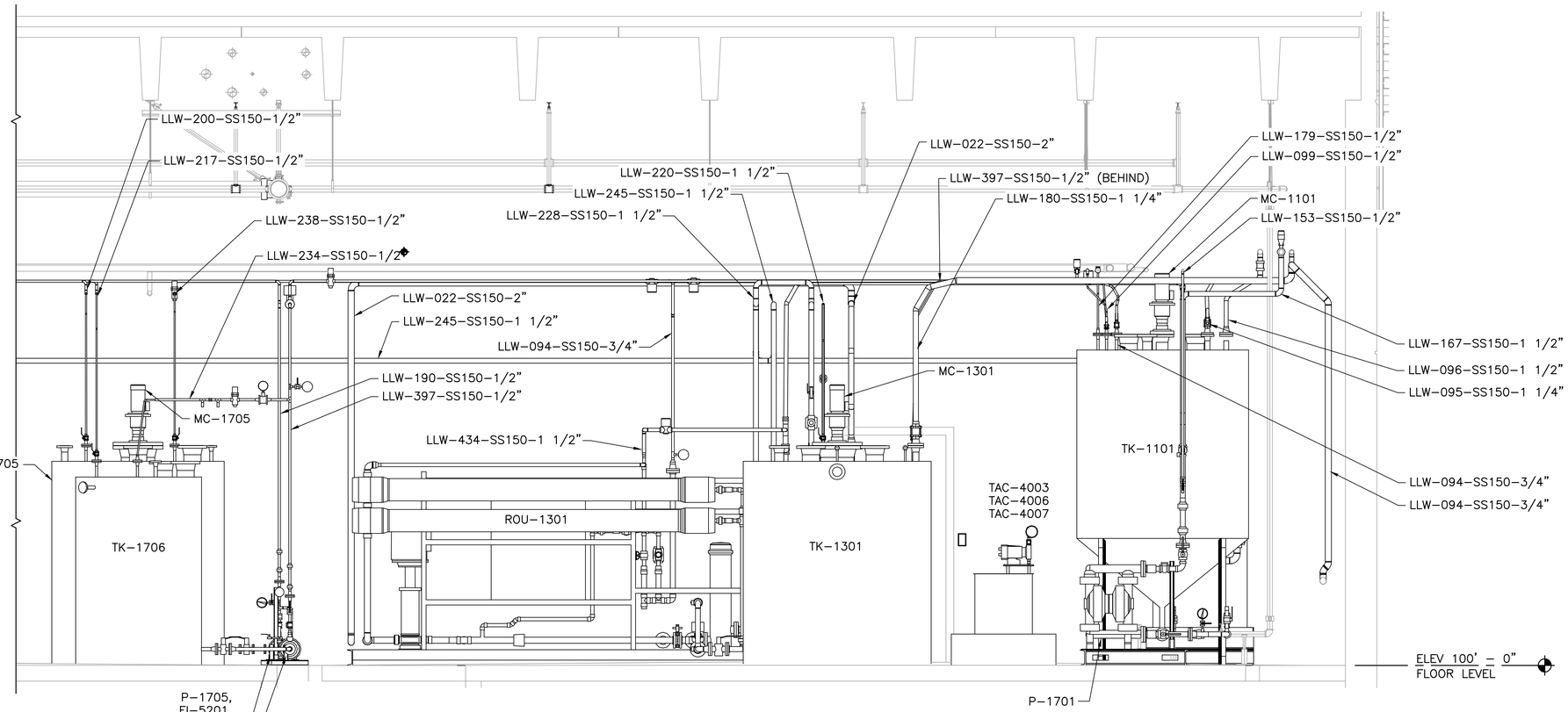
M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER

5/13/14

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3100-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A D-1101 PROCESS SECTION

1' 6" 0 1' 2' 3'
1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION – NORTH

BLDG. 230 TA-50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED
MANNY TARIN

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SHEET D-3101
209 OF 434

CLASSIFICATION | REVIEWER | DATE

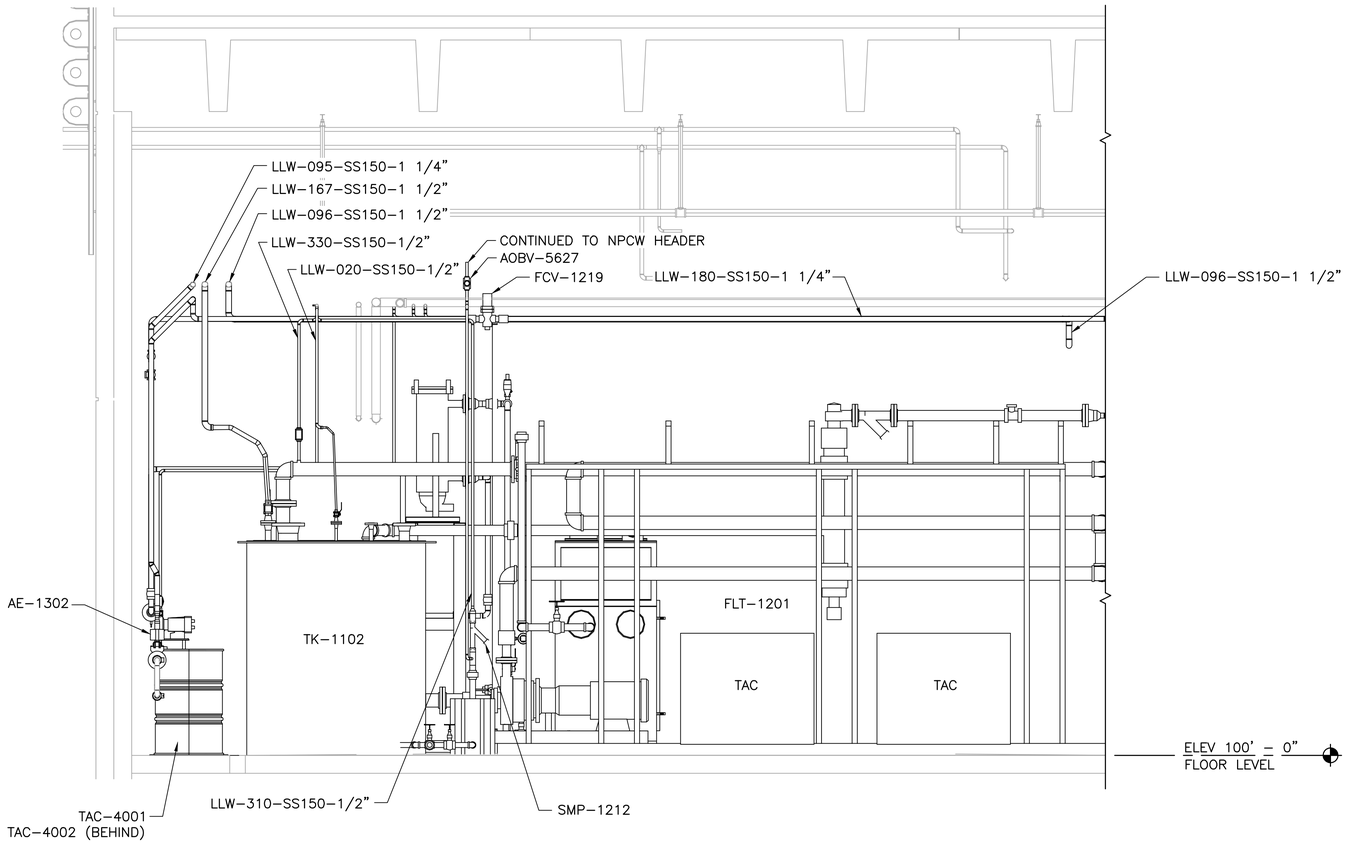
PROJECT ID 100761 | DRAWING NO C55864 | REV 0

18144

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3101-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A / D-1101 PROCESS SECTION

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1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION - SOUTH

BLDG. 230 TA-50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

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SHEET D-3102

210 OF 434

CLASSIFICATION | REVIEWER | DATE

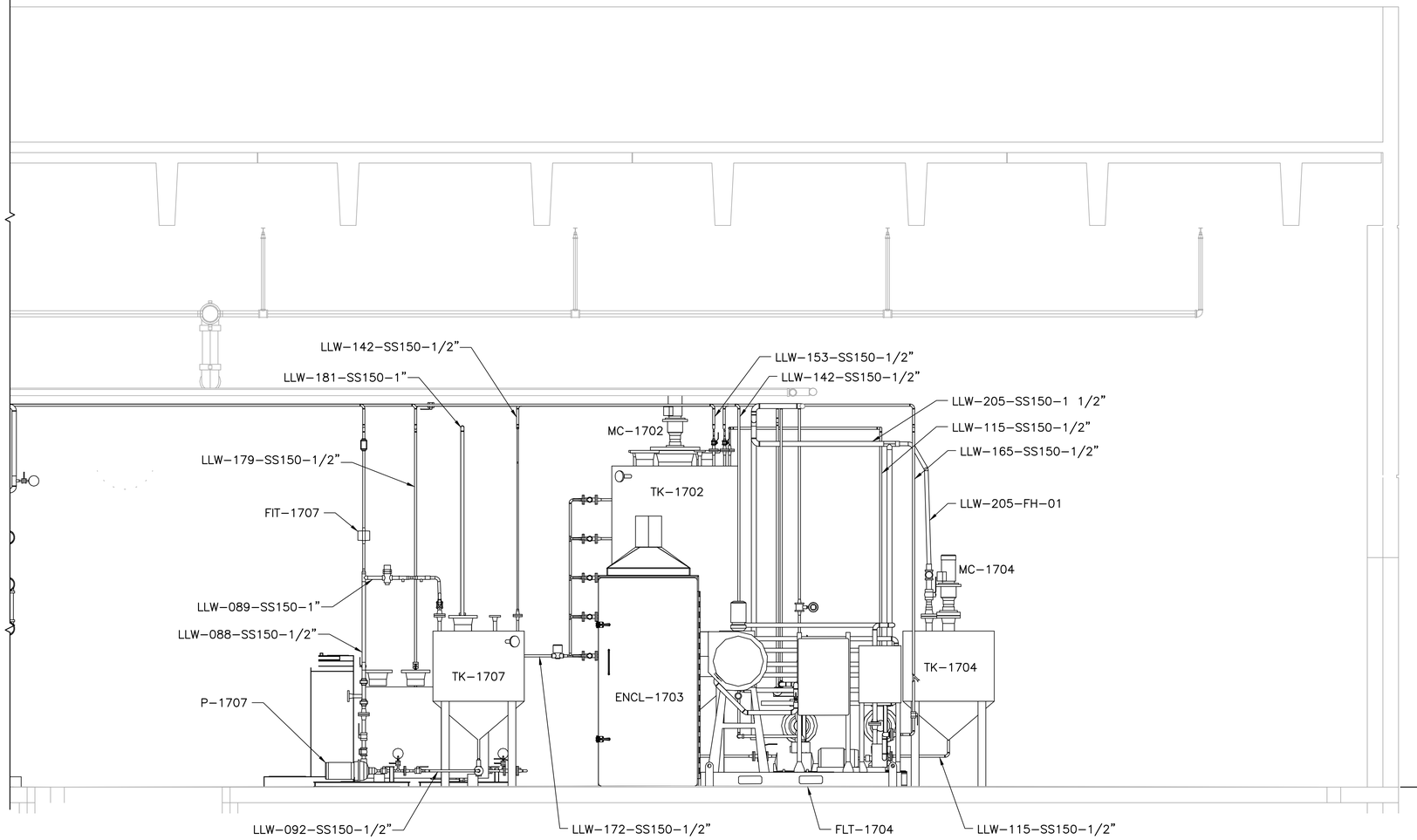
PROJECT ID 100761 | DRAWING NO C55864 | REV 0

M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER 5/15/14

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3102-R0.DWG
Plotted By: MOORE, STEPHEN Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A / D-1101 PROCESS SECTION

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1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION – SOUTH

BLDG. 230 TA–50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED MANNY TARIN

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SHEET D–3103

211 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

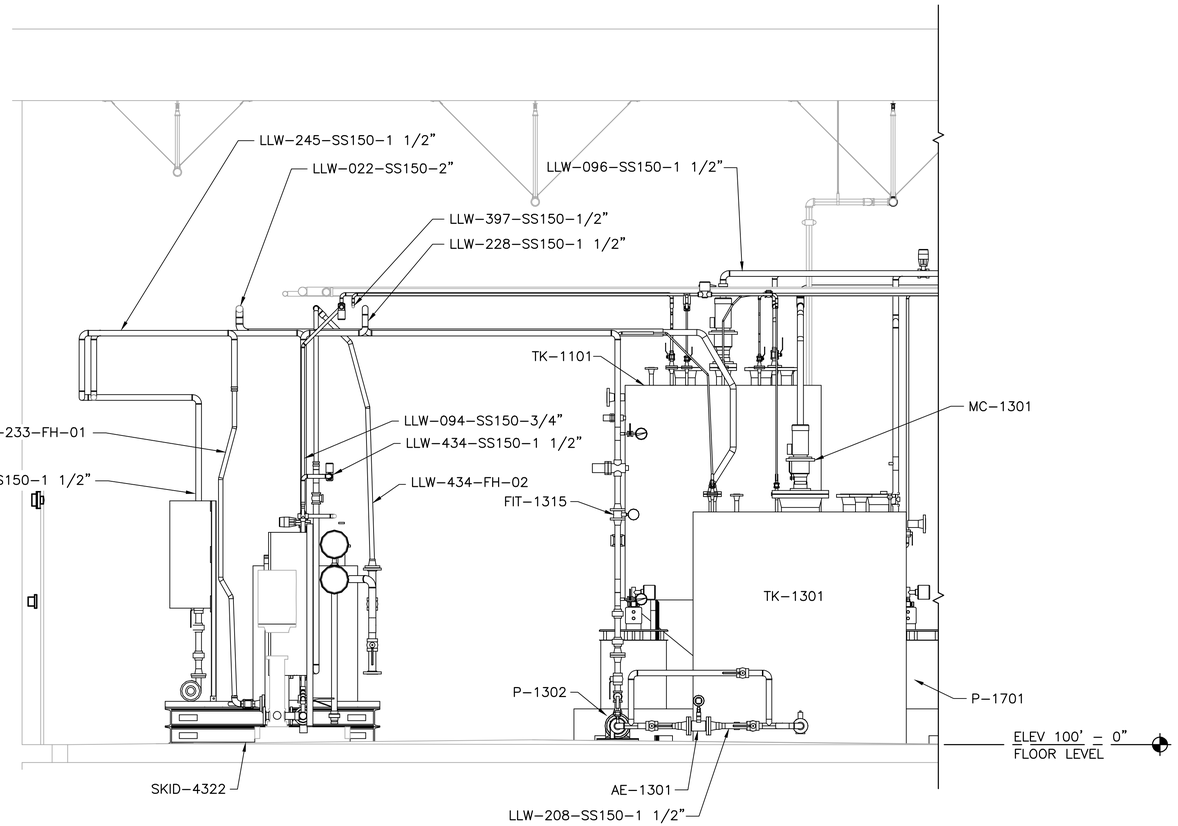
M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER 5/15/14

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3103-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

18146

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A / D-1101 PROCESS SECTION

1' 6" 0 1' 2' 3'

1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION - EAST

BLDG. 230 TA-50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED MANNY TARIN

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SHEET D-3104

212 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER

5/13/14

18147

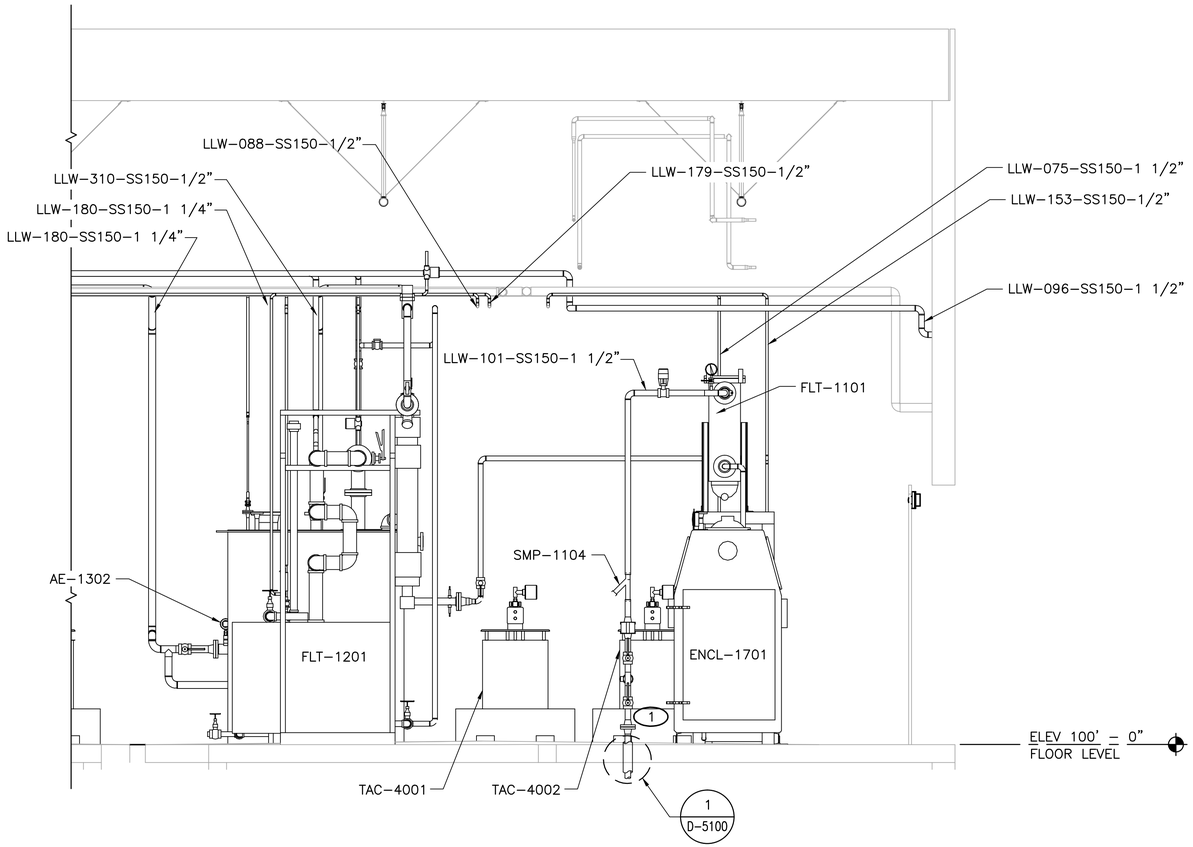
File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3104-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.

KEYED NOTES

(1) FLOOR PENETRATION TRANSITION FROM HDPE PIPE-IN-PIPE TO LLW-101-SS150-1 1/2".



A D-1101 PROCESS SECTION

1' 6" 0 1' 2' 3'

1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION - EAST

BLDG. 230 TA-50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

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SHEET D-3105

213 OF 434

CLASSIFICATION | REVIEWER | DATE

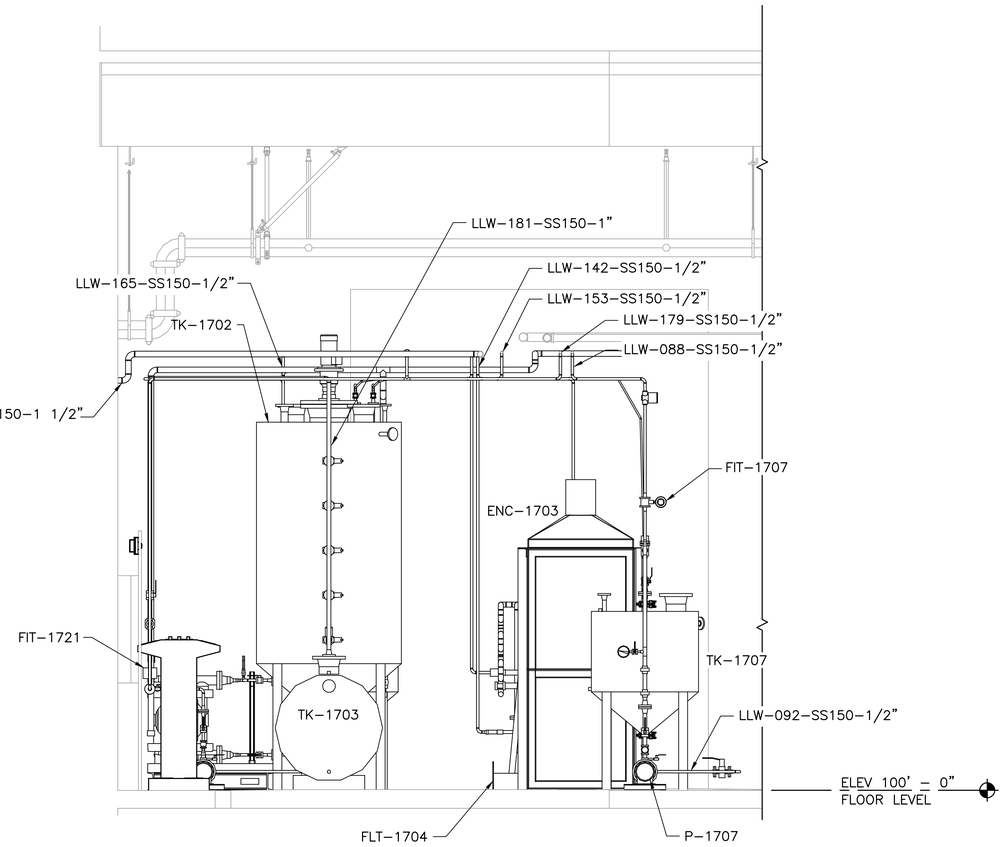
PROJECT ID	DRAWING NO	REV
100761	C55864	0

18148

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3105-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A D-1101 PROCESS SECTION

1' 6" 0 1' 2' 3'

1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF-UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION - WEST

BLDG. 230 TA-50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED
MANNY TARIN

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5/15/14

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SHEET D-3106
214 OF 434

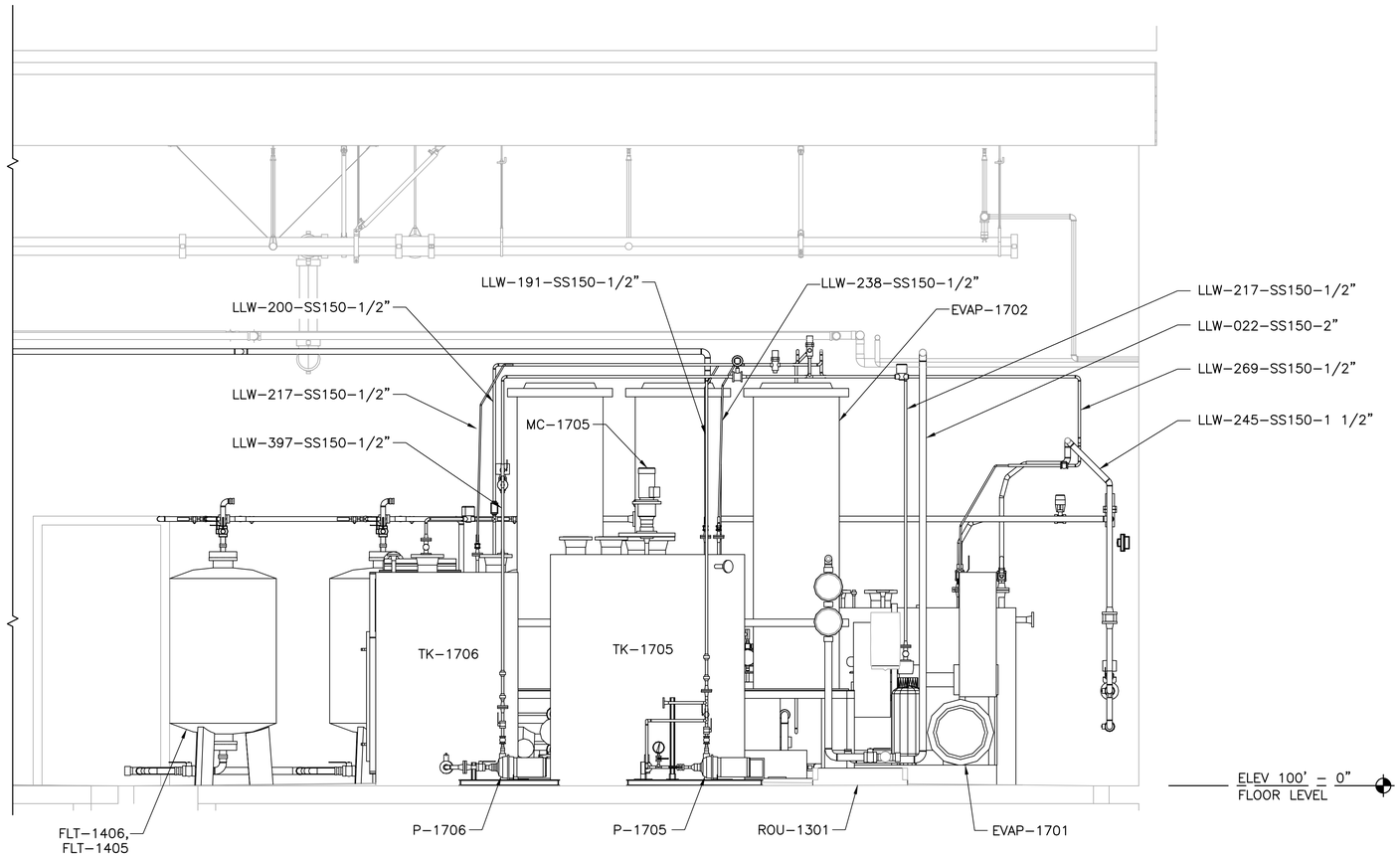
CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

File Location: P:\RLWTF LOW-LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864-D-3106-R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A / D-1101 PROCESS SECTION

1' 6" 0 1' 2' 3'

1/2"=1'-0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTION – WEST

BLDG. 230 TA–50

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

SUBMITTED
MANNY TARIN

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M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER 5/15/14

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Los Alamos, New Mexico 87545

SHEET D–3107

215 OF 434

CLASSIFICATION | REVIEWER | DATE

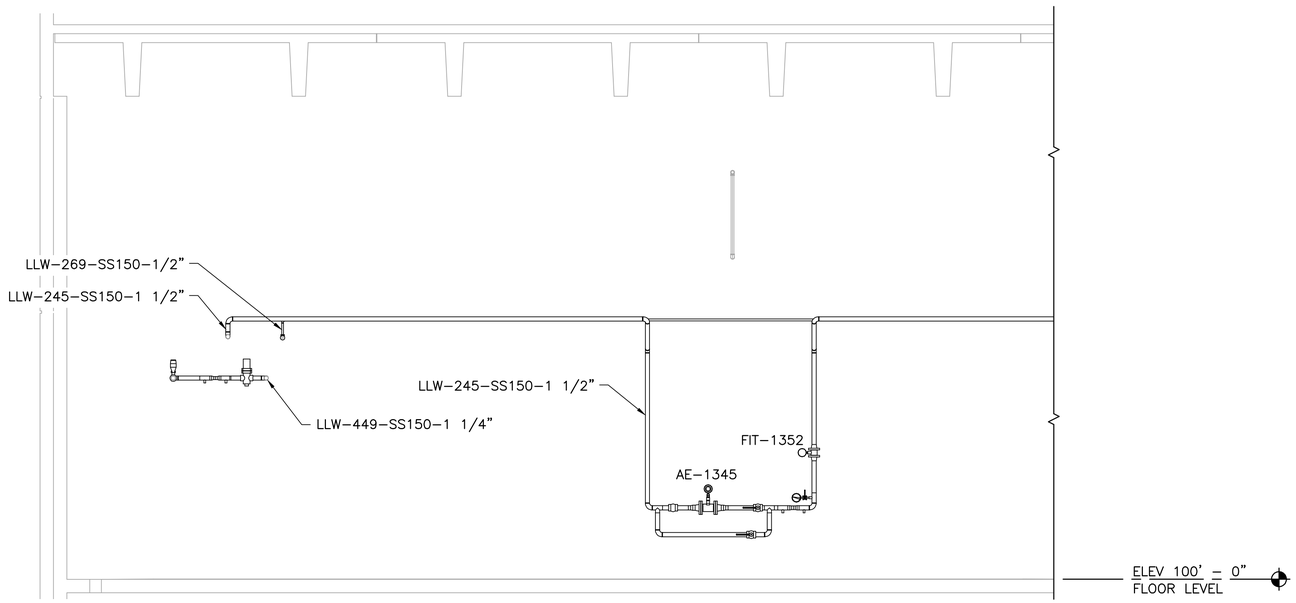
PROJECT ID 100761 | DRAWING NO C55864 | REV 0

18150

File Location: P:\RLWTF LOW–LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864–D–3107–R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.



A D–1101 PROCESS SECTION

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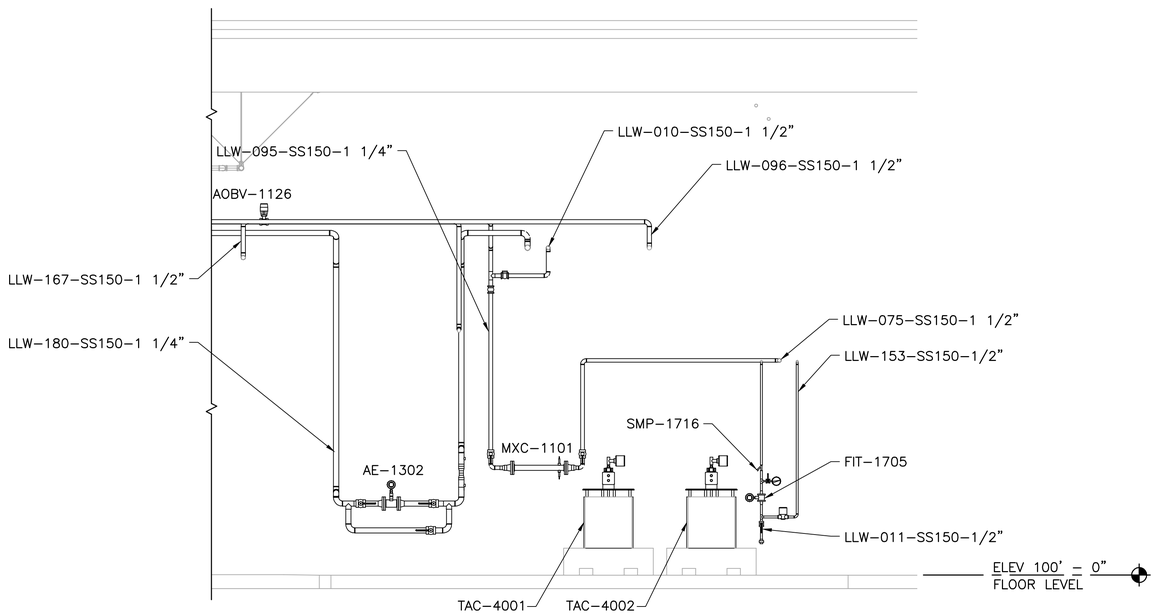
3/8"=1'–0"



B D–1101 PROCESS SECTION

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3/8"=1'–0"

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTIONS

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

BLDG. 230 TA–50

SUBMITTED MANNY TARIN

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SHEET D–3108

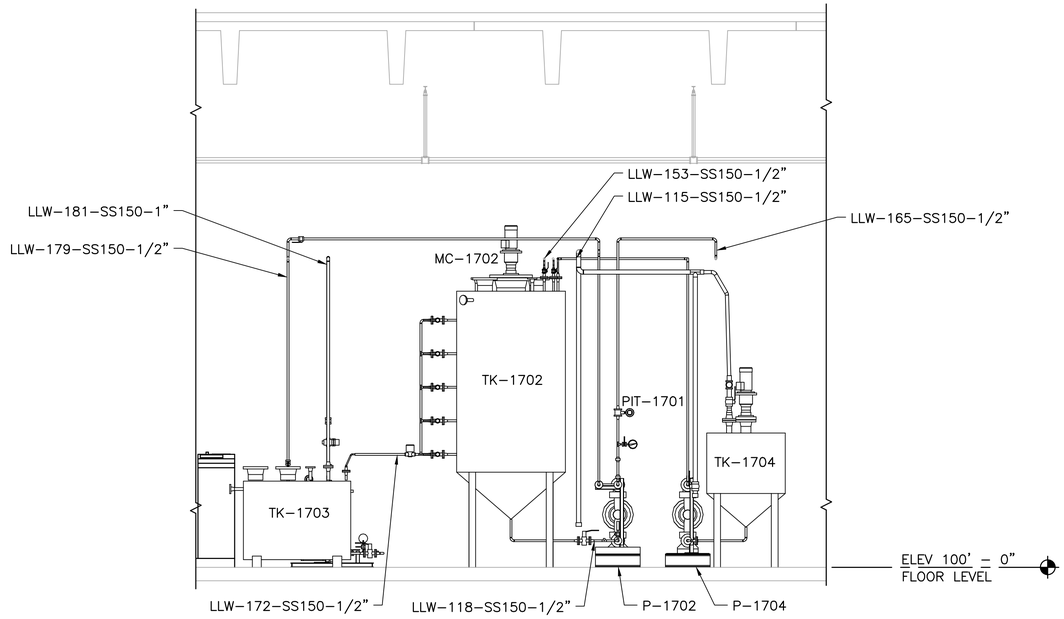
216 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

18151

File Location: P:\RLWTF LOW–LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864–D–3108–R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014



A / D–1101 PROCESS SECTION

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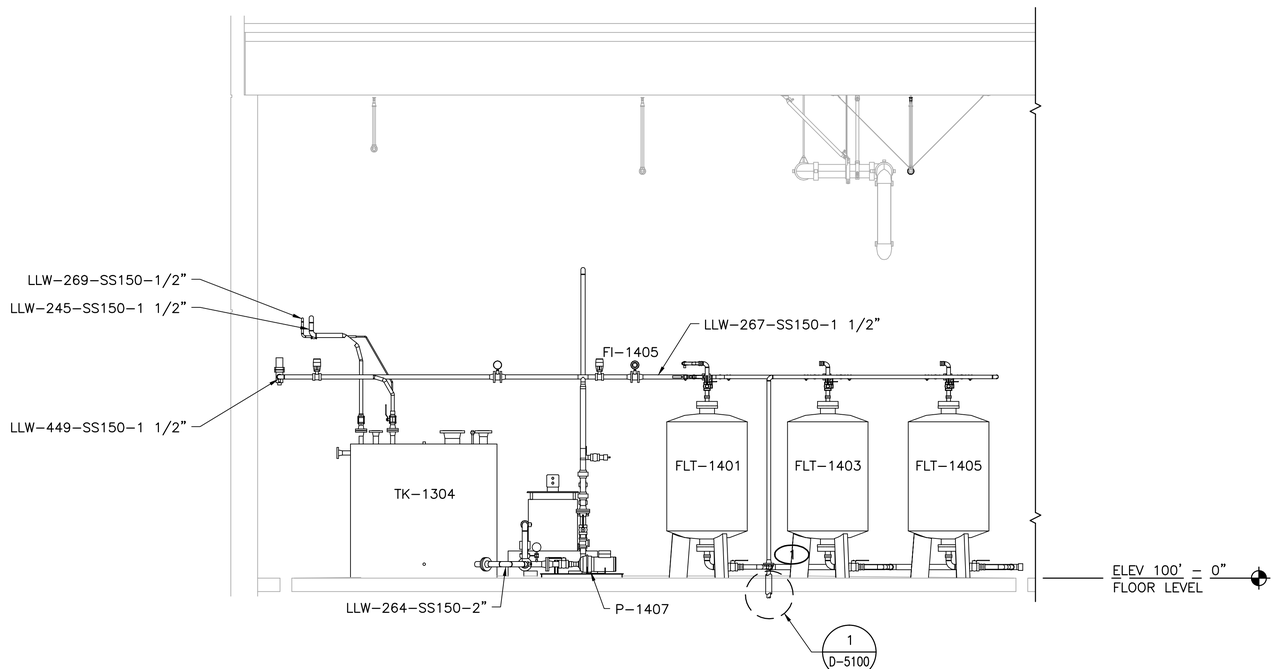
3/8"=1'–0"



B / D–1101 PROCESS SECTION

1' 0 1' 2' 3' 4'

3/8"=1'–0"

GENERAL NOTES

1. IF THIS SHEET IS NOT 24"x 36", THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.

KEYED NOTES

(1) FLOOR PENETRATION TRANSITION FROM HDPE PIPE–IN–PIPE TO LLW–267–SS150–1 1/2".

NO	DATE	CLASS REV	ADC	DESCRIPTION	DWN	DES	CHKD	SUB	APP

AECOM

RLWTF–UP LOW LEVEL WASTE SUBPROJECT

PROCESS SECTIONS

DRAWN	V DAVISON
DESIGN	S MOORE
CHECKED	E ROGERS
DATE	5/6/14

BLDG. 230 TA–50

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SHEET D–3109

217 OF 434

CLASSIFICATION | REVIEWER | DATE

PROJECT ID 100761 | DRAWING NO C55864 | REV 0

M. EVELYN ROGERS NEW MEXICO 22184 PROFESSIONAL ENGINEER 5/13/14

18152

File Location: P:\RLWTF LOW–LEVEL WASTE FACILITY\500 CAD\C55864 MAIN BUILDING\SHEETS\14 PROCESS\55864–D–3109–R0.DWG
Plotted By: MOORE, STEPHEN; Plot Date: Monday, May 05, 2014

NEW MEXICO ENVIRONMENT DEPARTMENT
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF PROPOSED DISCHARGE PERMIT 1132 FOR THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY AT THE LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO	)))))	No. GWB-19-24 (P)

CITIZENS' PRE-FILED TESTIMONY OF JONI ARENDS

I. INTRODUCTION.

My name is Joni Arends. I have been a resident of New Mexico since 1986. I reside in Santa Fe. I have been member of the Bar of the State of New Mexico since 2000.

In this proceeding, which concerns the New Mexico Environment Department's ("NMED") proposed draft discharge permit 1132 ("draft DP-1132"), I am testifying in opposition to the proposed permit on behalf of Concerned Citizens for Nuclear Safety ("CCNS"), Honor Our Pueblo Existence, New Mexico Acequia Association, and Tewa Women United.

A material fact in this permitting proceeding is whether the Applicants, the U.S. Department of Energy ("DOE") and Triad National Security, LLC (collectively, "Applicants") intend to discharge any water contaminants from Los Alamos National Laboratory's ("LANL's") Radioactive Liquid Waste Treatment

Facility ("RLWTF") in such a manner that they may move directly or indirectly into ground water, which last is defined as interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply. *See* Water Quality Act, NMSA 1978, §74-6-1 *et seq*. ("WQA"); NMSA 1978, § 74-6-5.A; 20.6.2.7.R, .Z NMAC. There is a similar question whether Applicants intend to discharge any pollutant, or combination of pollutants, within the meaning of the federal Clean Water Act, 33 U.S.C. § 1342, from the RLWTF.

History sheds light on the Applicants' intention in this regard and bears strongly upon the validity of their current application for a permit. The history is largely contained in documents written and maintained by DOE and its contractors.

I am testifying as an expert in the extended and highly technical history of LANL, the RLWTF and their construction and operation in the postwar period. The technical testimony I am presenting is within my competence as an archivist and historian of the facilities at LANL, particularly as they involve matters of environmental safety and public health.

My competence also includes my technical and regulatory experience based upon my participation on behalf of CCNS in state and federal permitting proceedings, commenting and, in a number of cases, litigating issues dealing with groundwater, surface water, seismic qualification of structures, opening burning

and detonation of hazardous waste, Clean Water Act National Pollution Discharge Elimination System permits, Clean Air Act Radionuclide National Emission Standards for Hazardous Air Pollutants, National Environmental Policy Act impact statements and evaluations, and use of the Freedom of Information Act. My work, as will be further detailed below, has also involved assisting CCNS's technical experts in developing their evaluations and analyses of issues raised in CCNS's permitting and related litigation work.

I co-founded CCNS in 1988 and have been involved in working at CCNS since then, except when attending educational institutions. Since 2004, I have served as Executive Director for CCNS. In that capacity I have maintained extensive records concerning operations, cleanup, remediation work, and permitting at LANL and directly participated in assembling technical comments and testimony for permit hearings, examining and cross-examining witnesses, and, as necessary, appealing decisions in both administrative and judicial fora.

My formal education is primarily legal: I received a Bachelor of Liberal Arts. from St. John's College, Santa Fe campus, in 1994. In 1998, I received a Juris Doctor degree and the degree of Master in the Study of Environmental Law ("MSEL") from Vermont Law School.

My education goes far beyond classroom studies. I have more than 30 years of firsthand environmental experience with the United States nuclear weapons

complex, operated now by the U.S. Department of Energy ("DOE"). In 1988, I joined with eleven others to found CCNS to address immediate community concerns about the proposed transportation of radioactive, toxic, and hazardous wastes from LANL to the Waste Isolation Pilot Plant ("WIPP") through Santa Fe. As CCNS's first Outreach Director, I expanded that local work to address the proposed transportation of radioactive waste across New Mexico, and then further, across the West. I drove the WIPP routes and met with Offices of Governors, professors at colleges and universities, the media, and people in small towns across the West to educate them about WIPP and the proposed transportation, to learn about their emergency response and hospital capabilities, and take that information forward to the next community.

During the ensuing 30 years, I have observed and sought to influence the operations of DOE, the National Nuclear Security Administration, and their contractors. In 1997, I was an intern with the American Environmental Health Studies Project, Inc. in Knoxville, Tennessee, studying workers who had become ill from exposure to radioactive, hazardous, and toxic substances from an incinerator. During my final semester at law school in 1998 I was an intern in the Nuclear Program at the Natural Resources Defense Council ("NRDC") in Washington, D.C. NRDC was then challenging the DOE's planning and environmental impact analysis for nuclear weapons stockpile stewardship and

management programs, and opposing proposals to recycle radioactive nickel and other metals in the DOE stockpile. I participated in those efforts.

After law school, I returned to CCNS as Waste Programs Director. I immediately engaged in the independent audits of LANL compliance with the Clean Air Act Radionuclide National Emission Standards for Hazardous Air Pollutants ("NESHAPs"). The audits were required by the settlement of a citizens' suit against DOE for violations of the Clean Air Act at LANL. I led the second and third audits with CCNS audit monitors, Arjun Makhijani, Ph.D., nuclear physicist, and Bernd Franke, health physicist. We inspected air emission stacks at key facilities, as well as monitoring equipment, data collection methodology, record-keeping, and reporting. I reviewed and provided comments about LANL's Standard Operating Procedures ("SOPs") for the Radionuclide NESHAPs program, many of which comments were incorporated in the next revision of the SOPs.

I have studied the history of the entire nuclear weapons complex, as set forth in DOE Inspector General Reports; Government Accountability Office reports; and Defense Nuclear Facilities Safety Board weekly, monthly, and special reports about LANL operations. I subscribe to LANL's Electronic Public Reading Room, which posts documents related to air, hazardous waste, and water permit requirements and deliverables. Frequently, I prepare comments on behalf of

CCNS about a draft permit, monitoring results, or sampling and analysis. I also participate in public information meetings, permit negotiations, and hearings.

Since 1999 I have represented CCNS in supporting the Los Alamos Historic Document Retrieval and Assessment ("LAHDRA") Project, funded by the Centers for Disease Control and Prevention. LAHDRA is a five-step effort to reconstruct the radiation doses that communities downwind and downstream of LANL were exposed to. LAHDRA has played a large part in preserving and presenting information about public health impacts from operations at LANL.

Since 1998, I have schooled myself in surface and ground water protection at LANL. Following the May 2000 Cerro Grande fire, which was then the largest wildfire in New Mexico history and burned over 7,000 acres on LANL property, CCNS held its "Fire, Water and the Aftermath: The Cerro Grande Fire and Its Effect on the Rio Grande Watershed" Conference in Santa Fe. Community concern was heighten due to the destruction of a vast area of mountain vegetation surrounding LANL which was predicted to cause flooding, erosion, and runoff that could transport nuclear and hazardous contaminants from burned LANL dumpsites into the Rio Grande/Bravo Watershed. The conference goal was to develop a long-range plan to protect the Rio Grande/Bravo Watershed.

Planning included learning firsthand about the watershed, such as by floating down the Rio Grande. CCNS organized a trip on the Rio Grande with outfitters

and technical experts, including hydrogeologist, George Rice, in which we visited the springs below LANL that discharge groundwater to the Rio Grande. CCNS developed a "Rio Grande Watershed Initiative" in order to capture its work to protect surface and ground water.

CCNS participated in NMED and DOE/LANL annual and semi-annual multi-day sampling trips on the Rio Grande, putting in at the Otowi Bridge or the Buckman Landing and taking out at Cochiti Dam. We observed the state and federal agencies collecting samples from the springs, sample preservation, and storage. We learned about the complex geology of the Pajarito Plateau. After participating in several of these trips, CCNS would lead the flotilla to the next spring to be sampled.

In 2002, the City of Santa Fe and Santa Fe County proposed the construction and operation of the Buckman Direct Diversion ("BDD") Project on the Rio Grande to divert San Juan-Chama water for treatment and distribution to residents. CCNS provided detailed comments on environmental impact statement scoping and, specifically, about the proposed location three miles downstream of where the Los Alamos/Pueblo Canyon system discharges Manhattan Project contaminants to the Rio Grande. CCNS also presented decision-makers with summarized data about LANL operations, pollutant pathways to the Rio Grande as evidenced by sampling data, and the need for a comprehensive clean-up plan for the 18 million

cubic feet of radioactive, hazardous and toxic wastes buried in unlined pits, trenches, and shafts on the Pajarito Plateau – three times the amount of waste destined for WIPP. The BDD project currently provides about 40% of the drinking water for city and county residents.

In 2003, I met Mr. Robert H. Gilkeson, an independent Registered Geologist and a LANL whistleblower, who instructed me on the groundwater pollution streams from LANL to the Rio Grande. Mr. Gilkeson and I co-wrote many papers about the need for regulatorily-compliant protection of groundwater, which were presented to the Defense Nuclear Facilities Safety Board, DOE Headquarters, local and Washington, DC congressional offices, state legislators and agencies, county and city elected officials, colleagues, and the media.

In 2005, the DOE asked the National Research Council of the National Academies for a review of their groundwater monitoring program at LANL. Mr. Gilkeson and I were involved in the review, gathering information and reports that DOE/NNSA had refused to provide to the Committee; and presenting them to the Committee. In the 2007 final report, entitled *Plans and Practices for Groundwater Protection at the Los Alamos National Laboratory*, the NAS found:

> During the study the committee was presented with information suggesting that many wells into the regional aquifer at LANL (R-wells) are flawed for the purpose of monitoring. The committee did not disagree, but rather found a lack of basic scientific understanding

> of the subsurface geochemistry that could help ensure future success. Evidence about the conditions prevalent around the sampling points (screens) in the compromised wells is indirect – relying on plausible but unproven chemical interactions around the screens, general literature data, analyses of surrogates, and apparent trends in sampling data that may be statistically valid. At p. 4.

The NAS acknowledged our work.[1]

In 2008, Gilkeson and CCNS began to review seismic safety requirements for LANL operations. We learned that many of the proposed construction projects did not meet DOE's own seismic requirements, let alone regulatory seismic requirements, such as are in effect for facilities regulated under the Resource Conservation and Recovery Act. After investigation, some projects were canceled due to the additional expense to meet seismic requirements.

With respect to the proposed DP-1132, CCNS first provided comments to NMED in 1994. In 1998, I toured the RLWTF with DOE and NMED staff. In 2013, when the second draft DP-1132 was published, CCNS, along with the Communities for Clean Water ("CCW") submitted extensive comments and

[1] "Robert Gilkeson, a registered geologist, provided the committee much technical material directed at LANL's groundwater monitoring program by a presentation at the committee's May [2006] meeting, participation in its August workshop, and written contributions. Joni Arends, of Concerned Citizens for Nuclear Safety, described both technical and public concerns to the committee. She and Mr. Gilkeson jointly responded to committee requests for information regarding radionuclide contamination on the site." As p. ix.

participated in extensive follow-up negotiations, which resulted in the April 2018 public hearing. We have been persistent in our request that the RLWTF be regulated by the Resource Conservation and Recovery Act ("RCRA").

II. HISTORY OF THE RLWTF.[2]

The RLWTF was constructed in 1963 to treat, store, and dispose of radioactive and hazardous liquids generated by LANL facilities, whose waste liquids are transported to the RLWTF by pipes and trucks. AR 9 at 00117, 00123. Initially, the RLWTF discharged treated waste water through Outfall 051into Effluent Canyon, which is a tributary of Mortandad Canyon. Those discharges were regulated by LANL's permit under the National Pollutant Discharge Elimination System ("NPDES") of the Clean Water Act, 33 U.S.C. § 1342.

NMED started this proceeding in 1994 to issue a state WQA groundwater discharge permit, DP-1132, for discharges from Outfall 051. NMED recognized that a public hearing would be required but initially lacked the resources for a hearing and obtained LANL's agreement to make quarterly reports. AR 106 at 01432; AR 107 at 01435.

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[2] The Request to EPA and related documents, which were made part of the Administrative Record of the proceeding at the April 8, 2018 hearing are available from the United States Environmental Protection Agency's website at: https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/77355bee1a56a5aa8525711400542d23/f777dd058c3cdb758525819c004d493c!OpenDocument

In 1998 LANL committed itself to a program to eliminate liquid discharges from the RLWTF. A 1998 LANL report[3] stated: "Determining viable options for eliminating the discharge of treated radioactive liquid waste to Mortandad Canyon was the directive of the outfall 051 elimination working group."[4,5]

On April 8, 1998 the Zero Discharge Working Group outlined for LANL officials the problems associated with the release of radioactive liquid effluent. (AR 56 at 00860). LANL's Environmental Safety and Health and Environmental Management Divisions decided that they:

> [a]gree that the Laboratory should set a goal of zero discharge of radioactive liquid effluent to the environment. To reach this ambitious goal, ESH and EM Divisions will jointly initiate the Radioactive Liquid Waste Zero Discharge Project.

Id. LANL told NMED that the project would include gas-fired evaporation units and, later, evaporative basins. AR 99 at 01372 (Oct. 6, 1999); AR 208 at 03548

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[3] "Elimination of Liquid Discharge to the Environment from the TA-50 Radioactive Liquid Waste Treatment Facility," Moss et al. (1998) (Ex. A to Request to Terminate NPDES Permit #NM0028355 to Outfall 051 for the Radioactive Liquid Waste Treatment Facility (June 17, 2016) (the "Request").

[4] *Id*. v (Ex. A to Request).

[5] A copy of the Request with a complete set of the referenced attachments is in the possession of the Office of General Counsel of NMED, as it was provided as a courtesy to the office of the Secretary on June 20, 2016. In addition, at the April 19, 2018 hearing a computer disk with the text of the Request and attachments was entered into the Administrative Record without objection. April 19, 2018 Hearing Transcript ("Tr.") at 12:5-13:4.

(Sept. 28, 1999). LANL's 2008 Site-Wide Environmental Impact Statement ("SWEIS"), at Appx. G, discusses the "upgrade" of the RLWTF.[6] After the SWEIS studies, DOE determined to pursue design of a Zero Liquid Discharge RLWTF.[7] Later, DOE decided to construct and operate a new RLWTF and operate the Zero Liquid Discharge facility.[8]

> In the late 2000's, LANL rebuilt the RLWTF for "zero-liquid-discharge" operation, eliminating discharges through Outfall 051 except in an "emergency": A new rad/liquid waste facility will be constructed within 3-5 years that will eventually discharge preferentially to the new evaporative basins or, under emergency, to Mortandad canyon under the NPDES permit and DP.

AR 208 at 03548 (Sept. 28, 2006).

LANL advised NMED in 2010 that it was evaluating an evaporation system with capacity exceeding effluent production. AR 243 at 04016. A NMED inspection report in March 2012 states that LANL would use a mechanical evaporator ("MES") and solar evaporation tanks ("SET") to dispose of all liquid output:

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[6] SWEIS at G-60, G-73, G-83, G-88 (Ex. JJ).

[7] Record of Decision, Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, 73 Fed. Reg. 55833, 55839 (Sept. 26, 2008) (Ex. LL).

[8] Record of Decision, Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, 74 Fed. Reg. 33232, 33235 (July 10, 2009) (Ex. MM).

> LANL has not discharged to the NPDES outfall for over a year and they are not intending to discharge due to the difficulty in treating the effluent to meet the NPDES copper limitations. Currently, the facility has been mechanically evaporating all effluent. . . .
>
> At the time of inspection, LANL was nearing completion of the uncovered Solar Evaporative tanks (SET). All treated effluent from the RLWTF will be discharged via a 3,500 foot single-lined gravity fed conveyance pipe (with welds every 500 feet) to the SET. LANL is anticipating having the as-built drawings for the SET completed by mid-May and would be looking at placing the SET on-line and commencing discharge approximately 3-4 months after that."

AR 290 at 08122 (Mar. 20, 2012).

Discharges of contaminated water from Outfall 051 ended in November 2010. A 2014 LANL report states: "Discharges from Outfall 051 decreased significantly after the mid-1980s and effectively ended in late 2010."[9] In late 2014 NMED advised EPA that Outfall 051 had not discharged since November 2010.[10] A LANL web site, NPDES Industrial Outfall Locations, states that "a mechanical evaporator was installed so no water has been discharged at Outfall 051 since

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[9] Isotopic evidence for reduction of anthropogenic hexavalent chromium in Los Alamos National Laboratory groundwater, 373 Chemical Geology 1, 4 (12 May 2014) (Ex. PP to the Request).

[10] Letter, Yurdin to Dories with Inspection Report, at 4th page (August 5, 2014) (Ex. QQ to Request).

November 2010."[11] Quarterly reports in the Administrative Record show that there has been no regulated discharge since November 2010. *See* quarterly reports at: AR 246; AR 253; AR 255; AR 261; AR 273; AR 307; AR 309; AR 321; AR 359; AR 396; AR 419; AR 446; AR 458; AR 467; AR 492; AR 502; AR 510; AR 518; AR 520; AR 524; AR 528; AR 529; AR 533; AR 537; AR 529.

Based upon filings by the Applicants in this proceeding, no discharges are planned. See, e.g., Affidavit of R. C. Mason, sworn to on March 29, 2018, Ex. 1 to Applicants' Response to Motion to Dismiss, Oct. 23, 2019. The facts are set forth in detail in the Request to Terminate NPDES Permit #NM0028355 to Outfall 051 for the Radioactive Liquid Waste Treatment Facility (June 17, 2016), which was placed in the Administrative Record.

LANL recently reported that on June 18, 2019 the RLWTF released approximately 80,798 liters of "treated effluent" through Outfall 051. Monitoring Report, RLWTF, 2d Quarter 2019 (July 22, 2019)(AR 14636-72). The report states that no contaminants were present in this water in excess of values stated in 20.6.2.3103 NMAC, so that the release did not require a Water Quality Act, NMSA 1978, § 74-6-1 et seq. ("WQA") permit. 20.6.2.3103-.3106. NMAC.

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[11] LANL web site, NPDES Industrial Permit Outfall Locations: https://www.lanl.gov/environment/protection/compliance/industrial-permit/outfall-map.php (reviewed on Oct. 7, 2019) (Ex. RR to Request).

In applying for DP-1132, Applicants have stated that their purpose is to "maintain capacity to discharge should the [SET] and/or [MES] become unavailable due to maintenance, malfunction, and/or there is an increase in treatment capacity caused by changes to LANL scope/mission." LANL/DOE Ex. 5 to Bob Beers testimony, at 2. Thus, discharges are only intended under highly unlikely, indeed, speculative circumstances. In fact, Applicants DOE and Triad National Security, LLC have stated on the Record that there is no intention to discharge any particular amount at any particular time from Outfall 051. I conclude that the history shows that the Applicants, DOE and Triad, do not intend to discharge any WQA or Clean Water Act contaminants through Outfall 051.

III. TANK DESIGN AND OPERATION

It is also pertinent to illustrate how the environmental protection offered by Resource Conservation and Recovery Act, 42 U.S.C. § 6921 *et seq*. ("RCRA") and the New Mexico Hazardous Waste Act, NMSA 1978, § 74-4-1 *et seq*. ("HWA"), which enforces RCRA in New Mexico, differs from the protection offered by the draft DP-1132. Regulation under RCRA and the HWA requires stricter environmental compliance than DP-1132.

For example, the RCRA regulations containing highly specific requirements for tank systems that are used for storing or treating hazardous waste. 40 C.F.R. §§ 264.190-.200, subpart J. An "existing tank" (*i.e.*, existing at 1986) requires a

written assessment certified by a professional engineer that attests to the tank system's integrity. The assessment must confirm the tank system's design, strength and compatibility and take into account specified factors like its age and the characteristics of the waste, and there must be a leak test or other integrity examination. 40 C.F.R. § 264.191.

For new tank systems—*i.e.*, for most if not all of the systems at the RLWTF—the owner or operator must submit an assessment by a professional engineer, attesting to the design, structural integrity, and compatibility of the tank system, as part of the Part B application for a RCRA permit. Specific factors must be discussed. 40 C.F.R. § 264.192. These include a requirement that the design ensure that the tank system will not be dislodged if it is placed in a seismic fault zone. This is a factor in Los Alamos.

New tank systems must be inspected by an independent inspector before they are buried or put into use. Tightness testing is required. 40 C.F.R. § 264.192(b, d). Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction. 40 C.F.R. § 264.192(e). Corrosion protection is mandated by rule. The method of corrosion protection must be recommended by an independent corrosion expert. 40 C.F.R. § 264.192(f).

There is a schedule for installation of secondary containment for new or existing tanks. 40 C.F.R. § 264.193(a). Secondary containment means a system that prevents migration of wastes or liquids to soil, ground water or surface water at any time. The system must also detect leaks and collect releases and accumulated liquids. There are requirements as to compatibility of materials and adequacy of support in conditions of pressure, settlement, compression, or uplift. 40 C.F.R. § 264.193(c). The containment system must be sloped to drain and remove liquids. 40 C.F.R. § 264.193(c)(4). Secondary containment must consist of a liner, a vault, a double-walled tank, or equivalent device. 40 C.F.R. § 264.193(d). Ancillary equipment must also be provided with secondary containment, "e.g., trench, jacketing, double-walled piping." 40 C.F.R. § 264.193(f).

There are operational requirements as well. There are restrictions on the placement of wastes in a tank that would cause it to fail. There must be controls to prevent a spill or overflow from a tank system. 40 C.F.R. § 264.194(b). A schedule and procedure for inspections of tank systems and ancillary equipment are required. 40 C.F.R. § 264.195(a, b). Ancillary equipment that lacks secondary containment must be inspected daily. 40 C.F.R. § 264.195(f).

There is also a prescribed system of response to leaks or spills, calling for removal of wastes from systems that fail and disposition of the failed equipment.

40 C.F.R. § 264.196. There is a subsection specifically addressing closure and post-closure care. 40 C.F.R. § 264.197.

For comparison, draft DP-1132 contains a general description of "secondary containment" (§ II.Y). The draft permit requires secondary containment only for units or systems intended to contain "untreated" liquid or semi-liquid waste streams. (§ VI.7). "Untreated" is not defined. There is a requirement for testing of any system intended to contain a liquid or semi-liquid waste stream without secondary containment, but testing is required only every 540 days. (§ VI.8).

I can show you several plans and elevations that are part of the package of materials submitted by LANL to NMED in conjunction with the construction of the new Low Level Radioactive Liquid Waste building. This building will, in effect, take over tasks now performed within the RLWTF:

Ex. 1 is a plan view of the Low Level Waste Subproject. The center part is the LLW Treatment Building. It contains numerous tanks to which the RCRA tank regulations should apply.

Ex. 2 constitutes floor plans of the LLW main building. As you will see, it consists of a LLW process area in the north, which is open, and in the south several smaller rooms, including a wet lab.

Ex. 3 is a process plan, showing processes to be carried out in the north bay of the main building. The processes are carried out in a series of tanks with pipe

connections. The ion exchange and evaporation functions are noted. Tanks are marked with the designation "TK."

Ex. 4 is a series of sections, *i.e.*, elevations within the structure. Each section shows one or more tanks with ancillary equipment. Such tanks, and their ancillary equipment, should be subject to the RCRA regulations on tanks, Subpart J. This would involve secondary containment capable of containing the contents of a tank and various professional certifications as to the tank's design, construction, and installation.

Other tanks to bear in mind are the MES (Mechanical Evaporation System) and the SET (Solar Evaporation Tanks). We do not have plans of the MES to determine whether it has a secondary containment. We are told that the SET has secondary containment, but the long pipe leading from the RLWTF to the SET is a buried single-wall line and would not pass RCRA scrutiny.

IV. SEISMIC COMPLIANCE.

RCRA and HWA regulations include a requirement of seismic performance:

> (a) Seismic considerations.
>
> (1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.
>
> (2) As used in paragraph (a)(1) of this section:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene to the present.

[Comment: Procedures for demonstrating compliance with this standard in part B of the permit application are specified in §§ 270.14(b)(11). Facilities which are located in political jurisdictions other than those listed in appendix VI of this part, are assumed to be compliance with this requirement.]

40 C.F.R. § 264.18. The provision referred to in the comment, 40 C.F.R. § 270.14(b)(11), specifies the level of data required for a demonstration of seismic compliance.

Seismic vulnerability is a major concern on the Pajarito Plateau, and DP-1132 entirely disregards the question. In 2007, Gilkeson and CCNS began a review of the 2007 Probabilistic Seismic Hazard Assessment for LANL. Gilkeson and I wrote papers describing the growing, yet little understood, seismic threat. We recommended site-specific data collection and analysis to ensure that the design basis earthquakes were based on accurate scientific knowledge, especially in the area of Technical Area 50 (where the RLWTF is located) and the Technical Area 55 (site of the Plutonium Facility, PF-4, which delivers radioactive low-level

and transuranic liquid wastes to the RLWTF). Two fault systems, the Rendija Canyon and Guaje Mountain, appear to end their north – south path in this area. Evidence of faulting is found in Mortandad Canyon, to the north of TA-50 and TA-55. CCNS presented its concerns to the DNFSB, to state legislators, and the Attorney General, as well as City and County officials.

DNFSB, in their April 2019 *29th Annual Report to Congress*, continue to raise concerns about seismic issues across the nuclear weapons complex, including at LANL:[12]

> "The LANL actions include development of a comprehensive list of seismic interaction concerns with the fire suppression system, material testing of portions of the system, and an analysis of the seismic performance of the system." p. 7.
>
> "During 2018, the Board's staff monitored LANL's ongoing efforts to improve the seismic performance of the Plutonium Facility [next door to the RLWTF] in follow-up to DOE's response to Recommendation 2009-2, *Los Alamos National Laboratory Plutonium Facility Seismic Safety*. These efforts include the development of a nonlinear dynamic analysis of the facility and experimental testing of representative column capitals. After a lengthy planning period, column capital testing and development of the new analysis are both set to commence

[12] Reviewed November 4, 2019 and available at: https://www.dnfsb.gov/sites/default/files/document/17791/2018%20Annual%20Report%20to%20Congress%20%5B2019-100-017%5D.pdf

in 2019. These efforts will enable NNSA to resolve longstanding questions about the performance of the structure under seismic loads." p. 7.

These are serious issues. The WQA does not require seismic compliance for facilities. RCRA and the HWA do so require.

V. PUBLIC PROCESS.

As an overall observation, plans of the nature of LANL's construction plans for the LLW building would normally be subject to public disclosure and comment and a public hearing concerning the construction of the proposed building, before any construction is approved by the issuance of a permit modification. 20.4.1.7.A.1(d) NMAC. None of that process occurred before construction of the LLW building.

In sum, the protections afforded by a RCRA (*i.e.*, HWA) permit are greatly superior to and more specific than the protections afforded by the draft DP-1132 under the WQA.

This concludes my pre-filed testimony.

NEW MEXICO ENVIRONMENT DEPARTMENT
BEFORE THE SECRETARY OF ENVIRONMENT

IN THE MATTER OF PROPOSED DISCHARGE PERMIT 1132 FOR THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY AT THE LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO	)))))	No. GWB-19-24(P)

ORDER DENYING MOTION TO DISMISS ("MOTION") OF CONCERNED CITIZENS FOR NUCLEAR SAFETY, TEWA WOMEN UNITED, HONOR OUR PUEBLO EXISTENCE, AND THE NEW MEXICO ACEQUIA ASSOCIATION (COLLECTIVELY, "CITIZENS")

The Hearing Officer, having considered the Motion, the Responses of Triad National Security, LLC and the U.S. Department of Energy ("Applicants") and the New Mexico Environment Department ("NMED"), the Reply Brief of Citizens, and being otherwise fully advised, **FINDS**:

1. On September 28, 2018, Citizens' predecessor filed with the Water Quality Control Commission ("WQCC") a Verified Petition for Review of the final decision of the Secretary ("Secretary") of NMED dated August 29, 2018 approving DP-1132 (the "2018 NMED Decision"). The Petition for Review was docketed in Case No. WQCC 18-05(A).

2. On February 4, 2019 Citizens' predecessor filed with the WQCC in Case No. 18-05(A) a Motion to Vacate Agency Decision and Remand the Petition for Review of DP-1132.

3. On June 18, 2019, the WQCC issued its order ("June, 2019 Order") vacating the 2018 NMED Decision, which had been issued on the basis of the record of a hearing held April 19, 2018 (the "2018 Hearing"). The June, 2019 Order states that "this matter is remanded to the New Mexico Environment Department for a new hearing with a newly appointed hearing officer".

The transcript of the June 18, 2019 meeting of the WQCC evidences the intent of the WQCC that the transcript of the 2018 Hearing not be considered on remand.

4. Material portions of the Motion cite to and rely on the transcript of the 2018 Hearing. The 2018 Hearing is a significant part of the record on which the now vacated 2018 NMED Decision was based.

5. This proceeding ("Remand Proceeding") was initiated by NMED as contemplated by the June, 2019 Order, including assignment of the above-referenced docket number and publication of a Notice of Public Hearing on July 19, 2019 and August 23, 2019. The Notice of Public Hearing established a new schedule for the filing of technical testimony, public comment and for a public hearing to be conducted beginning November 14, 2019.

6. The parties to this Remand Proceeding, including Citizens, filed on November 4, 2019, Statements of Intent to Submit Technical Testimony at the November 14, 2019 hearing. In addition, several public comments have been filed in this Remand Proceeding.

7. This Remand Proceeding will be decided based on the Hearing Record [as defined in NMAC 20.1.4.7A.(19)] of this Remand Proceeding, consistent with the June, 2019 Order.

8. Citizens will not be prejudiced by denial of the Motion because they have the opportunity to assert in this Remand Proceeding their position regarding matters addressed in the Motion.

IT IS THEREFORE ORDERED that the Motion is denied.

DATED: November 7, 2019.

Richard L. C. Virtue, Hearing Officer

Certificate of Service

I hereby certify that a true and correct copy of the foregoing **Order Denying Motion to Dismiss of Concerned Citizens For Nuclear Safety, Tewa Women United, Honor Our Pueblo Existence, and The New Mexico Acequia Association** was emailed to all parties on November 7, 2019. The above-mentioned document can be served via first class mail upon request.

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STATE OF NEW MEXICO
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF:	)	
PROPOSED DISCHARGE PERMIT DP-1132	)	
FOR THE RADIOACTIVE LIQUID WASTE	)	**No.: GWB 19-24 (P)**
TREATMENT FACILITY AT LOS ALAMOS	)	
NATIONAL LABORATORY	)	
LOS ALAMOS, NEW MEXICO	)	

NOTICE OF TRANSCRIPT FILING

You are hereby notified that the transcript from the hearing on the above-mentioned case held in Los Alamos, NM on November 14, 2019 was filed on December 3, 2019. The transcript is available for review at the Commission Administrator's Office at 1190 South Saint Francis Drive, Suite S- 2102, Santa Fe, New Mexico 87505. A copy can be obtained from Cheryl Arreguin with Albuquerque Court Reporter Service, LLC. Post Office Box 56787, Albuquerque, New Mexico 87187, or (505) 806-1202.

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Certificate of Service

I hereby certify that a true and correct copy of the foregoing **NOTICE OF TRANSCRIPT FILING** was emailed to all parties on December 3, 2019. The above-mentioned document can be served via first class mail upon request.

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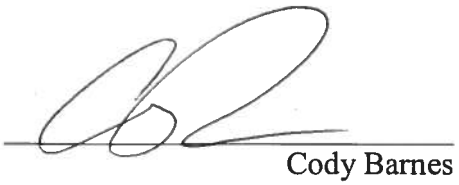

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STATE OF NEW MEXICO

BEFORE THE SECRETARY OF ENVIRONMENT

No. GWB 19-24(P)

IN THE MATTER OF PROPOSED DISCHARGE PERMIT DP-1132 FOR THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY AT LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO

TRANSCRIPT OF PROCEEDINGS

BE IT REMEMBERED that on the 14th day of November, 2019, this matter came on for hearing before RICHARD L. C. VIRTUE, Hearing Officer, at the Fuller Lodge, Pajarito Room, 2132 Central Avenue, Los Alamos, New Mexico, at the hour of 8:58 a.m.

A P P E A R A N C E S

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A P P E A R A N C E S (Continued)

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I N D E X

I N D E X (Continued)

E X H I B I T S

E X H I B I T S (Continued)

E X H I B I T S (Continued)

MR. VIRTUE: Good morning.

This is a public hearing in the matter of the application of United States Department of Energy and Los Alamos National Security, LLC for a groundwater discharge permit for Discharge Permit 1132 for the radioactive nuclear waste facility -- liquid waste treatment facility at Los Alamos National Laboratory.

My name is Richard Virtue. I've been appointed Hearing Officer, and I will be presiding over this hearing today.

Notices of this hearing were published on July 19, August 23rd and October 9th in the Los Alamos Monitor, the Santa Fe New Mexican and the Albuquerque Journal. In addition, notice has been given as provided in the applicable procedural rules of the New Mexico Environment Department.

The notice of hearing states that the procedures for this hearing will be as provided in New Mexico Environment Department's Permit Procedures regulations found at 20.1.4 New Mexico Administrative Code and New Mexico Environment Department's Ground and Surface Water Protection regulations found at 20.6.2 Section 3110 of the New Mexico Administrative Code.

Those rules as well as the notices require that any person proposing to submit technical testimony

at this hearing was required to have filed a statement of intent to do so, together with all exhibits, by November 4th. We have received three such statements, one filed by the applicants, one by the New Mexico Environment Department and one by Citizens -- a group of Citizens groups, composed of Concerned Citizens for Nuclear Safety, Tewa Women United, Honor Our Pueblo Existence and New Mexico Acequia Association.

In addition to the technical testimony, we'll also be providing for public testimony, both orally and in writing. We'll talk about the process for doing that in more detail in just a few minutes.

This matter will be finally determined by the Secretary of the Environment. I will prepare a report for him. After the hearing, we'll go over the schedule for that report. Participants will be allowed to make posthearing submittals to me, which I will review before making my report to the Secretary.

Transcripts of the hearing are being made by the hearing clerk, Mr. Cody Barnes, who is sitting next to me, via audio recording, and we have a certified court reporter from Albuquerque Court Reporting Service, Ms. Cheryl Arreguin, who is also recording the proceedings and will be swearing in the witnesses in today's proceeding.

In terms of the order of presentation, we will proceed as provided in the procedural rules. The applicant will present its technical testimony first and will be cross-examined after presentation of testimony. The applicant has three technical witnesses. The Citizens group will then be allowed to present its testimony and be cross-examined. And finally, New Mexico Environment Department will present its testimony.

We will have testimony from the general public at points through the proceeding. My current intent is to allow testimony from the public at the conclusion of the applicants' testimony. We will create some space then for folks to test -- to submit written submissions or be sworn and make oral presentations. I would propose and intend that sometime in the late afternoon we will have another public comment session, and my current thinking is around five o'clock, give or take a few minutes, depending on where we are in terms of hearing schedule.

We do need to vacate this room by 6:00 p.m., I'm told today. So keep that in mind as you're making your presentations. I do want to make sure we have plenty of time at the end of the day for the public to -- to testify. We do have this room tomorrow if we

need it, so just so folks know.

At the conclusion of the technical -- all the technical testimony and all public comment, there will be an opportunity for rebuttal from each -- the parties that have submitted technical testimony. So that will be allowed at the end of the proceeding.

And the final matter we'll deal with is a schedule for closing the record and posthearing submittals.

Are there any other preliminary matters to come before the hearing?

If not, I would -- Mr. Lovejoy.

MR. LOVEJOY: Mr. Hearing Officer, I do have a motion concerning the record. And if you like, I could take that up now, or do you want to discuss the record at a later time? That's your choice, Your Honor.

MR. VIRTUE: Motion regarding the record?

MR. LOVEJOY: Yes.

MR. VIRTUE: Okay. Let me get appearances of counsel first, and then you may present your motion.

Who appears for the applicants?

MR. BUTZIER: Good morning, Mr. Hearing Officer.

Stuart Butzier from the Modrall Sperling law firm, and I represent Triad National Security, which is

the successor in interest to the original applicant -- one of the original applicants, Los Alamos National Security.

With me at counsel's table is my partner, Christina Sheehan, also of Modrall Sperling, and Susan McMichael of Los Alamos National Laboratory and Triad. And next to Susan is Silas DeRoma, who is representing the other applicant, Department of Energy in this proceeding.

MR. VIRTUE: Thank you.

And who is appearing for the Citizens groups?

MR. LOVEJOY: It's Lindsay Lovejoy and Jonathan Block here for the four Citizens groups, Concerned Citizens for Nuclear Safety, Tewa Women United, Honor Our Pueblo Existence and New Mexico Acequia Association. I'll just call them Citizens from now on.

MR. VIRTUE: And for the Environment Department?

MR. VERHEUL: Good morning, Mr. Hearing Officer.

John Verheul, representing New Mexico Environment Department.

MR. VIRTUE: Thank you.

With that, Mr. Lovejoy, you may present your

motion.

MR. LOVEJOY: Well, it's simply this, Your Honor -- well, first of all, there are kind of three parts to it.

Oh, thanks, Steve.

We do request that the -- okay. I'm learning -- okay.

I'm turned on now, I think.

MR. VIRTUE: You are.

MR. LOVEJOY: I request that the time for the public to comment be extended so that it goes, say, through next Monday, at close of business, just for everyone's convenience. People will be attending, coming and going at the hearing and may have things to say about the hearing, and we think they should have a little time to prepare their comments.

And the second is I move that there be restored to the administrative record the materials which were removed after this case was remanded by the WQCC. It is quite clear that under 20.6.2.3109A these materials are required to be in the administrative record and they should not be removed.

There was no direction from the WQCC to remove them. The motion which came before the WQCC did not request their removal, and the order that the WQCC made

did not direct their removal. So they should not be removed.

That's my motion.

MR. VIRTUE: With regard to the first part of Mr. Lovejoy's motion -- we'll take them in order.

Is there any objection to keeping the record open for nontechnical comments from the public until Monday, close of business Monday at 5 o'clock?

MR. BUTZIER: Applicants have no objection, Mr. Hearing Officer.

MR. VERHEUL: No objection from the Department.

MR. VIRTUE: Okay.

With regard to the second part of Mr. Lovejoy's motion, responses from counsel to that motion?

MR. BUTZIER: Mr. Hearing Officer, if it's okay with you, I would defer to allow Mr. Verheul to argue the point first, and then I will possibly have something to add after.

MR. VIRTUE: That's fine.

MR. VERHEUL: Mr. Hearing Officer, first, I believe you actually already ruled on this point in your denial of the previously filed motion to dismiss, but I will summarize the argument that I've already made

several times in writing on this point.

First, this is characterized as materials that have been removed from the record, and I would dispute that. I would say we are creating an entirely new hearing record here.

I've provided the transcript of the WQCC special meeting where they contemplated an entirely new hearing with a new Hearing Officer. And during that meeting, there was discussion that no one -- no one knew exactly when the hiring process began for the -- for the prior Hearing Officer, which was, of course, the cause of the disqualification and the remand back to the Department. So it seemed extremely clear to me that the Commission had contemplated an entirely new hearing.

I believe inclusion of anything from the hearing that took place before the prior Hearing Officer last year, in this very room -- inclusion of any -- any materials from the proceeding that occurred before her would conceivably corrupt the record yet again, and we could wind up back in exactly the same place before the Water Quality Control Commission, telling them, well, there's materials in the record that have corrupted it because they got in the record before a Hearing Officer that had been disqualified.

So simple way to do it and the way the

Department has chosen to do it is to start with PN2, the Public Notice 2, and then go from there with a notice of hearing and present new testimony and so every party has the opportunity to present testimony and to enter it into the record.

So that's our position on this.

MR. VIRTUE: Thank you.

MR. BUTZIER: Mr. Hearing Officer, I would only add what -- first of all, I would concur in Mr. Verheul's positions. I would only add that there is a distinction between the administrative record and a hearing record, and I do think that it would be appropriate to not include the prior hearing record as part of the administrative record given the ruling that we're going to go back and have a rehearing.

MR. VIRTUE: Thank you.

That is my -- what Mr. Butzier just stated, my understanding of what has been excluded from the record, what the Commission intended to exclude from the record, that is the transcript of the -- of the hearing and related pleadings the former Hearing Officer was involved in. I believe the administrative record in the prior case absent those items is part of the record in this case.

And, Mr. Lovejoy, if you'd like to address

what he thinks is missing that he wants to have included.

MR. LOVEJOY: Well, there were many things that were brought into the administrative record during the previous proceeding which could not even -- oh -- which could not conceivably be thought of as corrupted by the disqualification of the previous Hearing Officer.

For example, we moved for and had introduced with no objection the request to terminate the proceeding which was presented to EPA with various exhibits. It's still pertinent, pertinent to this proceeding, pertinent to this hearing. I'm not sure why it should be excluded.

I did find, frankly, although it was admitted without objection at pages 12 and 13 of the transcript of the previous hearing, it has somehow disappeared from the -- even from the removed administrative record items. And therefore, we have copies which we're going to put in the record again here. It's bulky, but it's certainly -- there's no chance in the world it would be corrupted by anything that the Hearing Officer did.

The discussion that Mr. Verheul refers to had -- before the WQCC had nothing to do with the content of the record. It had to do with a date from which rulings by the disqualified Hearing Officer would

be vacated. And the ruling was that they would all be vacated.

And that's fine. That's what's normally done when there's been a disqualification. But the usual relief in a case after disqualification has nothing to do with purging the record of exhibits and evidence and transcripts. There's no basis for that here.

MR. VIRTUE: What I'm going to do here -- I don't think it's productive to go back and try and sort through the previous hearing, what was and wasn't excluded from the record previously.

I'm going to take your motion under advisement, Mr. Lovejoy, and I'll allow you to submit those items that you think were excluded from the record that you would like to have included in the record of this proceeding, and then I will give the other counsel an opportunity to respond, and I'll make a ruling on whether to allow those in or out after I see your list and their responses.

MR. LOVEJOY: I take it that we will discuss the schedule for that at the end of this proceeding?

MR. VIRTUE: Yes. After we've completed the hearing, we'll see how it goes, we'll see some of these documents I expected might crop up during the hearing, and when we're talking about posthearing process, we

will develop a schedule for what I just mentioned.

MR. LOVEJOY: Very good.

We have the request to terminate. We would like to leave that with the hearing clerk at this proceeding. As we did last time, we did it in the form of an electronic disc. But we have paper copies now for -- for the record, and we'd just like to leave that with him so that it probably won't get lost again. We hope.

MR. VIRTUE: We can do that.

MR. LOVEJOY: Thank you.

MR. VIRTUE: All right. With that, I believe we are ready to proceed with the applicants' case.

Mr. Butzier, will you proceed, please.

MR. BUTZIER: Thank you, Mr. Hearing Officer.

Just very briefly, the applicants will present three witnesses today, first Mr. Robert Beers and then Mr. Danny Katzman and then Ms. Karen Armijo. Those are the same witnesses that appeared in the last hearing. They will give oral testimony. They also have advance written testimony in the record and will be adopting their testimony today.

So we would start by calling Mr. Beers as our first witness.

MR. VIRTUE: You'll need to be sworn,

Mr. Beers.

ROBERT S. BEERS

having been first duly sworn or affirmed, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUTZIER:

Q. Good morning, Mr. Beers.

A. Good morning.

Q. Would you please state your name for the record and spell your last name.

A. Robert S. Beers, B-E-E-R-S.

Q. Mr. Beers, did you testify as an expert in the last hearing?

A. I did.

Q. What is your current employment status?

A. I'm currently self-employed, providing technical support to Triad National Security in this proceeding.

Q. Please summarize your professional and educational qualifications.

A. I'd like to review my professional experience and education.

I was previously employed by Los Alamos National Laboratory as an environmental professional.

I have over 20 years of experience in

discharge permit management, including the management of three discharge permits.

I served as the single point of contact for Los Alamos National Laboratory with the New Mexico Environment Department Ground Water Quality Bureau for all New Mexico Water Quality Control Commission regulations, regulatory compliance.

I have a bachelor's of science from Cornell University in Ithaca, New York and a master's in water resources administration from the University of New Mexico in Albuquerque.

Q. And your resume has been provided as Triad/DOE Exhibit 2; is that correct?

A. That is correct.

MR. BUTZIER: Mr. Hearing Officer, I tender this witness as an expert in environmental permitting and compliance, particularly insofar as it relates to NMED's groundwater discharge permitting program.

MR. VIRTUE: Are there -- is there any objection --

MR. LOVEJOY: No objection.

MR. VIRTUE: -- to this witness' testimony?

MR. VERHEUL: There's certainly no objection to the testimony of Mr. Beers.

However, the Rules of Evidence specifically do

not apply to this proceeding so I'm not sure that we need to qualify or classify anyone as an expert. There's no Daubert standard applicable here. So that's necessary. We accept the testimony of Mr. Beers with his qualifications for what it's worth.

MR. VIRTUE: Any response?

MR. BUTZIER: I do have a response, Mr. Hearing Officer. It is fairly standard and traditional in administrative proceedings of this very kind to offer experts in -- to be admitted as experts, and that's what we'd like to offer here today.

MR. VIRTUE: Okay. I believe that both the rules provide for a person who has submitted technical testimony to qualify as an expert in the areas about which he or she has testified. So I will allow him to testify as an expert on the subject.

Having said that, I do recognize the rules don't apply and there are situations where someone who is not an expert can be allowed to testify and -- on a particular subject and the Hearing Officer and Secretary will determine how much weight to give that testimony. But I believe this gentleman has qualified to testify as an expert.

MR. BUTZIER: Thank you, Mr. Hearing Officer.

Q. Mr. Beers, did you provide your prefiled

testimony as Triad/DOE Exhibit 1?

A. Yes, I did.

Q. Do you have any changes to your written testimony?

A. No, I do not.

Q. Do you adopt your written testimony as sworn testimony here today?

A. I do.

Q. Mr. Beers, you submitted prepared PowerPoint slides as Exhibit 10; is that correct?

A. That is correct.

Q. And you have since made minor changes to them; is that correct?

A. That is correct.

Q. I'd like to hand you what has been premarked as Triad/DOE Exhibit 20, and then I'll ask you a question about it.

Is Exhibit 20 the PowerPoint slide presentation to which you made minor changes from what was originally offered as Exhibit 10?

A. Yes, it is.

Q. And is this the PowerPoint presentation that you will use today?

A. That is correct.

MR. BUTZIER: Mr. Hearing Officer, at this

point, I would like to move the admission of Triad/DOE Exhibits 1, which is this witness' prefiled testimony, 2, which is his resume, and 20, which is his revised PowerPoint slides.

MR. VIRTUE: Is there objection?

MR. VERHEUL: No objection.

MR. LOVEJOY: May we have some brief explanation of what the changes were?

MR. VIRTUE: Certainly.

You want to --

MR. BUTZIER: Sure. We can do that.

MR. VIRTUE: -- have him explain his changes, and then we'll rule on admission.

Q. (BY MR. BUTZIER) If you will proceed, Mr. Beers, to Slide Number 3.

Slide Number 3, Mr. Beers, will present a fairly extensive explanation of the permitting history in this proceeding.

And now if you'll move forward to Slide Number 9.

In Slide Number 9, the last three or four bullet points of this were repetitive of what was covered in that permitting history slide that we looked at just a second ago, and we simply shortened it to make this a more efficient presentation on Slide 9.

And I believe that was about it.

A. (Nods head.)

MR. VIRTUE: Mr. Lovejoy, any problem with that?

MR. LOVEJOY: No objection.

MR. VIRTUE: Okay. Mr. Beers' testimony and his resume and the slide presentation will be admitted.

Can you summarize what the numbers of those exhibits were, Mr. Butzier, again.

MR. BUTZIER: Exhibit 1 is the prefiled testimony, Exhibit 2 is the resume, and Exhibit 20 is the revised PowerPoint slides.

MR. VIRTUE: Great. Thank you.

Those will be admitted.

MR. BUTZIER: Thank you.

(Exhibits Triad/DOE 1, 2 and 20 admitted into evidence.)

Q. (BY MR. BUTZIER) Mr. Beers, what is the general purpose of your testimony today?

A. The general purpose of my testimony is to provide an overview of the history of Discharge Permit 1132 and an overview of the permit conditions in Discharge Permit 1132.

Q. Thank you.

Would you please now provide your oral

testimony.

A. I'd be glad to.

I'd like to review for you the permitting history of Discharge Permit 1132.

The TA-50 Radioactive Liquid Waste Treatment Facility was constructed in 1963, and as such it predates the 1978 New Mexico Water Quality Act and the June 18, 1977, permit application requirement in 20.6.2.3106A NMAC.

In April, 1996, Los Alamos National Laboratory received a written request from the New Mexico Environment Department for a discharge permit application for the TA-50 Radioactive Liquid Waste Treatment Facility.

In August, 1996, LANL submitted that application.

Subsequently, in November, 2011, the NMED requested a new comprehensive and updated discharge permit application.

And in February, 2012, Los Alamos National Laboratory submitted that application.

In May, 2017, the NMED issued a draft permit for DP-1132.

And a public hearing was held in April, 2018 on that draft permit.

In August, 2018, the NMED issued Discharge Permit 1132.

In the following year, in June, 2019, the New Mexico Water Quality Control Commission remanded Discharge Permit 1132 back to the NMED for a new hearing.

And -- excuse me. In August, 2019, NMED issued public notice, referred to as PN2, for a draft Discharge Permit 1132.

I'd like to review for you what is covered by Discharge Permit 1132.

All future discharges of treated effluent from the Radioactive Liquid Waste Treatment Facility to the solar evaporative tank system and to the mechanical evaporation system and through NPDES permitted Outfall 051.

In addition, the existing low-level and transuranic treatment systems at Technical Area 50.

The new waste mitigation risk management tanks, referred to as the WMRM tanks, for influent storage will be placed into service.

And the new low-level treatment facility at Technical Area 50 will be completed and made operational.

I'd like to review for you now some of the

units that I just previously mentioned.

The solar evaporation tank, or SET. The water you see in the SET is industrial water that was introduced into the SET during completion of construction to test the piping and systems. The SET has not been placed into service since it was constructed.

The SET consists of one tank with two cells. The floor is reinforced concrete, as are the walls. It is lined with two synthetic liners, a primary liner and a secondary liner, with a leak detection system in the interstitial space between the two liners.

The tank is approximately 500 feet long, 70 feet wide, with a capacity of about 760,000 gallons at a depth of three feet.

I'd like to point out that in the Discharge Permit 1132 issued in August, 2018 there was a requirement for the installation of a moisture monitoring system at the SET. A work plan was submitted for that moisture monitoring system, and NMED approved the work plan.

What the system consists of is a series of angled boreholes -- eight angled boreholes that are completed beneath the SET to detect any leakage from the SET. We are currently in baseline monitoring,

collecting background soil moisture data. That system will be completed and an action level will be proposed to NMED for their approval before the SET is placed into service.

This is a photograph of the mechanical evaporation system. It's natural gas fired. The feed tank, the boiler has secondary containment. This was installed and became operational in 2010.

This is a photograph of the outfall pipe in Effluent Canyon, a tributary to Mortandad Canyon. What you see here is a black plastic pipe, approximately six inches in diameter, discharging to the watercourse. You see the sandy channel right there.

This is a photograph of the WMRM tanks. The WMRM facility consists of five (verbatim) 50,000-gallon fiberglass influent storage tanks. The far two tanks are designated for routine influent storage, whereas the four tanks in the foreground are reserved for emergency storage only.

The floor of the WMRM facility provides secondary containment. There's a sump on the floor that has an alarm. If there were a leak from any of these tanks, the alarm would trigger and send notification to the control room so the operators could respond.

I'd like to review for you now the permitting

activity at Discharge Permit 1132 from 2012 to 2019.

As I indicated previously, a new application was submitted in 2012.

Subsequently, over the next five years, there were approximately 25 technical meetings.

In addition, there were approximately six meetings with nongovernmental organizations, the groups participating in this proceeding today.

Multiple draft permits were prepared by the NMED for NGO and LANL review.

There were multiple tours of the RLWTF by NMED staff.

And there was a tour of the RLWTF by individuals from the NGOs.

First public hearing, as I indicated previously, was in April, 2018, leading to the second public hearing today.

As a result of NGO participation in the permitting process, a number of substantial changes were made to draft Discharge Permit 1132. I'd like to review some of those for you.

A requirement was added to the permit for Los Alamos National Laboratory to post select documents to the LANL Electronic Public Reading Room.

In addition, flow meter accuracy requirements

became more rigorous.

Calibration was added to the definition section of the draft permit.

Soil moisture monitoring determine -- establishing a baseline was required prior to use of the SET.

And as I mentioned before, an action level for the soil moisture monitoring system was made a requirement. I'd like to explain that the action level is merely a trigger that determines when soil moisture may have increased significantly, indicative of a potential leak.

Also two new alluvial groundwater monitoring wells were installed in Mortandad Canyon downgradient of Outfall 051.

And finally, a detailed Closure Plan was developed and added to the discharge permit to facilitate public input.

Draft Discharge Permit 1132 included a number of new systems to ensure that the facility and its discharges are protective of groundwater.

As I mentioned previously, the new WMRM tanks for influent storage.

The new solar evaporative tank, or SET.

There were new watertightness testing

requirements to ensure the integrity of conveyance pipelines.

New flow meters were installed.

A new reverse osmosis treatment system was installed.

As I indicated, two new alluvial groundwater monitoring wells were installed, in addition to a rigorous set of groundwater monitoring wells, both alluvial, perched-intermediate and in the regional aquifer.

Routine monitoring of treated effluent at the SET, MES and Outfall 051.

Operational plan requirements for discharges.

Extensive engineering and administrative controls to prevent unplanned releases.

And a requirement that the laboratory provide annual updates to the Closure Plan.

As you may be aware, Discharge Permit 1132 was issued to Los Alamos National Laboratory in August, 2018. In the period between August, 2018 and June, 2019, when the permit was remanded back to NMED, a number of actions were completed by the laboratory. As a result of the completion of these actions, we'd like to propose some changes to draft Discharge Permit 1132 to reflect the changed conditions.

I'm going to put these changes in three bins, three types for you.

The first is a completion of one-time actions. That is the permit had a requirement to conduct an action, that action was completed and therefore could be removed from the discharge permit.

An example of this type of one-time action would be Condition Number 33, the replacement of alluvial groundwater monitoring wells. The laboratory submitted a work plan. That work plan was approved by NMED. And monitoring wells were installed and a completion report submitted to NMED. That action has been completed. We believe that condition can be removed from the permit.

Another type of change is a condition that contained a one-time action and also ongoing actions. That is the condition was partially completed. We'd like to remove the requirement for that one-time action.

For example, Condition Number 30, moisture monitoring for the SET, that condition required submission of a work plan for a moisture monitoring system. That work plan was submitted, NMED approved the work plan, and we have completed installation of the moisture monitoring system.

We are in the phase of collecting background

or baseline data. However, that condition contains some ongoing actions that need to be kept in the permit. So we'd like -- we propose to edit that condition accordingly.

And finally, there are some conditions that require changing just to reflect updated information.

For example, Conditions Number 16 and 17 define effluent limits for the permit. The NMED in 2018 issued new groundwater standards. This condition needs to be updated to reflect those new standards.

Q. Thank you, Mr. Beers.

Going back to the WMRM facility, could you please clarify again how many tanks are included in the WMRM facility?

A. Yes. There are six tanks, two for routine influent storage, four for emergency influent storage.

Q. Thank you.

Now, Mr. Beers, do you have in front of you the complete set of exhibits that were associated with your advance written testimony?

A. I do.

Q. And are those Exhibits 1 through 10?

A. They are.

Q. And Exhibits 1 and 2 have already been admitted, and we don't intend to move the admission of

10 because that was the PowerPoint slide presentation that was subsequently amended.

But I'd like to draw your attention now one at a time to Exhibits 3 through 9 and ask you to identify them.

Starting with Exhibit Number 3, would you please identify that document for the record.

A. I'd be glad to.

Exhibit 3 is a letter from Communities for Clean Water to Ms. Kathryn Hayden, the Ground Water Quality Bureau, New Mexico Environment Department, dated June 5, 2017, the subject is comments and hearing request on DP-1132.

Q. And I'd like to have you turn now to Exhibit 4 and please identify that document.

A. Exhibit 4 is two pages from Los Alamos National Laboratory's 2012 NPDES Permit Re-Application for Outfall 051, Radioactive Liquid Waste Treatment Facility, dated February, 2012.

Q. And would you turn now to Exhibit 5, please, and identify that document.

A. Exhibit 5 is the Department of Energy and Los Alamos National Security's preliminary response to the Communities for Clean Water's public comments dated June 5, 2017.

Q. And is that a reference to the June 5 letter that you previously identified as Exhibit 3?
A. That's correct.
Q. And did you participate in the preparation of Exhibit 5?
A. Yes, I did.
Q. And does Exhibit 5 include a number of attachments?
A. It does.
Q. I'd like you to turn now to Exhibit 6, please, and identify that document.
A. Exhibit 6 is a letter, Tewa Women United, New Mexico Acequia Association, Honor Our Pueblo Existence and Concerned Citizens for Nuclear Safety, dated September 23rd, 2019, to Mr. Andrew Romero, Ground Water Quality Bureau, New Mexico Environment Department, subject of the letter is public comments on the July 19, 2019, draft permit DP-1132, and the September, 2016 DP-1132 Closure Plan for Los Alamos National Laboratory Radioactive Liquid Waste Treatment Facility at Technical Area 50.
Q. And, Mr. Beers, starting at page 13 of Exhibit 6, are there identified 14 specific comments for which a request is made for public hearing?
A. Yes, there are.

Q. And generally how do those comments compare and relate to the comments that were made in the June 5, 2017, letter from the Communities for Clean Water?

A. These are essentially the same comments submitted by CCW in their July 5, 2000, letter.

Q. And does Exhibit 5 respond essentially to both the June 5, 2017, letter as well as the 14 issues on which a hearing is requested in the September 23, 2019, letter?

A. Yes, it does.

Q. Thank you.

Turn now, please, to Exhibit 7 and identify that for the record.

A. Exhibit 7 is a table I prepared listing the proposed revisions we've made to draft Discharge Permit 1132. It's really a summary table of the red-line changes that we made to the draft permit.

Q. And would you please put up the last slide of your PowerPoint presentation again.

So does this Exhibit 7 that you prepared summarize the kinds of changes that you put into three bins and discussed as part of that last slide?

A. Yes, it does.

Q. I'd like you to turn now to Exhibit 8 and identify that document.

A. Exhibit 8 is a letter from the New Mexico Environment Department to, as I understand, all discharge permit holders in the State of New Mexico, dated March 12, 2019, and the subject of the letter is changes to groundwater standards.

Q. Is that a letter notifying permittee holders of the changes to the 3103 standards that you referred to in your prior testimony?

A. It is.

Q. Would you turn now to Exhibit 9, please, and identify that document.

A. This is draft Discharge Permit 1132.

Q. Is this a document that reflects red-lining that you prepared?

A. Yes, it is.

Q. And is the red-lining in this document the proposed changes again that were referred to in the final slide of your presentation?

A. It is.

Q. And is there one correction that you'd like to make to this Exhibit 9?

A. There is one change.

That change is on page 23, in Condition 16.b. We propose that that entire requirement in 16.b be removed.

Q. And is that because that is an action that has already been completed?

A. That is correct. The new reverse osmosis treatment unit is operational. So that requirement is no longer relevant.

MR. BUTZIER: Mr. Hearing Officer, at this time, Triad/DOE would like to move the admission of Triad/DOE Exhibits 3 through 9.

MR. VIRTUE: Any objections?

MR. VERHEUL: No.

MR. VIRTUE: If not, Applicants' Exhibits 3 through 9 will be admitted.

MR. BUTZIER: Thank you, Mr. Hearing Officer.

(Exhibits Triad/DOE 3 through 9 admitted into evidence.)

Q. (BY MR. BUTZIER) Mr. Beers, I just have a few more questions, and then we'll be finished with your direct testimony.

First, did LANL, or Los Alamos National Lab which is sometimes referred to as LANL, ever demand or insist that NMED proceed with permitting the RLWTF under the groundwater discharge permitting program?

A. No, not at all. We were --

Q. At one point, did LANL take the position that water treated at the RLWTF would meet all 3103

standards? And by that I'm referring to 20.4.2.3103, which are the numeric groundwater standards in the groundwater program. Did LANL at one point take the position that water treated to meet all of those standards meant that there was going to be no discharge permit needed?

A. Yes. In 2007, Los Alamos National Laboratory submitted a notice of intent to discharge, an NOI, to the NMED Ground Water Quality Bureau for a determination on discharge permit requirements for the solar evaporation tank. And in that NOI, we argued that a discharge permit was not required because all discharges of treated effluent to the SET would meet 3103 groundwater standards.

Q. Mr. Beers, is that notice of intent that you just referred to in your testimony in the administrative record?

A. It is.

Q. Can you identify where that's located?

A. Yes, I can.

I'm looking at the Administrative Record Index provided by NMED, page 36. The date is 11/1/2007, Bates number 03703 to 03813, from Mr. Grieggs at Los Alamos National Laboratory to Mr. Olson at NMED, subject of the letter is notice of intent to discharge, evaporation

tanks, TA-50, RLWTF.

Q. What was the result of the position that LANL took in that notice of intent that you just described?

A. As I indicated, LANL's position was no discharge permit was required because treated effluent would meet all standards.

Q. And what was the result of that position? Did LANL hear back from the NMED as a result of that position?

A. Yes. LANL received a reply in 2011, and the reply was a determination that a discharge permit was required for the SET.

Q. And is that reply from NMED a part of the administrative record in this proceeding?

A. Yes, it is. Looking at the Administrative Record Index, page 43, November 18, 2011, Bates number 05253 to 05258, it's from Mr. Davis, NMED, to Mr. Grieggs, Los Alamos National Laboratory, subject of the letter response to notice of intent to discharge and discharge permit required for zero liquid discharge tanks and updated application required for the RLWTF.

Q. Thank you, Mr. Beers.

Now, do you have personal knowledge of whether LANL plans to discharge RLWTF-treated water?

A. Yes, I do.

Q. Does LANL plan to discharge treated water to the MES?

A. Yes. We fully intend to discharge through the -- to the MES.

Q. And have there been discharges up to date to the MES?

A. There have been discharges to the MES since it became operational in 2010.

Q. And are there plans to continue in the future to make discharges of treated water to the MES?

A. Yes, there are.

Q. Does LANL plan to discharge treated water to the solar evaporation tank?

A. Once the solar evaporation tanks are operational, we fully intend to discharge to those tanks.

Q. Does LANL plan to discharge treated water through Outfall 051?

A. Yes, we do. We conducted a discharge through Outfall 051 in June, 2019, and we have both near-term and long-term plans to conduct routine discharges through Outfall 051.

Q. And was the outfall that occurred on June 18, 2019 -- the discharge through Outfall 051 that occurred on June, 2019, did that follow a period of doing

watertightness testing on the line that went to Outfall 051?

A. That is correct. Completing the watertightness testing and the conveyance line was a prerequisite for discharging through the outfall.

Q. Will planned discharges include constituents for which groundwater standards exist in the 20.6.2.3103 numeric groundwater standards provision?

A. Could you repeat that for me, please.

Q. Will the planned discharges that you've just described of treated effluent from the RLWTF facility that will be going to the MES, to the SET and through Outfall 051 contain constituents which are the subject of the 3103 groundwater standards?

A. Yes.

MR. BUTZIER: And I'd like to at this time refer the witness to a document that's a part of the administrative record and that we have marked as Triad/DOE Exhibit 21, with the Hearing Officer's permission.

MR. VIRTUE: Okay.

MR. BUTZIER: Apologies to the Hearing Officer. I came up one short on the copies on that.

Q. Mr. Beers, could you please identify this document that's marked as Triad/DOE Exhibit 21 for the

record.

A. Yes. This is a letter from Los Alamos National Laboratory to Ms. Michelle Hunter, Ground Water Quality Bureau, New Mexico Environment Department, dated July 22nd, 2019, subject of the letter is monitoring report, Radioactive Liquid Waste Treatment Facility, second quarter 2019.

Q. And, Mr. Beers, are you identified as a recipient of this letter on the list of copies?

A. I am.

Q. Does Exhibit 21 identify data on -- data on the 3103 constituents that were in LANL's June 18 discharge through Outfall 051?

A. Yes, it does. Attachment 4 of the referenced letter is a table, Table 1, Analytical Results from Monthly Sampling of the RLWTF Treated Effluent Discharged Through Outfall 051, June 18, 2019. This table presents analytical results from the analytical laboratory. The table identifies sample ID, location, sample date, the parameters analyzed for the result and a column that indicates whether the parameter was detected or not, and a final column with the groundwater limits, or groundwater standards.

Q. And could you please provide examples of 3103 constituents that are covered by that table?

A. Yes. An example of a constituent that is in the table is total dissolved solids, or TDS. TDS were detected in the sample, but in a concentration below the groundwater standard. Another example is fluoride. Fluoride was detected on the treated effluent, but again at a concentration below the groundwater standard.

There were several constituents, for example, radium-226 and 228, that were not detected in the sample. In addition, perchlorate was not detected in the sample.

Q. Thank you.

Mr. Beers, would any assertions in this proceeding that is speculative whether there would be discharges of treated water from the RLWTF facility be accurate in your opinion?

A. Could you repeat that again, please.

Q. Would any assertions in this proceeding that it is speculative whether there will be discharges of treated water from the RLWTF facility be accurate in your opinion?

A. No, no. That would -- that's inaccurate. I think it's important to think of the Radioactive Liquid Waste Treatment Facility not unlike any other municipal wastewater treatment plant, the exception being the influent to the plant is radioactive liquid waste. My

point is that there is a constant stream of influent into the plant. Accordingly, there must be continual treatment and discharge from the plant.

Q. Would any assertions in this proceeding that DP-1132 would merely permit potential discharges be accurate in your opinion?

A. No. Discharge Permit 1132 clearly authorizes the discharges to the SET, to the MES and through Outfall 051.

Q. And in the cases of the MES and the SET, discharges have already occurred, correct?

A. That is correct.

Q. And are planned to occur in the future, correct?

A. Could you repeat that question?

I may have misspoken.

Q. In the case of the MES and Outfall 051, discharges of treated water have already occurred, correct?

A. That is correct.

Q. And they are planned to occur in the future, correct?

A. That is correct.

Q. And once the SET is put into operation, your testimony previously was that there is a plan to

discharge to the SET, as well?
A. Correct.
Q. I'd like you now to please return to Slide 11.
And the second to last bullet point referred to extensive engineering and administrative controls.
Do you see where I'm looking?
A. Yes.
Q. Would you please expand upon what you are referring to by extensive engineering and administrative controls.
A. I'd be glad to.
I'm looking at my direct testimony, Exhibit 1, page 11, number VII.B, titled Controls to prevent unplanned releases.
What I was referring to in the slide, extensive engineering and administrative controls, I'm going to elaborate a little further on.
One of the key requirements in Discharge Permit 1132 is the requirement that all units and systems that convey, store, treat or dispose of an untreated liquid or semiliquid waste stream have secondary containment.
Briefly can explain that secondary containment could be thought of as a vessel in a vessel, or a pipe in a pipe, where if the primary pipe or vessel leaked,

there is a secondary containment surrounding it to capture the leaked liquid.

This requirement is critical as a line of defense against unplanned releases from the facility. All secondary containment units are required to have sumps with alarms to in the event there was a leak to the secondary containment would be captured in the sump, the alarm would trigger and notify the operators in the control room.

The permit required that Los Alamos National Laboratory verify that all the defined units and systems have secondary containment, and that was completed.

Another critical control is that for those systems without secondary containment, where it's not required, conveyance pipelines, that those be watertightness tested to demonstrate their integrity.

Administrative control is routine facility inspections to identify any problems -- potential problems before they arise.

Another control is maintaining freeboard in the solar evaporation tank.

Operator certification to demonstrate that all operators at the facility are qualified to perform their work.

As was previously discussed, the soil moisture

monitoring system at the SET. These eight moisture monitoring boreholes will be monitored quarterly to identify any moisture changes below the SET.

Finally, stringent reporting to NMED if any units show signs of loss of integrity, loss of structural integrity.

Q. And, Mr. Beers, in these engineered controls and administrative controls, if there is an indication that something is awry, such as there has been a leak detected in one of the secondary containment units that you described, or there is an inspection that reveals some loss of integrity of a facility, what, generally speaking, are the consequence of that, and are those consequences addressed in DP-1132?

A. Yes. They are addressed. Generally the consequences can be identified as threefold.

First, there's immediate action taken to remove the unit or system from service.

Second is generally 24-hour notification to the NMED.

And then the third would be the development of corrective actions to address the specific problem.

Q. And finally, Mr. Beers, in your professional opinion, should DP-1132 be issued as revised by the proposed revisions that you have testified about today?

A. Yes, I believe it should.
Q. Does that conclude your testimony?
A. It does.
MR. BUTZIER: Thank you.
MR. VIRTUE: Do you have cross-examination from the Citizens?
MR. BEERS: Mr. Hearing Officer?
MR. VIRTUE: Yes.
MR. BEERS: Before we enter cross, I need a restroom break.
MR. VIRTUE: Yes. We will take a -- certainly. We'll take a 10-minute break. It's 10:10. We'll be back at 10:20.
MR. LOVEJOY: May I ask the Hearing Officer, did you intend to have public comment around now? You mentioned --
MR. VIRTUE: My intent is to complete the cross-examination of the applicants' witnesses and then we'll go to public comment.
MR. LOVEJOY: Very good.
(Proceedings in recess from 10:10 a.m. to 10:23 a.m.)
MR. VIRTUE: We're back on the record.
Mr. Lovejoy, you may proceed with questions.
MR. LOVEJOY: Thank you, Mr. Hearing Officer.

CROSS-EXAMINATION

BY MR. LOVEJOY:

Q. Good morning, Mr. Beers. Good to see you again.

A. Good morning, Mr. Lovejoy.

Q. Mr. Butzier was talking to you on direct examination about discharges that are planned for the future of the RLWTF, I take it.

When you were answering those questions, did you consider the term "discharge" to include releases of water from the treatment facility to the MES as a discharge?

A. Mr. Lovejoy, yes. I -- I believe the conveyance of treated effluent to the MES is a discharge.

Q. Okay.

And when you were discussing release of treated water to the SET, were you considering that also to be a discharge?

A. Yes. That's correct, Mr. Lovejoy.

Q. You have the letter transmitting the notice of intent to discharge evaporation tanks in 2007 that you read from? Do you have that with you?

A. No, I do not.

(Discussion off the record.)

Q. (BY MR. LOVEJOY) Would you look, please, at what we've marked as Citizens Exhibit 5.

Is this the letter, another copy of it?

A. Yes, it is, Mr. Lovejoy.

Q. It's the same letter, but it's just another -- another location in somebody's files?

It doesn't have the same Bates number as you cited. That's the reason I ask.

MR. BUTZIER: Mr. Hearing Officer, this Exhibit 5 has some marginal handwritten notes, and I was wondering if it's going to be clarified whether those have been added or something or were part of the original document.

MR. VIRTUE: Mr. Lovejoy, could you clarify the handwritten notes?

MR. LOVEJOY: Mr. Hearing Officer, this came from the administrative record. It's pretty obvious they're handwritten notes that were added after the document was typed up.

No. They are not counsel's notes. They were on the document when it was produced.

MR. VIRTUE: Are you asking that they be considered as part of the exhibit?

MR. LOVEJOY: I think they're part of the exhibit inevitably, but I'm not making a point about

what they say. We offer this exhibit.

MR. VIRTUE: Okay.

MR. LOVEJOY: I would suspect that these are notes made by the recipient, although this is marked a draft now.

MR. VIRTUE: I'm going to admit the exhibit with the understanding that we do have handwritten notes here, we don't know the source.

MR. LOVEJOY: Okay.

MR. VIRTUE: So if someone thinks they're pertinent and wants to argue about it, I'll have to consider it. We don't know the source to consider it.

(Exhibit Citizens 5 admitted into evidence.)

MR. VERHEUL: Mr. Hearing Officer, could there also be clarification at some point? There are Bates numbers on here that indeed as counsel notes are different than what the witness previously testified to. So if these don't reflect -- the Bates numbers that are on this exhibit do not reflect their current place in the administrative record, I wonder if that could be clarified, as well, in order to avoid confusion going forward?

MR. VIRTUE: Can you clarify that, Mr. Lovejoy?

MR. LOVEJOY: I don't think I can. I'm not

sure what's meant by that they don't reflect their place in the administrative record. These are -- this is part of the administrative record at number 03655, to my knowledge. I think that's where we got it.

MR. VIRTUE: Mr. Verheul, do you have any --

MR. VERHEUL: I'm looking through the index as we speak.

I believe counsel is correct. Those are, in fact, the correct Bates numbers according to my Administrative Record Index. So I don't know what that -- how that impacts the witness' prior testimony, but I withdraw any question or objection.

MR. VIRTUE: Okay. Thank you.

Proceed, Mr. Lovejoy.

MR. LOVEJOY: Thank you.

Q. Mr. Beers, would you look at the first paragraph. About six lines down, there's a sentence that begins "It is."

Do you see that?

A. I do.

Q. Would you please read that aloud into the record.

A. I'd be glad to.

"It is the Laboratory's" -- is my mike on?

Q. I think so.

A. "It is the Laboratory's view that a groundwater discharge permit will not be required for this project because there is no reasonable probability or likelihood that liquid contained in the evaporation tanks will move into groundwater, either through a leak or by overflow."

Q. Thank you.

Would you turn to slide 3, please.

Was it your intention to show here on this list actions by the Environment Department that bear on a water -- issuance of a water quality permit for the RLWTF?

A. Mr. Lovejoy, I don't understand the question.

Could you please rephrase it for me?

Q. Okay.

Did you intend to show here any actions by the New Mexico Environment Department that bear on the issuance of a Water Quality Act permit for the Radioactive Liquid Waste Treatment Facility?

A. Mr. Lovejoy, I can identify several actions taken by NMED identified in this slide.

For example, February, 2012, we submitted a permit application, and then subsequently in May, 2018, NMED issued a draft permit.

Q. So you listed some actions by NMED that bear

on the issuance of a Water Quality Act permit for this facility, correct?

A. Correct.

Q. What did you leave out?

MR. BUTZIER: Mr. Hearing Officer, I would object to that. That's a vague, open-ended question, and if there are particular things that Mr. Lovejoy believes were left out, in fairness to this witness, I think it should be -- they should be identified and asked about it in that fashion.

MR. VIRTUE: I'll allow the witness to address whether he has knowledge of what was left out or not before we proceed further.

MR. BEERS: Mr. Hearing Officer, this permit spans a long period, from 1996 to the present. There are a lot of steps in there that aren't reflected in this slide. So I'd like to bound it a little tighter, if we could.

MR. VIRTUE: Mr. Lovejoy, can you be more specific as to what you're getting at in terms of what was left out?

MR. LOVEJOY: I certainly can, Mr. Hearing Officer.

Q. Toward the end of 2010, the New Mexico Environment Department issued a Hazardous Waste Act

permit for Los Alamos National Labs.

Do you remember that?

A. Mr. Lovejoy, I -- I have no experience in hazardous waste permits. I am not familiar with that at all.

Q. Are you aware that the hazardous waste -- I'm sure there's no dispute that such a permit exists.

Are you aware that the 2010 Hazardous Waste Act permit states as follows concerning the Radioactive Liquid Waste Treatment Facility? In paragraph 4.6, it says "The Permittees shall discharge all treated wastewater from the TA-50 radioactive liquid waste treatment facility (RLWTF) through the outfall permitted under section 402 of the federal Clean Water Act, or as otherwise authorized by the terms of an applicable Clean Water Act permit that regulates the treatment and the use of wastewater. If the Permittees intentionally discharge through a location other than the permitted outfall or as otherwise authorized, they will fail to comply with this requirement, and as a consequence, the wastewater treatment unit exemption under 40 CFR 264.1(g)(6) will no longer apply to the RLWTF." (As read.)

Were you aware of that?

MR. BUTZIER: Mr. Hearing Officer, I would

like to avoid having to interrupt Mr. Lovejoy's questioning throughout this hearing as much as possible, and -- and to accomplish that, I would like to right now state a continuing objection to questions that relate to the Hazardous Waste Act, the hazardous waste permitting history associated with this facility, the RCRA, the federal RCRA, and issues that relate to the wastewater treatment exemption.

This is a discharge permit hearing that is -- has very well defined issues based upon whether there are discharges that need a discharge permit, and I would object and like to make that a continuing objection that I don't need to repeat multiple times throughout the day.

MR. VIRTUE: Okay. Mr. Lovejoy, I'm going to let you continue asking your questions, but if we start getting into repetition, accumulation, legal argument, I may ask you to discontinue your questioning. But let's pursue this line of questioning for now.

MR. LOVEJOY: Mr. Hearing Officer, let me just explain in response to Mr. Butzier's comments.

It's the applicants' obligation in this proceeding to establish that they're entitled to a permit, and it's quite clear that they've resolutely decided not to shoulder that burden. The Water Quality

Act specifies that it does not apply to any activities which are covered by the Hazardous Waste Act, which is the state equivalent of RCRA.

And it's their obligation to demonstrate that, and specifically the only way I think they might even have a shot at doing so is through showing that the wastewater treatment exemption applies here, which it doesn't. And we can show you why it doesn't.

But it is obviously directly relevant to whether the Environment Department can issue a Water Quality Act permit. There's -- the Water Quality Act has a specific exclusion for any activities that are covered by the Hazardous Waste Act.

MR. BUTZIER: Mr. Hearing Officer, if I may respond.

Mr. Lovejoy has interjected a legal argument relating to what is or is not part of the burden in this discharge permit hearing. Triad and DOE disagree with that position, and it is our intention to brief that position as part of the posthearing submissions if this proceeds forward and these types of questions are allowed.

I'd just like to state that we -- again we have a continuing objection, we disagree with the position that part of our burden relates to an entirely

different regulatory regime. And so I just want to make that clear for the record, that we intend to address that.

MR. VIRTUE: Mr. Lovejoy, do you have a response to that?

MR. LOVEJOY: If Mr. Butzier has a continuing objection, I -- that's fine, and we will address this both during the hearing and in the posthearing submissions. This is critical in this case, Your Honor. There's -- part of the Water Quality Act says specifically it does not apply where the hazardous waste does apply -- Hazardous Waste Act applies.

And the Hazardous Waste Act does apply here. And it's discussed in the Hazardous Waste Act permit, and the terms of the exclusion from Hazardous Waste Act coverage are set forth in that permit, and they have not been met.

MR. VIRTUE: I believe the witness stated that he has no knowledge of how the Hazardous Waste Act applies and works. So to the extent he has no knowledge of that, I don't think he's going to be able to be responsive to questions.

If you believe he has knowledge of facts that might be pertinent to your legal argument, you can proceed with your questioning, and I'll allow you to

attempt to do that. But I don't think it's appropriate to restate your legal argument over and over again.

MR. LOVEJOY: Thank you, Your Honor.

Q. Did you review your previous testimony?

A. I'm sorry. I didn't quite hear.

Q. Did you review your testimony from 2018?

A. Did I review.

Q. Yes.

A. Mr. Lovejoy, yes, I did.

Q. And did you find anything to correct?

A. Honestly, I can't recall right now. If there were changes, they were relatively minor.

Q. Now, the Environment Department's regulations specify that groundwater is, quote, interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply, unquote.

Do you recall that?

A. I do recall that, yes, Mr. Lovejoy.

Q. Okay.

And the Department's regulations state that a discharge plan consists of operational, monitoring, contingency and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into groundwater, correct?

A. Mr. Lovejoy, that's correct.
Q. Is the RLWTF currently emitting any effluent or leachate which may move directly or indirectly into groundwater as the regulations define it?
A. Yes. We -- when we discharged on June 18, 2019, to Effluent Canyon, we discharged treated effluent that moved into -- had the potential to move into groundwater.
Q. That was the only discharge through Outfall 051 that has occurred since November, 2010, correct?
A. Correct, Mr. Lovejoy.
Q. And you said previously in testimony that LANL intends to only periodically use this discharge location, Outfall 051, such as on occasions when the evaporation units are under repair or in the event the volume of treated effluent discharged from the RLWTF exceeds the capacity of the evaporation units. And I'm quoting. True?
A. Mr. Lovejoy, I would also add to that operational readiness as another reason for the facility to discharge to Outfall 051.
Q. Is that a change in your previous information?
A. Mr. Lovejoy, I don't believe so. I think we previously identified operational readiness as a -- as a reason for discharging.

Q. But when asked about the conditions, you previously said that the conditions that will determine when a discharge to Outfall 051 occurs were when the MES and the SET are out of operation, being repaired or when the facility received larger than expected volumes of effluent, correct?

MR. BUTZIER: Mr. Hearing Officer, I'll object on two bases, asked and answered, and also if he's just going to ask about specific prior statements, it would be helpful for this witness to see what it is that Mr. Lovejoy is referring to.

MR. VIRTUE: Mr. Lovejoy, can you refer the witness to his prior statements?

Q. (BY MR. LOVEJOY) Do you have the transcript from your previous testimony?

A. Mr. Lovejoy, I do not.

Q. I'm going to show you page 101 of the previous transcript.

And I'll just read so the court reporter can get it. On -- I'll start at line 2.

Question, "Isn't it true that being authorized isn't the same thing as discharging?"

Answer, "I would agree."

Question, "There is a text that parallels some things you mention in that same paragraph stating that

the lab maintains an NPDES, that's the federal permit, for Outfall 051, so that it can maintain capacity to discharge should the SET and/or the MES become unavailable due to maintenance, malfunction and/or if there is an increase in treatment capacity caused by changes through LANL's scope/mission. Is that the lab's purpose in seeking issuance of DP-1132, as well, one of its purposes?" (As read.)

MR. VERHEUL: Mr. Hearing Officer --

Q. (BY MR. LOVEJOY) And you answered "Yes, I would agree."

MR. VERHEUL: I'm sorry to interrupt, but at this time, I'd like to just simply renew my opposition to introduction of transcripts, pleadings, anything from the hearing which took place in April of last year, which I believe is what counsel is doing now.

MR. LOVEJOY: Your Honor, it's --

MR. VIRTUE: Is this part of the information that was excluded from the record that you want to add in?

MR. LOVEJOY: I think -- I think this has been taken out of the record. Yes. This I'm offering now under the prior inconsistent statement exception to the hearsay rule which expressly authorizes this type of examination.

MR. VIRTUE: Okay. I'm going to allow you to continue to ask the questions.

Q. (BY MR. LOVEJOY) Was that your testimony?

A. Mr. Lovejoy, on line 15, I answered "Yes, I would agree."

Q. Thank you.

So the last discharge before this one in June through Outfall 051 was in November of 2010, and there was -- no one sensed a need to run a test for operational readiness until sometime eight years later almost; is that true?

MR. BUTZIER: Mr. Hearing Officer, I object. That assumes facts that are not in evidence. In fact, there are other parts of this transcript referred to by Mr. Lovejoy in which Mr. Beers specifically testified about the importance of readiness as to Outfall 051.

And so for Mr. Lovejoy to simply cherry-pick a part of a lengthy transcript of hearing and not acknowledge that there are other places in the hearing that go to the specific issue that Mr. Beers testified he had previously testified about is just improper. It's an example of why it's inappropriate, going to Mr. Verheul's objection, to reach back and try to look at a lengthy hearing record from a previous proceeding that WQCC has indicated no longer should be considered.

MR. VIRTUE: You'll have the right, Mr. Butzier, to redirect this witness after Mr. Lovejoy concludes. So to the extent he's mischaracterized it, I should -- you can point that out when you're redirecting.

Proceed.

MR. LOVEJOY: I don't think we got an answer to the question.

MR. BEERS: Would you please repeat.

Q. (BY MR. LOVEJOY) From November, 2010 to June of 2018, nobody said it was necessary to do an operational readiness test of Outfall 051, did they?

A. Mr. Lovejoy, management at the laboratory made a decision that I was not privy to nor participated in not to discharge to Outfall 051. I cannot speak to the reasons why that decision was made.

Q. In June of 2019, who was in charge of directing whether there would be a discharge through Outfall 051 or not?

A. Laboratory management would -- made that decision.

Q. Who in terms of human beings? Who did that?

A. I -- I can only speculate as to who participated in that decision process. I -- I cannot give you a specific names.

MR. BUTZIER: Mr. Hearing Officer, I would also like to interject an objection that these are questions going to things that are beyond the scope of any part of Mr. Beers' direct testimony.

MR. VIRTUE: Mr. Beers, if that's correct, I'm going to overrule that objection, but if this is going beyond what you testified and you have no direct knowledge, you can certainly just decline to answer the question.

Q. (BY MR. LOVEJOY) Well, let me just ask you to clarify. What do you mean when you say management? Can you -- who are you -- what positions? Who are you talking about?

A. Mr. Lovejoy, as you are probably well aware, Los Alamos National Laboratory is a very large and complex institution. There are -- there's management at the environmental protection level, at the operations level and then senior management at the laboratory. I cannot tell you who in those organizations participated in that decision-making process.

Q. Okay. Talking now about the MES and the SET -- you know, that refers to the mechanical evaporation system and the solar evaporation tanks, but I'm going to use the abbreviations. Okay?

Water directed to them, unlike water sent to

Outfall 051, does not reach surface water and does not have the potential to reach groundwater, true?

A. Mr. Lovejoy, that would be correct.

Q. And in contrast, releases through Outfall 051 are directly to ground, right?

A. Mr. Lovejoy, that is correct.

Q. Now, the MES or some other evaporation equipment has been in operation at the RLWTF since about 2010, hasn't it?

A. Mr. Lovejoy, that's correct.

Q. And when it came into use, NMED did not suggest that that unit needs a Water Quality Act discharge permit, did it?

A. Mr. Lovejoy, the NMED was notified of the laboratory's intention to install and operate the mechanical evaporator, and it was regulated under the Discharge Permit 1132 application. It was part of the application process.

Q. It was added to the application process in 2012, was it? Is that what you mean?

A. No. NMED would have been notified prior to operation 2010.

Q. NMED was notified that the MES or a predecessor was going into operation, correct? Is that what you mean?

A. Mr. Lovejoy, what I mean is that Los Alamos National Laboratory notified NMED of their intention to place the mechanical evaporator into service prior to its use.

Q. And did NMED respond when it so notified that this was a discharge that had to be regulated under the Water Quality Act?

A. Mr. Lovejoy, it's my memory that they did not respond, but I would have to review the record to verify that.

Q. Is the release of wastewater from a treatment facility to the MES a new discharge in the terms of the Water Quality Act?

A. Mr. Lovejoy, the MES was a new addition to operations at the RLWTF, and it -- yes, it was a new discharge pathway for the RLWTF.

Q. And since the issuance of DP-1132 last year and then the vacatur of the permit under the order of the WQCC, LANL has sought temporary permission to use the MES, has it not?

A. Mr. Lovejoy, that is correct.

Q. And permission was granted for 120 days in accordance with the statute and the regulations, correct?

A. Mr. Lovejoy, that is correct.

Q. And then although the regulation limits temporary permission to 120 days for new discharges, the lab got another extension of another 120 days, true?

MR. BUTZIER: Mr. Hearing Officer, embedded within that question was part of a question that calls for a legal conclusion, and I just want to be clear that nothing that Mr. Beers testifies about relates to legal conclusions. He's not a lawyer.

MR. VIRTUE: Mr. Beers, if you feel like you can answer the question as a technical matter, you may proceed, with the understanding --

(Discussion off the record.)

MR. VIRTUE: If Mr. Beers feels like he can answer the question as a technical matter, I would encourage him to do so, if -- with the understanding that it will not be deemed to be a legal conclusion, it will just be his conclusion within his technical expertise.

MR. LOVEJOY: To assist the witness, may I approach him?

MR. VIRTUE: Certainly.

MR. LOVEJOY: I'm going to show the witness the regulations under the Water Quality Act 20.6.2.3106B, and I will point out to him that in B it says "For good cause shown the secretary may allow such

person to discharge without a discharge permit for a period not to exceed 120 days."

Q. It's your recollection that a temporary permission was -- for 120 days was given twice so far?

A. Mr. Lovejoy, I believe you are correct, that the NMED renewed Los Alamos National Laboratory's extension request.

Q. Thank you.

A. Mr. Lovejoy.

Q. Hang on to those.

Now, in the Exhibit 5, attached to your prepared testimony, prefiled testimony, I'm looking at page 2, second paragraph, second half of that paragraph, you state -- in effect, I think it's fair to say you're saying that releases to the MES and to the SET are discharges, and you state "Accordingly, even if the intended discharges authorized by Draft DP-1132 'through Outfall 051' to Effluent Canyon were disregarded, and only the discharges to the MES and SET evaporator systems were to be considered, CCW's position is still flawed, because it is the 'potential' for a discharge to get to ground water that matters, regardless of intent."

And in that statement, are you saying -- because you've adopted these comment responses -- are you saying that when water is piped to the MES or the

SET it has the potential to get to groundwater?
A. Mr. Lovejoy, that's correct. I am saying it has the potential to get to groundwater.
Q. In the sense that anything is possible, right?
A. In the sense that vessels leak, vessels have the potential to leak.
Q. And you testified at the last hearing that NMED issues permits for potential discharges as a fundamental part of their permitting program and that that is what is proposed in DP-1132, correct?
I will show you the testimony if you'd like.
A. Please.
Q. Under the transcript of the 2018 hearing, page 119, and you state, starting line 5, "I think the objective of the statement was to point out that NMED does permit potential discharges and it's a -- a fundamental part of their permitting program."
Question, "And that's what's proposed in DP-1132, isn't it?"
Answer, "That is correct." (As read.)
Did you give those answers?
A. Mr. Lovejoy, I did.
Q. But the MES and the SET are designed and constructed so that they won't leak, aren't they?
A. Mr. Lovejoy, that certainly is the intention.

Q. But it's your view that they should be -- that releases of water -- treated water to the MES and SET should be regulated as discharges because there's the potential for a failure of the containment system in each case, true?

A. Mr. Lovejoy, that's not my opinion. That's the NMED's position --

Q. Is it --

A. -- in the discharge permit.

Q. Is that your position, as well?

A. Well, I don't have a personal position on that, Mr. Lovejoy.

Q. Well, speaking here as a representative of the lab, is that your position?

A. I would remind Mr. Lovejoy that in 2007 we argued a discharge permit was not required for the SET, but we were overruled by the NMED.

Q. And aren't there a lot of facilities at the lab that have tanks and pipes that contain contaminants?

A. Mr. Lovejoy, that is correct. There are tanks and pipes at the laboratory that are not covered by discharge permits.

Q. Tanks and pipes are not covered by discharge permits?

A. That is correct.

Q. Why not?
A. Mr. Lovejoy, I -- I cannot answer that question. You'd have to ask NMED.
Q. You still have the regs in front of you, don't you?
A. I do, Mr. Lovejoy.
Q. Would you look, please, at 20.6.2.3106, concerning applications.
And I'll get my copy.
Does subsection A of this rule concern old or grandfathered discharges and subsection B describe new discharges?
MR. BUTZIER: Again, Mr. Hearing Officer, I'll object to questions that call for legal conclusion. And if I may, I would just go ahead and make a continuing objection when questions are asked about interpretations of these regulations.
MR. VIRTUE: If the witness can respond to the question from your perspective in terms of your personal knowledge as a technical expert, you may respond, I would ask you to respond, with the understanding it's not a legal conclusion, it's just your technical opinion.
Q. (BY MR. LOVEJOY) Does subsection A describe old or grandfathered discharges and subsection B

describe new discharges?

A. Mr. Lovejoy, that's my understanding.

Q. And the division between old and new is June 18th of 1977?

A. Mr. Lovejoy, I believe that is correct.

Q. Okay.

Now I'm going to give you the Water Quality Act. And I'll draw your attention to 74-6-5 subpart I. Look at any part of this you want to.

This says that for new discharges the term of the permit shall commence on the date the discharge begins.

Would that rule apply to DP-1132?

A. Mr. Lovejoy, I do not know how this would be applied. I would have to defer to NMED's interpretation on this.

Q. So the phrase "on the date the discharge begins" is puzzling to you?

A. Mr. Lovejoy, because the RLWTF began discharging in 1963, it's unclear to me how this would be applied. I'm not familiar enough with the implementation of this regulation to answer the question.

Q. But there wasn't any MES in the 1960s, was there?

A. No, there was not, Mr. Lovejoy.
Q. And there wasn't any SET in the 1960s, was there?
A. No, Mr. Lovejoy, there was not. However, the laboratory was discharging.
Q. You're talking about Outfall 051.
A. Correct.
Q. Doesn't the permit itself, Exhibit 9, specify the effective date of the discharge plan?
A. Mr. Lovejoy, I believe that is correct.
Q. I'll have to turn to it. My notes say it's on page 49. It may be different with this red-line.
Oh, I see that someone has filled in dates.
But on page 50 of the red-line, your Exhibit 9, it says Effective Date August 29, 2018, Term Ends August 29, 2023. And I'm not sure now how that one might change if this is reissued. But then it says 20.6.2.3109H, that's the -- in the regs, and then it says 74-6-5.I, which is the part I just referred you to in the statute.
MR. BUTZIER: Mr. Hearing Officer, again this goes beyond -- well beyond the scope of this witness' testimony.
MR. VIRTUE: I believe the witness did submit these proposed changes to the permit. So I think it

does fall within the scope of his testimony.

However, I do note that the questioning, Mr. Lovejoy, seems to be going back and just reciting what was said in the witness' testimony without adding any substance to what was said. So I would caution you at this point to not ask questions just asking him to recite to what he previously testified to and limit your questioning to specific points where you think there might be some area that you could impeach him on.

MR. LOVEJOY: Let me just ask him this.

Q. You have the regs there, and I referred you to 3109H.

Do you have that?

A. I do, Mr. Lovejoy.

Q. In subpart 4, it says -- it's -- well, the heading -- the first sentence says "The secretary shall not approve a proposed discharge plan, modification, or renewal for," and item number (4) is -- it's "a period longer than five years, except that for new discharges, the term of the discharge permit approval shall commence on the date the discharge begins, but in no event shall the term of the approval exceed seven years from the date the permit was issued; for those permits expiring more than five years from the date of issuance, the discharger shall give prior written notification to the

department of the date the discharge is to commence; the term of the permit shall not exceed five years from that date."

Do you know whether any such notification as is referred to has been made?

A. Mr. Lovejoy, to my knowledge, no notification has been made for the SET. However, I do believe that laboratory had a practice of submitting NOIs to the NMED periodically, informing them of discharges.

Q. There was an NOI concerning each discharge?

A. Concerning discharges to 051 and the MES.

Q. Was there a notification given concerning the discharge of June 18th, 2019?

A. Mr. Lovejoy, I would have to research that to provide you with an answer.

Q. Do you know whether the permit was in effect at the time that discharge was made?

A. Mr. Lovejoy, are you referring to the June 18th discharge to Outfall 051.

Q. Yes.

A. It's -- Mr. Lovejoy, it's my understanding that the permit was in effect until midnight of that date, of June 18, 2019.

Q. What -- how do you know that?

A. Mr. Lovejoy, that was provided to me by

counsel.

MR. LOVEJOY: That's all I have.

MR. VIRTUE: Does the Department have questions of this witness?

MR. VERHEUL: We do, Mr. Hearing Officer.

CROSS-EXAMINATION

BY MR. VERHEUL:

Q. Good morning, Mr. Beers.

Do you still have the Administrative Record Index in front of you?

A. Mr. Verheul, I do.

Q. If I could ask you to please turn to page 84 of that index.

I think the second entry on that page, and it may be somewhere else based on printing, but Bates numbers 14636 to 14672, that's a July 22, 2019, letter.

Can you review that entry in the Administrative Record Index?

A. I have it in front of me.

Would you like me to read it?

Q. No. That's not necessary.

Could you confirm, does that represent the same letter that previously came in during your direct testimony as Triad/DOE Exhibit 21?

A. Yes. That would be correct.

Q. One other question, ask you to clarify something.

Could you turn to Exhibit 9 to your direct testimony. This is your red-line/strike-out version of the draft permit. And if when you get there, you can turn to page 23.

A. I'm on 23.

Q. During your direct testimony, you testified that one of your proposed -- or that your proposed change to this particular exhibit was that -- and I believe you referred to it as condition 16.b be stricken.

It appears to me in your red-line/strike-out version that if your changes were adopted, that would actually be 15.b; is that correct? Are we talking about the same paragraph here?

A. Mr. Verheul, that is correct. With the new numbering, it would be 15.b.

Q. Okay.

I have no further questions.

MR. VIRTUE: Thank you.

Mr. Butzier, any redirect?

MR. BUTZIER: Thank you, Mr. Hearing Officer. I do have some brief questions on redirect.

REDIRECT EXAMINATION

BY MR. BUTZIER:

Q. Mr. Beers, Mr. Lovejoy referred you to some prior testimony in the earlier hearing in which you identified reasons why it's important to discharge from Outfall 051.

Do you recall that line of questioning?

A. Yes, I do.

Q. I'm putting in front of you a transcript of the previous hearing and pointing out that on page 18 -- excuse me -- 81, beginning at line 11, Mr. Lovejoy asked in that proceeding "What other circumstances -- you said there might be others. What other circumstances would in your words determine the need to discharge through Outfall 051?" (As read.)

And I would ask you to read the answer that you provided in that prior proceeding.

A. "Madam Hearing Officer, Mr. Lovejoy, you may be aware that at a facility as complex as the RLWTF it's very important to maintain readiness to conduct an operation, and so establishing readiness is -- would be a condition to discharge to Outfall 051." (As read.)

Q. Thank you, Mr. Beers.

I'd like to talk for a minute about some of the questions Mr. Lovejoy was asking relating to

potential discharges.

Do you recall those questions?

A. Yes, I do.

Q. And just to clarify terminology, is it the case that permits are required under the groundwater discharge permitting program for discharges which essentially may reach groundwater?

A. That is correct.

Q. When you use the term "potential" in the context of your testimony, are you referring to potential discharges or the potential that discharges may reach groundwater?

A. I'm referring to the latter, that discharges may reach groundwater.

Q. And I believe it was your earlier testimony that discharges do occur to the MES facility, correct?

A. That is correct.

Q. And I believe it was your testimony that those are not potential discharges, those are actual discharges, correct?

A. Those -- that is correct. Those are actual discharges authorized by the discharge permit.

Q. And the way the potential concept comes into play is essentially a nod to the notion that a discharge permit is required if a discharge may reach groundwater,

correct?

MR. LOVEJOY: If I may, Your Honor, this is supposed to be redirect, and counsel is simply reading the answer to the witness. It's improper as to form.

MR. VIRTUE: I believe the question was a bit leading. If you could ask a more direct question.

Q. (BY MR. BUTZIER) What's your understanding of how the word "potential" even comes into the conversation when talking about discharges?

A. It's my understanding that potential is used to identify a release that may reach groundwater, a release that has the potential to reach groundwater.

Q. I'd like to also ask you about the discharge that occurred through Outfall 051 on June 18, 2019.

I believe Mr. Lovejoy has asked questions relating to the relationship of that discharge to what happened at the WQCC in vacating the DP-1132 that was previously issued.

And I would ask what -- is there a relationship, and what had to happen prior to the discharge that occurred on June 18, 2019?

A. It's my opinion that that was strictly coincidental, that the discharge and the remand occurred on the same date.

Prior to discharging to Outfall 051, as I

previously referenced, the RLWTF was required to conduct a watertightness test on the conveyance line from the facility to Effluent Canyon. That test was completed, I believe, approximately two months prior to the discharge, and that once the tightness test was completed, plans for the discharge were made.

There was a significant number of samples that needed to be collected at the time of the discharge. So there was substantial predischarge planning that went on before the June 18 discharge.

Q. Thank you.

And I'd like to talk again about your testimony relating to discharges to the MES.

I believe in answer to one of Mr. Lovejoy's questions you indicated that you did not expect discharges to the MES to result in contaminants reaching groundwater.

Do you recall that?

A. I do.

Q. Is it also your testimony that discharges to the MES may reach groundwater?

MR. LOVEJOY: Objection, the question asks for speculation.

MR. VIRTUE: Well, he's asking for him to give his technical opinion about whether discharges may reach

groundwater. I think it's appropriate.

MR. BEERS: Could you please restate that.

Q. (BY MR. BUTZIER) Is it your professional opinion that discharges of treated water, treated effluent to the MES facility may reach groundwater?

MR. LOVEJOY: Same objection.

MR. VIRTUE: I'll overrule.

You can answer the question.

MR. BEERS: The RLWTF makes every effort to prevent unplanned releases. The feed tank to the mechanical evaporator has secondary containment, but it is -- the potential for a release is always present.

MR. BUTZIER: Thank you.

Q. Do you recall the questions from Mr. Lovejoy relating to Water Quality Act Section 74-6-5.I of -- regarding when a discharge begins?

A. I do.

Q. Have discharges begun to the MES facility?

A. Yes, they have. Discharges to the MES began in 2010.

Q. Have discharges begun through Outfall 051?

A. Yes. Discharges through Outfall 051 began in approximately 1963.

Q. And finally, I'd like to ask you, Mr. Beers, if you know the answer, why was temporary permission

sought from NMED prior to the vacation of the DP-1132 by the WQCC previously?

Is that a difficult to follow question?

A. Would you --

Q. Maybe I can rephrase it.

MR. LOVEJOY: It contains an assumption, Your Honor, that's not supported.

MR. BUTZIER: I'll withdraw that question, and I'll rephrase it.

Q. Do you have an understanding of why LANL felt it important to request temporary permission?

A. Yes, I do. Temporary permission was requested in order for the laboratory to continue implementing a number of work plans that had been approved by the NMED.

Q. And can you provide examples of those work plans that you refer to?

A. Yes, I can. The two new alluvial groundwater monitoring wells in Mortandad Canyon were on the verge of being installed, as were the eight moisture boreholes at the SET. In addition, there were stabilization plans that were submitted and approved by NMED that the laboratory wanted to continue to move forward on.

Q. And were there work plans also relating to the soil moisture monitoring wells related to the SET facility?

A. Yes, there were.

Q. And are all of those examples that you've just discussed, the two new alluvial wells, the stabilization plans and the carrying out the work plans that had been approved by NMED and continuing work collection of baseline data from the soil moisture monitoring system -- were all of those -- what's the purpose of all of those types of activities?

A. Well, all of those activities were being implemented pursuant to Discharge Permit 1132. They were all requirements in the permit.

Q. And was there a purpose for those that's in common, namely the protection of the environment?

A. Absolutely. The new groundwater monitoring wells were to improve downgradient monitoring of groundwater, the soil moisture monitoring system as I previously described, and stabilization of vessels that had been removed from service.

MR. BUTZIER: Thank you.

I have no further redirect, Mr. Hearing Officer.

MR. VIRTUE: Thank you.

Mr. Lovejoy, any recross?

MR. LOVEJOY:

RECROSS-EXAMINATION

BY MR. LOVEJOY:

Q. Mr. Beers, you've talked about the -- oh. Sorry.

Mr. Beers, you talked about possible unplanned releases from the MES and the various efforts that are made to prevent that.

What's the probability of an unplanned release from the MES?

MR. BUTZIER: Mr. Hearing Officer, I'm sorry to have to object again. I think he -- I think Mr. Lovejoy is now going back and asking questions that relate to testimony -- part of his direct testimony, and the purpose of recross is to ask questions relating to cross-examination, and we did not get into those issues.

MR. VIRTUE: The objection is granted. I believe you need to limit your recross to the scope of the redirect.

MR. LOVEJOY: I'm -- there was, if I may, a question just on this subject, and he testified about the probability -- possibility of this happening. This was in redirect.

MR. VIRTUE: Okay. If I recall, I think that's correct. So I do recall a question was asked on that subject so you may proceed.

MR. LOVEJOY: Thank you.

Q. What's the probability of an unplanned release from the MES?

A. Mr. Lovejoy, that would be speculative on my part to -- to give you any probability. I can't answer that question. I'm not an engineer. I don't know what the odds are.

Q. Would you say it's highly unlikely?

A. I would say it's highly unlikely.

MR. LOVEJOY: Thank you.

That's all I have. Done.

MR. VIRTUE: Mr. Verheul, any questions?

MR. VERHEUL: No.

MR. VIRTUE: Okay.

MR. BUTZIER: Nothing further.

MR. VIRTUE: I believe we have concluded the testimony of Mr. Beers.

At this point, I do have questions on the status of Exhibit 21. I'm not sure that was admitted. It is part of the administrative record, as I understand it. And I don't recall it being offered.

MR. BUTZIER: Thank you. Thank you, Mr. Hearing Officer.

You're correct that it is part of the administrative record, but I don't think there's any

harm in moving for its admission, and I appreciate you bringing that to my attention.

MR. VIRTUE: Okay. We will admit Exhibit 21, Applicants' Exhibit 21 into the record.

(Exhibit Triad/DOE 21 admitted into evidence.)

MR. VIRTUE: Mr. Beers is excused.

We're going to pause for a moment to check on the availability of some of the public commenters who have arrived and may need to proceed at this point.

(Proceedings in brief recess.)

MR. VIRTUE: We do have several members of the public that would want to submit general testimony at this point and would like to proceed due to their schedule so I'm going to allow them to do so. We'll interrupt the applicants' presentation.

I believe the first person is Kathy Sanchez from San Ildefonso Pueblo.

Is she present?

MR. LOVEJOY: She's here.

MS. SANCHEZ: I will defer my time to Ms. Arasim. She's got to leave first.

MR. VIRTUE: Okay.

Would you please identify yourself and proceed to make your testimony.

You'll need to be sworn in first.

THE REPORTER: And come up to the table, please.

EMILY ARASIM

having been first duly sworn or affirmed, gave public comment as follows:

PUBLIC COMMENT

THE REPORTER: Would you state your full name and spell it, please.

MS. ARASIM: My name is Emily, E-M-I-L-Y, last name Arasim, A-R-A-S-I-M.

THE REPORTER: Thank you.

MS. ARASIM: Absolutely.

Mr. Hearing Officer, thank you for allowing me to speak earlier in the comments today. I do need to return to work.

Good morning, everyone.

My name is Emily Arasim, and I'm a young person who was born and raised in the Espanola Valley here beneath Los Alamos National Labs.

I'm here today to express my full support of the position which will be made by the Citizens groups, CCW, Communities for Clean Water, and Mr. Lovejoy and Mr. Block. We oppose the issuance of the groundwater permit and are calling for application of the RCRA Hazardous Waste Act regulations or -- and/or the New

Mexico Hazardous Waste Act regulations.

After all of the pain and the danger that our communities have been subject to over decades due to the action of LANL, in my opinion, the very least that should be done by LANL at this point is to willingly -- willingly and openly comply with the most stringent possible permitting regulations on this facility. Approving the drafted groundwater permit as is gives the labs continued wiggle room to endanger our waters, our lands and communities, and at this point this is just unacceptable.

As a young person from New Mexico, I'm heartbroken and feel a bit betrayed to think that LANL is continuing to fight so hard with us and go through these complicated and bureatic proceedings over and over again, against the best interests of our communities and our health and safety. We're not asking for anything unordinary. We're asking for a hazardous waste permit on a facility that generates hazardous waste.

So my comment here today is to ask you to hear our requests which we've now made many times and to please not issue this permit and to please take seriously the requests and evidence that will be put forth by CCW and Mr. Block and Mr. Lovejoy today for much more stringent and appropriate regulations of this

facility under the Hazardous Waste Regulations Act (verbatim).

Thank you.

MR. VIRTUE: Thank you, Ms. Arasim.

Is Mr. DeVolder, Mark DeVolder present?

MARK DE VOLDER

having been first duly sworn or affirmed, gave public comment as follows:

PUBLIC COMMENT

THE REPORTER: Would you please state and spell your full name, please.

MR. DE VOLDER: Mark DeVolder, full name is Mark Jeffrey DeVolder.

THE REPORTER: Spell it, please, the last name.

MR. DE VOLDER: D-E-capital-V-as-in-Victor-O-L-D-E-R.

Sometime ago I became aware that there were going to be discharges from the laboratory, and I had looked over information from the community Broomfield, up in Colorado, have worked as an engineer at the Rocky Flats plant, was aware of plume issues at Rocky Flats, of plutonium contamination.

There were documents issued that I looked at on the Internet that discuss tritium releases. There

were nitrate issues. These releases had impacts on water supplies of various communities in Denver. There were also issues from the Rocky Mountain arsenal of contaminants that had to be retarded by bentonite dams.

So my primary concern at the time that I became interested in the DP-1132 effort was that water is a major issue, is a major contaminant in this case, not necessarily actinides, not necessarily nitrates and so on, but water.

My concern is in Los Alamos County we are run -- overrun with rodents. That means mice, that means gophers, ground squirrels and so on. Any release of a water over and above what has historically occurred in this ecosystem can essentially affect the rodent population.

Just this week, as a matter of fact, the county came by to clean out water meter enclosures that had been filled with dirt. Rodents leave behind feces, urine and so on that can cause problems with disease.

So why am I bringing all this up?

Because these water releases help to grow vegetation. The vegetation can essentially leach or draw radioactive materials out of the ground. That was an issue during the fires we had in the Los Alamos area. In addition to that, water helps to grow scrub oak.

Scrub oak is the favorite food of some of these rodents. They'll eat almost anything that's green, but they have preferences.

So the concern I have is as you add more water to the ecosystem, as Los Alamos expends the community, as the laboratory has different operations that require processing of nuclear materials and nuclear effluents, this can have an effect on the water that is released to the ecosystem.

I'm a chemical engineer. I look at this not as just somebody who's just interested in what's going on, but from a practical standpoint. Essentially there are many, many issues associated with this -- this entire effort.

I heard this morning about reverse osmosis systems. Reverse osmosis systems are used to remove contaminants from water. Reverse osmosis systems also require flushing. Now, I did not hear any technical details about the reverse osmosis system, but essentially if you're removing some type of contaminant with a reverse osmosis system, it requires flushing.

And that flushing of material has to go someplace. I didn't hear any information about where that flushed effluent goes from a reverse osmosis system.

I heard about secondary containment systems. Mr. Beers was kind enough to talk about potential leaks and so on. So it sounds very good that we have a solar evaporation system with leak detection, with two layers of liner, with interstitial leak detection.

My question is I do know that there is a potential for those membranes to leak. They'll leak into a concrete basin, which is a type of containment, but historically concrete will crack. So there are issues, I think, with any sort of leakage that's essentially finding its way to groundwater.

I'm not hearing anything at this point about where that leakage goes, if it goes through the membranes, if that concrete containment essentially has to be pumped out or the water transferred very rapidly to prevent, you know, or mitigate such a leak.

There was a discussion about operator competency. As a former PSAP employee, Personnel Security Assurance Program, person at the laboratory, I realize that there are stringent requirements for people working in nuclear facilities, that they're knowledgeable and they're careful about the work that they do.

Unfortunately, I was present at a -- at a presentation by a former Albuquerque Police Department

official who was working at the laboratory and was discussing issues of alcohol and drug abuse at the laboratory. So one of the questions I have that I'm very concerned about is are the people running this facility who are certified operators and so on subject to the PSAP program.

One thing that I've noticed in walking around the roadside by White Rock is there are a lot of liquor bottles there. And this seems to mesh with approximately 200 people who have been basically bounced out of the laboratory, terminated or, you know, have been restricted in some way or another, due to alcohol or drug abuse.

So when I hear that operators are certified and so on, there could still potentially be problems. Those problems concern me greatly.

I did not hear or see anything of a technical nature in the way of a process flow diagram of what's inside of the tent for the evaporation facility, nor any sort of process flow diagram, or PFD, or P&ID, piping and instrumentation diagram. As a chemical engineer and former hazard analyst, it is difficult for me to make any sort of assessment about how safe and reliable these facilities are.

The issues come up not only about operability,

but maintenance. Maintenance historically what I've learned since I went into the chemical industry in 1976 is always a major issue. And it appears that some of those issues, you know, came up today, but I do not understand the full spectrum of the maintenance issues which could potentially result in releases.

There was discussion about total dissolved solids, fluoride and radium-226, 228 and perchloride, but at no discussion about what I consider to be typical actinides in this case, which I would expect to be coming out of nuclear facilities. I'm also unaware of what the network looks like that feeds the Radioactive Liquid Waste Treatment Facility.

So there perhaps are a spectrum of radionuclides that go beyond the radium-226 and 228 content, which I'm not fully aware of. And I would hope that these are addressed in the permitting process and that the PFDs and P&IDs of which I speak which are design documents would probably have been made available to NMED.

I think in general, having worked at Los Alamos National Laboratory for 37 years, I have great respect for the laboratory. I think that they do things very thoroughly. But there are issues about when the laboratory runs into fiscal problems. They have RIFs.

They essentially cut back on material expenditures. And so my big concern is what happens to this facility in years to come when there are budgetary shortfalls and so on and something gets cut.

The older Radioactive Liquid Waste Treatment Facility that has been in existence since 1963, I worked on installing guardrails or planning to install guardrails on the surface -- the roof of the facility. It's an older facility. I have taken tours at that facility. And traditionally waste management is not glamorous. So nuclear weapons are glamorous. They get lots of attention. But nuclear waste treatment facilities, perhaps not.

So my concern as time goes on is is this facility going to be kept up to the high standards that are required to make sure that groundwater -- excuse me -- that effluent discharge to the groundwater systems is going to be kept up in -- to the level that we would expect, you know, from an institution such as Los Alamos National Laboratory.

At this point, my feelings about discharging water from these nuclear facilities, from the laboratory is -- I'm supportive of the laboratory's mission. It is absolutely critical that the laboratory continues with its mission to maintain the security of the United

States.

But I also look at what happened to Rocky Flats. Rocky Flats is now the national wildlife reserve. I don't want to see Los Alamos become a national wildlife reserve. That means the laboratory needs to be held to high standards, they need to do their job, the maintenance people and the operators at the laboratory need to do their job. If they aren't fit to do their job, they need to go to their supervisor and say "I think I have a problem, help me with it."

So I've seen many, many fine people working at the laboratory. I 100 percent believe in the laboratory. But that's a historical viewpoint. Things change.

So I'd very much like to see this facility go operational. I'd like to see it run well. And I would like to see Los Alamos be around for a long time. If we muff it, we're going to be Los Alamos National Wildlife Reserve, and it's going to have severe economic impact on the State of New Mexico.

Thank you very much.

MR. VIRTUE: Thank you, Mr. DeVolder.

Is there any questions, cross-examination questions for Mr. DeVolder?

If not, we'll excuse him.

And I neglected to ask if anybody had questions of Ms. Arasim. I see she's still here. So if anybody has questions, she's available for --

MR. BUTZIER: No questions.

MR. VIRTUE: Okay. Thank you.

All right. Do we -- we're going to check and see if there's anybody else available that needs to testify this morning.

Do you know?

MR. BARNES: Sure. I'm not sure --

MR. VIRTUE: That concludes -- oh, we have one more. Excuse me.

Alex Jaramillo.

Is Ms. Jaramillo present?

MS. ARASIM: Mr. Hearing Officer, we want to make sure that Kathy Sanchez is called up again. She wanted to let me go first because I had to get to my job --

MR. VIRTUE: Oh, go first. Excuse me. I thought she wanted you --

MS. ARASIM: She didn't want to cancel her comment.

MR. VIRTUE: -- to speak on her -- okay. We'll call Ms. Sanchez after we get done with Ms. Jaramillo.

ALEXA JARAMILLO

having been first duly sworn or affirmed, gave public comment as follows:

PUBLIC COMMENT

THE REPORTER: Would you state and spell your full name, please.

MS. JARAMILLO: Alexa, A-L-E-X-A, Gutierrez, G-U-T-I-E-R-R-E-Z, Jaramillo, J-A-R-A-M-I-L-L-O.

THE REPORTER: Thank you.

MS. JARAMILLO: So I want to start off with acknowledging the fact that when the Los Alamos Laboratory was first put into place, that they said that -- stated that no one was living there when 30,000 indigenous people were living in -- in that space, and they were taken away from their homes, and continuing now generations to come are experiencing trauma.

And we have found levels of RDX in the soil in Espanola, which has been linked to a number of negative physical effects, including seizures. We have plutonium in our waters in Espanola, which has been linked to lung cancer and other types of cancers.

And to be honest, I don't approve of the Los Alamos Laboratory facility being here, because of the harm they continue to act upon the people and the land and the water. But if these facilities are going to be

here, they need to be tightly regulated, and we need a transparency.

We need for the information that is being shared here today in a language where the common person, the average person can understand it. We need these soil samplings and water samplings to be regular and consistent, and we need this information shared with the general public.

So I am here today in support of CCW, I am here in support of Lovejoy, and I am here in support of the citizens of New Mexico who are dying and they are coming across different types of cancers, higher types of cancers than we have previously, and this is all linked to the Los Alamos Laboratory. So I am here today to ask for RCRA to be implemented and for the groundwater discharge permit to be denied.

We don't have to live this way. We don't have to be harming each other over money and over these false ideals of what is important. We need to be taking care of each other. And the Los Alamos Laboratory needs to take responsibility for the harm that they've enacted and clean up after themselves and share this information with the public. We need to be educated.

Look at the demographic of people that are in here today. There should be a lot more people in here

because this is affecting every single one of us.

So that is my comment.

Thank you.

MR. VIRTUE: Thank you, Ms. Jaramillo.

Any questions for Ms. Jaramillo?

Okay. Thank you.

Ms. Sanchez.

KATHY WAN POVI SANCHEZ

having been first duly sworn or affirmed, gave public comment as follows:

PUBLIC COMMENT

THE REPORTER: Would you state and spell your full name, please.

MS. SANCHEZ: Okay. I am Kathy Wan Povi Sanchez, K-A-T-H-Y, Wan, W-A-N, P-O-V-I, Sanchez, S-A-N-C-H-E-Z.

THE REPORTER: Thank you.

MR. VIRTUE: Proceed, please.

MS. SANCHEZ: Oh, okay.

Can you hear me, or do I need that?

THE REPORTER: I think you should use the microphone.

MS. SANCHEZ: Thank you, Hearing Officer, for allowing me to speak.

I am a Native American, native Tewa elder from

San Ildefonso Pueblo. So I have indigenous rights of this lands. And then I also have dual citizenship with the -- within the State of Mexico (verbatim) and within the United States.

And so I am speaking from many different perspective, and I am -- I'm going to jump all over the place with comments, but I wanted to home in on ecosystemic viability, because it seems to me that a lot of the industry that we're talking about, Los Alamos National Laboratory, has been seen as a -- the only almost source of income for this area, but still detrimental in its business.

As far as I understand, the mission of the lab has been to be in the -- in the weapons -- war weapons industry. And I have helped the causes where nonproliferation has been a goal of world citizens, and it was -- the lab had been placed in our sacred lands here through executive orders or saying that this was a place that was chosen because of its pristine, hidden nature. And so the Secret City was built here, designed mainly to create the first atomic bomb. That was around the mid-1940s.

And I was born in 1950 here in San Ildefonso, and my ancestors through lineages of oral history know that our ancestral mothers and fathers and people are

still here. We are, as I understand, spirit people, because we have energy within us. And so I am sure the Department of Energy understands when I talk about energy, in many different forms.

There's a negative use of energy by exploding it and causing radionuclides, radioactivity to happen. And there is the natural energy that we are spirit people that comes from using positive ways of being present in a loving, caring nature.

So I come before you as a person with a different probably world view way of seeing our purposefulness in a prayerfulness way of what we are doing to our Mother Earth in causing her harm.

We are talking about permits here, groundwater permitting, and other means of regulating a nuclear war weapons mind-set, although nuclear is not the only thing they deal with up here. But with the permits, I am aware that we did talk a little bit about naming some of the elements that are being possibly regulated through the groundwater permit, but I did not hear a lot of the radionuclides that have not been regulated and cannot be regulated through a water ground permit.

And those, to name a few, would be like plutonium, cesium, strontium, tritium. And we are talking about a Radioactive Liquid Waste Treatment

Facility, and yet we do not name the culprits or the pollutants that are causing most harm.

And the young lady before me spoke about the harm that is happening especially to women and girls, because we do have different pathways of entry of the liquids, the fluids, and it might be through groundwater, or it might be through surface water or et cetera.

But getting back to the intent of having a business here within Los Alamos -- and by the way, the name "Los Alamos" comes from a Spanish word meaning trees. And my understanding is that because of the nature of the business that's being done up here with the laboratory, our trees are going to be gone in less than 50 years from now. The date was declared earlier.

And so we do have a gathering, Gathering for Mother Earth, and it is about our ability to have a viable ecosystemic economy here in this area that has not been given any vision of coming into fruitation.

And so what I have before me is an example of the corns. Corn is of ancestral food that has memory, that goes way back to being found in caves throughout the world, in like 24,000 years ago, meaning it has memory for giving life. Where do you see corn around here that is carrying a good memory? I think we are now

starting to import even bottled water. So water is being imported because we don't even trust the water up here.

My ancestral history goes back to my great grandmother, Maria Martinez. And we see samples of the traditionals that we live with. And it is a viable economy, but we can't even get the clay around here now because of the business that's happening with the contaminants.

And I brought this one, nice and shiny, but in the back it's busted. That's what's going to happen. It's almost looks like Valles Caldera, because we are sitting on the rim of a volcano, and there is still heat. We wouldn't have these Jemez hot springs if there weren't still viable activity happening under there. We should be aware where we sit when we talk about monitoring, controlling the contaminants that are here.

And I brought a sample of life that has no voice in here, animals. I recall a journey that one of the hunters in one of the villages did. They were tracking the deer all the way through here, because that's what we eat. And then when he got home, they realized that the deer had a tag on it, and so it was being monitored, because it was traveling all through these areas.

And at some point in my time here in this area, I also had asked for the labs to start to put up signs, signage as needed. Of course, animals can't read signs. But the hunters that are tracking these animals need visual signs, not verbal languaging that is English and Spanish and Tewa necessarily, but visual signs that when a deer -- when a hunter is tracking the animal, that they know that this water, this open pond is contaminated, that it should have some warning signs.

Even though it was explained that it was within the boundaries of the labs, that they don't need signs, because nobody's supposed to be in there anyway. But animals don't read signs, but humans that follow them in hunting seasons do. And so it would be good to have signage around to show that it is these radioactive nuclides that are also in these waters.

And so my ask is that there are as -- the ultimate goal is to not have nuclear war weapons facility still within our sacred lands, but in the meantime, you do need accountability, you do need regulations, and the groundwater permit does not regulate the business that is going -- the water that is going through a Radioactive Liquid Waste Treatment Facility.

And so there is another appropriate permitting

that the State New Mexico Environment Department can do, and I would recommend they do, as opposed to just keep going with the potential to release, because the release prior to that has happened, and we are seeing it.

And so when you talk about mechanical evaporative system -- and I've seen it, I've been on the tours. And there was a sign that was before the door there that said Fraccing. So we're talking about fraccing even though it's not being named.

And then I went to -- also with the NGOs named in there to visit the solar evaporative tanks. I was anticipating seeing a nice, covered tank area, and when we get there, we see ground that was dug up, the cement, the plastics, and the potential for the water to be in there, and then the little old fence.

And I -- I asked what about the animals, what about -- animals are needing water. They're going to see a pool of water there, they're going to want to get water. Or birds that fly in.

The only comment I received was "Oh, didn't you see that little ladder coming out of that tank area? That's so the deers can go up away from here."

I mean, you talk about the mentality of supposedly a high-tech facility that gets millions of dollars. And I've heard also that money is not giving

to regulating, to controlling, to monitoring contaminants that are harming us, the people of color that live around here, in there. I know a lot of the migrant communities that are employees of the lab spend their time to be employed here, but they leave. We stay. Our generations are going to be here for a long, long time.

And so -- and I said I was an elder coming in a prayerful way to remind us that we are all sitting here as vessels of water. We have a spiritual nature, all of us do, or we wouldn't even be sitting here alive. We'd be in our coffins in the ground. But we are alive, we are vessels, and our bodies are examples of Mother Earth's body that is trying to hold sacred water for sacred foods, for sacred ceremonies, for an ecosystemic, viable economy that needs to have visioning here.

So I thank you for listening to me, and I thank you for having at least a nudge of a sacredness enter you, to know in your gut if this is the permit that is acceptable or is there another one that can be more regulatory with the facility that we're talking about, and also a new visioning for a new mission statement for the national laboratory.

Thank you for that.

MR. VIRTUE: Thank you, Ms. Sanchez.

Are there any questions of Ms. Sanchez?

MS. SANCHEZ: Oh, yeah.

MR. VIRTUE: Seeing none, thank you very much for your testimony.

Do we have -- while we're on public comment, we're at the noon hour, but if we've got additional members of the public that would like to testify at this point due to time constraints, I'll allow you to proceed.

Seeing none, let's take a lunch break at this point until -- it's 12:08 by my watch. We'll come back at 1:15 and continue with the applicants' testimony.

(Proceedings in recess from 12:07 p.m. to 1:19 p.m.)

MR. VIRTUE: We're ready to go back on the record.

The applicants may proceed with their next witness.

MS. SHEEHAN: Good afternoon, Mr. Hearing Officer.

Triad/DOE would like to call its next technical witness, Mr. Danny Katzman.

DANNY KATZMAN

having been first duly sworn or affirmed, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. SHEEHAN:

Q. Mr. Katzman, will you please state your name for the record.

A. Give me just a moment if you would, please.

Q. Oh.

A. Okay.

Q. So once again, Mr. Katzman, could you please state your name for the record and spell your last name for the court reporter.

A. Danny Katzman, K-A-T-Z-M-A-N.

Q. And, Mr. Katzman, did you previously provide technical testimony in this -- in the last proceeding?

A. I did.

Q. What is your current employment position?

A. I'm the groundwater remediation manager for Sealaska Technical Services.

Q. How long have you been employed in that position?

A. For about 19 months.

Q. And what are your current job responsibilities?

A. So I lead a team of folks involved in groundwater remediation and characterization.

Q. Where were you previously employed?

A. I was previously employed at Los Alamos National Laboratory, working for Los Alamos National Security.

Q. And what were your responsibilities in that capacity?

A. In that capacity -- if I may, please, I'm going to advance to one of my slides. I suspect it's --

Q. Please do.

A. In that capacity, I had a number of different technical and managerial positions. My principal duties involved development of groundwater monitoring strategies, soil characterization, remediation.

Q. Thank you.

And could you please describe your educational and professional qualifications?

A. Yes. I have a bachelor's of science in geology from the University of Texas at Austin, have a master's of science in -- with honors from the University of New Mexico.

And I have 27 years of experience doing environmental work. Two of those years were with New Mexico Environment Department.

Q. Thank you.

And a copy of your resume has been submitted as Triad/DOE Exhibit 12; is that correct?

A. That is correct.

MS. SHEEHAN: At this point, Mr. Hearing Officer, I'd like to tender this witness as an expert in hydrogeology.

MR. VIRTUE: Any objections?

MR. LOVEJOY: No objection.

MR. VIRTUE: Okay. He is allowed to testify as an expert.

MS. SHEEHAN: Thank you.

Q. Mr. Katzman, have you submitted prefiled technical testimony in this proceeding which has been marked Triad/DOE Exhibit 11?

A. I have.

Q. Do you have any changes to your written testimony?

A. Yes, I do. Two very minor changes.

On page 15 and page 16 are figures, Figure 2 on page 15, Figure 3 on page 16. That very minor change is associated with the labels on alluvial groundwater monitoring wells. On the figures as it is now, they are labeled RLW-A-1 and RLW-A-2. They should be MCA-RLW-1 and -2.

Additionally, on the figure on page 16, Figure 3, which is a cross-section you'll see shortly in my presentation, there's a label on there associated with the solar evaporation tank that's called Proposed moisture monitoring, and that should be changed to just Moisture monitoring, since its wells are now completed.

Q. Thank you.

With those changes, do you adopt your written testimony as your sworn testimony here today?

A. I do.

Q. And have you prepared a PowerPoint presentation for use in today's hearing which has been previously labeled DOE -- or -- excuse me -- Triad/DOE Exhibit 13?

A. Yes.

MS. SHEEHAN: Mr. Hearing Officer, at this point, I move the admission of Mr. Katzman's testimony which is DOE Exhibit 11, his resume which is DOE/Triad Exhibit 12 and his PowerPoint presentation which has been labeled DOE/Triad Exhibit 13.

MR. VIRTUE: Are there objections?

The exhibits will be admitted.

MS. SHEEHAN: Thank you.

(Exhibits Triad/DOE 11 through 13 admitted into evidence.)

Q. (BY MS. SHEEHAN) Mr. Katzman, can you please describe the general purpose of your testimony in this proceeding?

A. Yes. I'm going to present the groundwater and moisture monitoring network that's in the draft Discharge Permit 1132. I'll describe a bit about how the monitoring approach itself provides a very robust monitoring program that serves as a belts and suspenders monitoring aspect that supplements the engineering and administrative controls that we heard Bob Beers talk about in his testimony.

And because it's a bit of a technical presentation, I'm going to provide a bit of an overview on the site hydrogeology for the Hearing Officer, as well for context.

Q. Thank you, Mr. Katzman.

Please proceed with your oral testimony.

A. All right. Thank you.

So I'll pass through this slide since we've already spoken to that.

(Discussion off the record.)

MR. KATZMAN: So a general overview of the presentation, as I mentioned, I'll speak a little bit to the hydrogeologic setting of the site, just to kind of get everyone oriented here.

I'll speak to the specific objectives of groundwater monitoring for the radioactive liquid waste treatment facility, and I'll focus on the kind of three key objectives of that monitoring.

And of course, I'll speak to the monitoring well locations themselves, speak to the monitoring suite and frequency, the quality of the wells and the data that comes from those wells, and overall kind of package this as part of a defense in depth overall approach for monitoring associated with the radioactive liquid waste treatment facility.

Go to the next slide.

So this slide, if you will, is just kind of a very simplified diagram, sometimes called a cake diagram. It's a conceptualized slice through a portion of the Pajarito Plateau, where the facility is located.

Pretty easy to see here that we're looking at a depiction of canyons here, adjoining mesas between them. And I'll speak to the three groundwater occurrences that occur across the laboratory itself.

The three zones we refer to -- I think people have already heard the term alluvial groundwater. We also have a perched-intermediate groundwater body and a regional. And those are shown here as very -- three very simplified depictions here.

Where alluvial groundwater there are thin groundwater zones that sometimes occur at the bottom of canyons, they can either be naturally occurring or sometimes effluent supported. They're typically just a few feet thick and are limited -- limited just to the canyon bottom itself. And they may or may not be continuous along the length of the canyon. Groundwater flow within those zones is just downgradient, down the slope of the canyon itself.

The next groundwater body that can be occur -- can be encountered as you penetrate through the geology here is one we call perched-intermediate groundwater, shown here by this very simplified kind of black bar, right in this area. And that's where percolating alluvial groundwater can sometimes work its way down and end up perching on a layer that might be a little more resistant to groundwater flow and therefore a perched water locally.

These are not very common around the laboratory and typically aren't very large in size either.

Water eventually can percolate out to these perched-intermediate zones and work its way to what we call the regional aquifer, and that's the large groundwater body that exists beneath the laboratory, and

it's the groundwater body that is the water supply for the county and the laboratory, as well.

We know from studies that we've been doing around the laboratory for decades now that for a pathway to be complete between all three of these for any given contaminant a pretty unique set of conditions has to occur. And it requires quite a bit of a contaminant to be released in the environment.

It has to be a contaminant that's generally considered to be mobile, which means it wants to sort of dissolve in water and move as water might move. It has to be associated with very large quantities of water. Typically millions of gallons of water is required to move a contaminant all the way through this system so it would actually manifest down to the regional aquifer itself.

So that's sort of the basic hydrologic setting, and now I'm going to sort of focus in, if you will, on some of the details of the monitoring network itself associated with DP-1132.

You'll see this frame in a few of these slides, and this is just sort of the domain, if you will, for where all the different monitoring components are associated with the permit.

Again to sort of orient you, there's the

facility itself. The mechanical evaporator sits within that. The outfall itself you heard Bob Beers speak about, 051. Actually it's conveyed from the facility itself down to Effluent Canyon. And then the solar evaporation tank is this area right down in this portion right here. So that's sort of a general orientation.

The wells that are part of the monitoring network include the two alluvial wells, the new alluvial wells, this is one I referred to in the correction, MCA-RLW-A-1 and A-2, right in that location. They're located about one canyon mile, if you will, from the outfall itself, and this one's about a mile-and-a-third from the outfall.

The perched-intermediate well is part of the monitoring network, is this one down in this location right here, called MCOI-6. And four regional aquifer wells, and these are wells that penetrate fully all the way down into that large regional aquifer body itself, are shown here as the red symbol, R-1, R-14, R-46 and R-60.

As I mentioned a little bit earlier, in the canyons themselves, shown here as the blue lines, don't take the blue lines to necessarily mean that there is persistent water in those. Those canyons can be highly variable in their degree of saturation. But

groundwater flow within the canyons, in that alluvial system is going to be downgradient, generally west to east on this map, or left to right, and the regional groundwater gradient in this area is also left to right, or west to east, on this particular figure.

Now, here's a cross-section of that same block that was depicted in the -- in the large rectangle. And this is actually showing the real geology in the subsurface in this area and what we know from -- for water occurrences in this area from the extensive investigations we've been doing each year for decades.

Again to orient everyone here, we have the radioactive liquid waste treatment facility and the mechanical evaporator right here. In this two-dimensional depiction, the outfall sits about right in this location. Solar evaporation tank right here.

And the various wells are shown on here now in the cross-section, as well. The alluvial groundwater system is too thin to actually show here with real dimension, but is depicted here as this dashed line that runs along the canyon bottom here.

These arrows simply depict the groundwater flow within the alluvial groundwater system moves left to right, or down-canyon, as you can see the slope on this particular depiction.

The alluvial groundwater monitoring well is shown here. The MCA-RLW-A-1 and A-2 are shown right here.

In this particular area, now honing in on not just a conceptual occurrence of groundwater bodies, but real occurrences, the first known perched-intermediate groundwater actually sits down here, at about 500 feet or so below canyon bottom, beneath Mortandad Canyon, and then, of course, the regional aquifer here is the large groundwater body that's contiguous beneath the entire laboratory.

And the regional aquifer wells shown here is these red lines, showing full penetration down into the regional aquifer, and the green line right here showing penetration into the point in that perched-intermediate zone.

From a hydrologic perspective, we like to try to understand the role of faults and fractures, because they can sometimes provide additional conveyances for water to move in places, other than what the general geology might otherwise offer.

Again here's that block that we keep referring to that shows the domain of where the monitoring network sits. And in this area, there are known -- no known faults and fractures that would have any importance to

how the hydrology of the system works in this area. So really the groundwater flow pathways are dominated by the what we call the matrix effect, or the effect of how water just moves through the general rocks in the zones.

Okay. Getting into the specific objectives. There's kind of three key parts to this, if you will, in terms of monitoring objectives.

One, of course, is early detection of noncompliant releases that may occur from the facility itself, obviously a very important attribute of a monitoring network.

Another is just a general additional safety net to support all the extensive administrative and engineering controls that we heard Bob Beers speak to, things associated with secondary containment and additional inspections and things like that. It's always a good idea to have additional monitoring in the event that something were to occur there.

And then, of course, in the event that a noncompliant release would occur, it's important to have monitoring in place to ultimately identify the extent of impact that may have occurred associated with a noncompliant release.

So this network in total addresses all three of these key monitoring objectives.

And if you will, I'm going to sort of go back and forth now between talking about these and then a previous slide here that might give some spatial context, to make sure everyone is following along.

The two alluvial wells, of course, I already described those. Those are down in Mortandad Canyon, which is below Effluent Canyon, where Outfall 051 releases.

I'm just going to quickly go back to that to show you.

That's these two wells right here. Outfall 051 releases to Effluent Canyon, which ultimately joins Mortandad Canyon, and releases from that would flow down the alluvial groundwater system in Mortandad Canyon and be monitorable by those two wells right there.

So key -- the key objective for those two alluvial wells is really supplementing, of course, the compliance monitoring that's done at the outfall itself, to provide a very valuable early detection attribute or monitoring network, and again can be used to characterize the extent of a release should one occur.

The perched-intermediate well, a little bit different because of the travel times that are associated with water moving through this whole hydrologic system. I would really describe the

perched-intermediate well as not only supplementing the monitoring at 051 and the alluvials, but it also helps characterize the extent of a release that might occur should one occur.

So in this case, imagine a noncompliant or unintentional release occurs, you might expect if it was in sufficient volume that it would flow down this alluvial groundwater system, ultimately percolate down and potentially, if large enough, manifest itself as measurable changes in groundwater quality in that perched-intermediate zone.

Travel times through this system down to that perched zone might be on the order of two to three years under fairly wet conditions.

Four regional monitoring wells, they provide an additional sort of belts and suspenders component to the overall monitoring network. They're all located generally downgradient of the facility itself. They really provide an important additional safety net within the regional aquifer.

Granted, it would take potentially decades for it to reach the regional aquifer, but in the event that noncompliant or nonintentional releases occur of any sufficient volume, they provide certainly a very valuable attribute to the monitoring network.

I'll just show you again the cross-section, their location relative to the facility itself, solar evaporation tank and then one further down-canyon.

So these wells are monitored routinely on a quarterly basis. The alluvial groundwater and perched-intermediate wells are monitored for a series of constituents in the permit, total Kjeldahl nitrate, nitrate, total dissolved solids, chloride, fluoride and perchlorate.

And all the wells, including the alluvial and perched but now additionally the regional, are monitored on an annual basis for what we generally describe as a full suite of permitted constituents in accordance with these regulations right here.

So to kind of wrap up, it's clearly a very robust monitoring network. All the wells in the permit meet NMED construction and design guidelines.

They all produce high-quality, representative data, which is a very important attribute. Can't say that necessarily about all wells.

All of these wells are within the NMED-approved, annually submitted Interim Facility-Wide Groundwater Monitoring Plan, and within that plan all these wells are recognized as providing representative data, as well.

So ultimately, in addition to all the engineering and administrative controls, this definitely provides -- they're the ultimate early warning systems, but this monitoring network in general provides some additional robustness around that, and ultimately complements all of those attributes of engineering and administrative controls within the facility itself.

I believe that concludes my presentation.

Q. Thank you, Mr. Katzman.

Does that also conclude your direct testimony in this proceeding?

A. It does.

Q. Thank you.

Mr. Hearing Officer, at this point in time, I have no further questions of Mr. Katzman.

MR. VIRTUE: Mr. Lovejoy, do you have questions?

CROSS-EXAMINATION

BY MR. LOVEJOY:

Q. Would you, Mr. Katzman, turn to the -- oh, I need my -- my pacifier.

Would you please turn to the illustration captioned Faults and Fractures.

And there's some initials there.

Can you -- what does the PF stand for?

A. Mr. Hearing Officer, Mr. Lovejoy, PF stands for Pajarito Fault.

Q. Okay.

And what is RCF?

A. Rendija Canyon Fault.

Q. R-E-N-D-I-J-A, right?

A. That is correct.

Q. And what is GMF?

A. Guaje Mountain Fault.

Q. That's G-U-A-J-E?

A. J-E.

Q. Thank you.

And so -- is there a scale on this figure?

A. I -- there is not a scale on this figure.

Q. Just a couple of questions.

The monitoring system you have just outlined assumes for its existence that on some occasions there will be discharges from Outfall 051.

A. Mr. Lovejoy, I wouldn't describe it as assuming that there would be releases, but it is in the event that there are releases associated with operations at the facility itself.

Q. Okay.

Would the proposed monitoring plan be in compliance with RCRA regulations if those applied here?

I'm thinking of subpart F.

A. So I'm not familiar enough with subpart F of the RCRA regulations to be able to answer that question.

MS. SHEEHAN: And, Mr. Hearing Officer, at this point in time, I'd like to make sure that the continuing objection Mr. Butzier made in a previous witness cross-examination extends to Mr. Katzman's testimony, as well, in that he is not a qualified expert in RCRA and to the extent that RCRA is completely outside the scope of this proceeding.

MR. VIRTUE: Objection is noted.

Q. (BY MR. LOVEJOY) The proposed monitoring system has no upgradient wells to sample the background values, does it?

A. That is correct.

Q. And there's no effort to identify or deal with contamination that predates the DP-1132 permit, true?

A. Maybe to clarify that, these wells are monitored otherwise for other programs at the laboratory. So there is an understanding of what the existing baseline condition is already.

Q. Well, when you say baseline, though, you're not referring to anything upgradient of the facility, are you?

A. I would distinguish the term "baseline" from

"background," and it's -- what I'm providing with my use of the term "baseline" in this condition, it's a condition out in the environment, in the absence of future noncompliant releases from RLW.

Q. You mean essentially starting with the status quo today.

A. It's understanding it's current condition today so that we have --

Q. Downstream.

A. Downstream.

-- so that we have the ability to interrogate potential changes.

MR. LOVEJOY: That's all I have.

MR. VIRTUE: Mr. Verheul, any questions?

MR. VERHEUL: I have no questions.

MR. VIRTUE: Any redirect?

MS. SHEEHAN: None.

MR. VIRTUE: Okay.

Do you have anything else for this witness?

MS. SHEEHAN: I do not.

And at this point in time, I'm going to turn it to my colleague, Mr. Silas -- oh.

Are we ready to move on to DOE and Triad's next technical witness, or would you like to pause to provide opportunity for public comment?

MR. VIRTUE: We're going to continue with the rest of your case at this point, and then we'll have public comment. At some point, we'll have public comment later, at least after your case finishes.

MR. LOVEJOY: Mr. Hearing Officer, just as a reminder, there is a right, I believe, of the public to examine this witness.

MR. VIRTUE: Oh, okay. I stand corrected.

Are there any questions from the public of this witness?

I see none. We'll move on.

Oh, I did see a hand up.

EXAMINATION

BY MR. DE VOLDER:

Q. One of the issues --

MR. VIRTUE: Sir, would you please identify yourself for the record.

THE REPORTER: And get a microphone.

MR. VIRTUE: And get a microphone.

Q. (BY MR. DE VOLDER) One of the issues I'm very concerned about, of course, is maintenance, and I hear the word "instrumentation," and there was a -- some talk in Mr. Beers' presentation about calibration. Again, if there are budgetary shortfalls, if there's inattentiveness of maintenance personnel and so on, it

begins to make the monitoring systems somewhat suspect. Some of these systems are very sensitive to chemical contaminants, so on.

And I would ask if you -- could you speak to the issues of maintenance and reliability associated with the monitoring systems?

A. Sure, I'd be happy to.

So all of these wells -- and it's a standard practice at the laboratory in general to review data that comes out of these wells at whatever frequency it comes out at. Some of the tools that we have to do that with are to evaluate very sensitive indicators in the geochemistry that comes out of these wells that might provide indication that the well requires maintenance.

We all know that a well down in the aquifer can sometimes change its ability to produce good groundwater quality data. So we have not only automated, but additional human element to reviewing those data at whatever frequency any particular well is monitored to look for those sensitive indicators that might indicate something about a well needing to go -- to be rehabilitated.

And we have a program in place for not only routine operation and maintenance of these wells, but I'll call it triggered maintenance of these wells, as

well, in the event that anything about any kind of condition like biofouling or anything else starts to occur in the well, we're able to jump on that and ensure the well is brought back on line.

Q. May I ask a further question?

The Los Alamos County has issues with high-silica water. It's my -- it fouls up my plumbing systems and so on, these residues, plugs up toilets and so on.

Are there any potential silica issues, you know, on these sensitive instruments?

A. So my shower at home gets fouled up by that stuff, too, and I've got a chemical I'll talk to you about later that I found treats it.

In all the years that I've worked here on wells, so I've been working on this program for over 20 years, we've never seen any indication that silica has created any kind of a problem with plugging well screens or affecting instruments. It's a great question, it's something that we watch for. We've never seen any indication that that occurs.

MR. DE VOLDER: Thank you.

MR. KATZMAN: You're welcome.

MR. VIRTUE: Are there any further questions of this witness from the public?

Seeing none, the witness is excused, and we'll go to the next witness for the applicant.

KAREN E. ARMIJO

having been first duly sworn or affirmed, was examined and testified as follows:

MR. DE ROMA: Good afternoon, Mr. Hearing Officer.

Silas DeRoma with the Department of Energy.

This is our last and final witness of the applicants, Karen Armijo. She has already been sworn.

DIRECT EXAMINATION

BY MR. DE ROMA:

Q. Ms. Armijo, would you please state your full name for the record.

A. Karen E. Armijo.

Q. And what is your current place of employment and current position?

A. I work for the National Nuclear Security Administration, the Los Alamos Field Office, as a physical scientist.

Q. Would you summarize your educational background and work experience for us, please.

A. Yes. I have a bachelor's of science in environmental science with minors in environmental chemistry and waste management from New Mexico State

University. I have a master's of environmental policy and management from the University of Denver.

And I've been working in the environmental field for approximately the last 18 to 19 years, doing program and project management for environmental projects, environmental issues, including NEPA, the National Environmental Policy Act, watershed programs and management, and environmental monitoring and compliance for both federal and state agencies.

Q. Within that time frame, how much time have you spent with NNSA?

A. I've been with the NNSA Los Alamos Field Office since May of 2016.

Q. And do your current duties include oversight of RLWTF operations?

A. They do.

Q. Can you elaborate on how your duties relate to RLWTF, please?

A. As a federal employee, I'm responsible for maintaining oversight of our management operations contractor as it relates to environmental permitting and compliance programs, which include all of the facilities at the Los Alamos National Laboratories that are in support of the mission.

Q. Are you familiar with Exhibit 14 in this

proceeding?

A. I am.

Q. Would you please describe Exhibit 14.

A. It is my prefiled technical testimony.

Q. And do you adopt your written testimony as your testimony in this matter?

A. I do.

Q. Are you familiar with Exhibit 15 in this proceeding?

A. Yes.

Q. Would you please describe Exhibit 15.

A. It is my resume.

Q. Are you familiar with Exhibit 16 in this proceeding?

A. Yes.

Q. Would you please describe Exhibit 16.

A. Exhibit 16 references a letter from CCW to the New Mexico Environment Department concerning signage for the RLW.

Q. And are you familiar with Exhibit 17 in this proceeding?

A. Yes.

Q. Would you please describe Exhibit 17, please.

A. Exhibit 17 is a letter from Department of Energy, the National Nuclear Security Administration,

and our management operating contractor at that time, which was LANS, to the Environment Department, addressing the concerns from CCW regarding signage.

Q. Does your testimony -- or your written testimony reference any other documents besides those exhibits?

A. Yes.

Q. Would you please state which document is referenced.

A. It references Department of Energy Order 151.1D, the Comprehensive Emergency Management System.

Q. And how does that order relate to your testimony?

A. The Department of Energy order outlines how Department of Energy and our government facilities, our contractors operate in environmental -- excuse me -- in emergency management systems for emergency response conditions.

MR. DE ROMA: Mr. Hearing Officer, I'd move for admission of Exhibits 14, 15, 16, 17 and a copy of DOE Order 151.1D, which I think is Triad/DOE Exhibit 22 into the record.

MR. VIRTUE: Has Exhibit 22 been offered?

I don't know that I've seen it.

Is it with your --

MR. DE ROMA: We have copies.
MR. VIRTUE: -- previous -- okay.
MR. DE ROMA: We have copies.
MR. VIRTUE: Okay.
MR. DE ROMA: It is a publicly accessible document. It would help to add --
MR. VIRTUE: Can you just identify where it is in the administrative record?
MR. DE ROMA: It is not in the administrative record.
MR. VIRTUE: Okay. You should probably offer it and admit it, then.
MR. DE ROMA: All right.
So may I --
MR. VIRTUE: Or you could ask me to take administrative notice of it. If it's marked as an exhibit is all I'm saying is -- I don't think I've seen it. I don't recall seeing it.
MR. LOVEJOY: I don't think it was attached to her testimony.
MR. VIRTUE: Pardon me?
MR. LOVEJOY: I don't think it was attached to her testimony.
MR. VIRTUE: I don't recall that it was. So this is a new exhibit that's being presented so I

believe it should be marked and distributed for the record.

Counsel have enough of an opportunity to review the exhibit?

MR. LOVEJOY: If this is a true copy, I have no objection, but, of course, I have not had a chance to look at it.

MR. VERHEUL: I would say the same thing, but I have no reason to believe this is not a true copy.

MR. VIRTUE: Okay.

So I'm going to allow it to be admitted into the record subject to later written objection by counsel if problems are found with it.

MR. DE ROMA: Understood. Thank you.

And, Mr. Hearing Officer, does that also encompass Exhibits 14 through 17?

MR. VIRTUE: Yes. Exhibits 14, 15, 16 and 17, I'll ask if there is objections to those at this point.

If not, they will be admitted together with Exhibit 22, Exhibit 22 subject to further objection by counsel if they find a problem with its authenticity or otherwise any issues with the probative factor.

MR. LOVEJOY: Excuse me, Mr. Hearing Officer.

May I have the witness on voir dire just about Exhibit 16?

MR. VIRTUE: I'm sorry?
MR. LOVEJOY: May I inquire of the witness concerning Exhibit 16 before we admit it?
MR. VIRTUE: Yes.

VOIR DIRE EXAMINATION

BY MR. LOVEJOY:

Q. Ms. Armijo, you said the number, I think, refers to a letter -- references a letter from CCW, but actually what is Exhibit 16 is a table.
Who prepared this table?

A. I have no knowledge of who prepared the table.

MR. LOVEJOY: Well, I object. I mean --

MS. ARMIJO: I do not recall. As I look at the table, I understand it to be a -- the origin of the table to be the CCW comments that were received regarding Discharge Permit 1132.

MR. LOVEJOY: Mr. Hearing Officer, I don't know -- I have not seen this before, I don't think. She doesn't know who prepared it. If someone is representing to me that this came from CCW in the mail or something like that, that would be different, but we have no -- we have no foundation for this.

MR. VIRTUE: I'm going to allow it to come into the record with the understanding that there has been no verification of the source of the data, and we

can give it the weight that's deemed to be appropriate in light of that fact.

MR. VERHEUL: Mr. Hearing Officer, if I might add, it turns out the Bates numbers on this exhibit are somewhat useful. If you look at page 64 of the Administrative Record Index, it does appear to match up with what this is being represented as. And the Bates numbers match up, as well.

But the description of this in the administrative record anyway is, and I'm quoting, CCW, Gilkeson and Sanchez Remaining Issues - Revised draft NMED GWDP-1132, which I assume means a revised draft of DP-1132, from October 13, 2014 (verbatim). And the date on that part of the administrative record also matches up with what's in the exhibit that's been presented.

MR. VIRTUE: Okay. So that's duly noted.

I will allow counsel to point out other -- if there are potential discrepancies in the fact that the witness couldn't identify the source for sure. But it will come into the record, noting that we do have -- apparently have a validation here from counsel, and we'll allow the counsel to object as part of the posthearing submittal if they see problems with it.

(Exhibits Triad/DOE 14, 15, 16, 17 and 22 admitted into evidence.)

DIRECT EXAMINATION (Resumed)

BY MR. DE ROMA:

Q. Ms. Armijo --

MR. VIRTUE: You may proceed.

MR. DE ROMA: Thank you, Mr. Hearing Officer.

Q. In your position with NNSA, have you had the opportunity to familiarize yourself with the proposed permit?

A. Yes, I have.

Q. And are you familiar with CCNS comments on Condition A.6 of the permit?

A. Yes.

Q. And what does Condition A.6 relate to?

A. Condition A.6 of the draft permit relates to signage of the RLWTF.

Q. And are you familiar with the specific comments that CCNS provided on signage?

A. Yes.

Q. And would you please elaborate your understanding of those.

A. Yes. Mr. Hearing Officer, it's my understanding that CCW, CCNS and other NGOs collaborated and pulled together comments that they provided to the New Mexico Environment Department, which were then provided to -- to DOE and LANS, concerning signage at

the facility, that they requested that signage be posted in multilingual signs, in Spanish, English and Tewa, at the boundaries of the facility.

Q. Does DOE have a position on those comments?

A. Yes, we do.

Q. What is DOE's position?

A. It's our position that the draft permit as written is -- that we agree with the position in the draft permit to post signage at frequencies that can be read from a distance of 25 feet at multiple angles in English and in Spanish.

Q. Are you familiar with comments submitted by CCNS regarding organization of the Emergency Operations Center?

A. Yes.

Q. What is your understanding of those comments?

A. It's my understanding of these comments that the NGOs, including CCW and CCNS, are requesting the Pueblo of San Ildefonso be provided a seat at the Emergency Operations Center at LANL.

Q. And does DOE have a position on that comment?

A. Yes.

Q. What is DOE's position?

A. Mr. Hearing Officer, the position of the Department of Energy is that in accordance with DOE

Order 151.1D the Comprehensive Emergency Management System is outlined in this order for how it shall run and be integrated in a facility like LANL, that our facilities are set up to address emergency operations and emergency conditions that happen as a result of our operations at facilities like RLWTF, and that the staffing of that Emergency Operations Center, or the EOC, is confined to personnel with intimate knowledge of the facilities, that have knowledge of the operations and the activities occurring at that facility, and that in the execution of their duties, that they are appropriately trained in emergency response, and at the LANL EOC, we have staff in these facilities who are leveraged in their routine duties at LANL, meaning that they are performing other work in addition to being members of the Emergency Operations Center.

MR. DE ROMA: Thank you, Mr. Hearing Officer. I have no further questions.

MR. VIRTUE: Mr. Lovejoy, cross?

MR. LOVEJOY: May I confer just a second with co-counsel?

(Proceedings in brief recess.)

CROSS-EXAMINATION

BY MR. LOVEJOY:

Q. Have you been to the Emergency Operations Center?

A. Yes.

Q. Are there seats there labeled for, say, representative of Santa Clara, representative of San Ildefonso?

A. No, there are not.

Q. No. You're sure. Okay.

When were you there?

A. I cannot recall the last date I was there. It was -- it predated my employment with LANL. It predated my employment with the Department of Energy.

Q. Um-hum.

And when was your employment? When did you start?

A. I started working for Department of Energy in May of 2016.

Q. Right. You said that.

In Exhibit 22, can you point out where it requires that people in the EOC be those with intimate knowledge of the facility as it related?

A. Mr. Hearing Officer, Mr. Lovejoy, I draw your attention to Attachment 3, page 9, section 3.

Q. Attachment 3, page 9.
A. Of DOE Order 151 --
Q. Yeah.
A. -- .1D.
B says "consist of personnel with capabilities and resources based on all of the hazards of planning basis." (As read.)
I take that to mean that the personnel at the EOC are required to have knowledge of the facilities and the operations of those facilities and that that knowledge is limited to personnel working at those facilities at LANL.
Q. It doesn't say that, though, does it?
A. It -- it says "consists of personnel with capabilities and resources based on the all hazards planning basis."
Q. What is the all hazards planning basis?
A. Earlier in the attachment, it talks about an evaluation of hazards that's conducted for facility operations, that identifies all of the hazards associated with the work conducted, and the potential releases of those activities that would constitute an emergency response.
Q. So does everybody in the room need to have capabilities and resources to address all of the hazards

that might arise?

A. Can you clarify for me what you mean by room?

Q. The big room at the Emergency Operations Center, where there are all those chairs and screens and everything. I took the tour, too. You must remember.

A. So the Emergency Operations Center is structured under the National Incident Management, the NIM, System, which is a nationwide system for emergency management.

Q. Yes.

A. It requires a structure of organization and capabilities that enable an efficient and effective response to an emergency, and in doing that, it brings to bear personnel with specific capabilities and resources to address any number of incidents. So each individual doesn't have the same information, doesn't have the same knowledge or background. We leverage all of those different experiences and technical knowledge during an incident.

Q. And doesn't the NIMS system require inclusion of representatives of communities that may be affected outside the facility, may be affected by an emergency?

A. Yes.

Q. And that in this instance would be, for example, Santa Clara or San Ildefonso?

A. Yes. And in our system, we have an offsite liaison whose sole responsibility during an incident is to engage any stakeholders located outside of the LANL boundary, to communicate with them about the incident, any actions that they need to take, and offer technical assistance.

Q. That function sounds to me like communicating instructions but not getting input.

A. Not necessarily.

Q. Well, you're not going to get much input if they're not in the EOC.

MR. DE ROMA: Mr. Hearing Officer, I'll object to the line of questioning. He's arguing with the witness.

MR. VIRTUE: Sustained.

Q. (BY MR. LOVEJOY) Let me just ask you about one other thing.

You state that the lab decided to post warning signs only in English and Spanish near the facility borders because the RLWTF is located within the exterior boundaries of the national lab; is that right?

A. We posted the appropriate signage as required by the Discharge Permit 1132 to meet that permit condition, and as a part of the Permit 1132, it requires posting of signs in Spanish and English, at the boundary

of that facility.

Q. I see.

But the issue here is whether there ought to be signs also in Tewa.

Do you understand that?

A. I understand. Yes.

Q. Okay.

But what you've done is to post in English and Spanish, right?

A. As required by the permit, yes.

Q. Well, we're here to talk about what ought to be required.

MR. DE ROMA: Mr. Hearing Officer, object to Mr. Lovejoy's characterization as --

MR. VIRTUE: I think the question has been asked and answered.

MR. LOVEJOY: Okay.

Q. Is there any reason to think that if someone got across the lab boundary and into the lab property and were on the verge of entering the RLWTF that person was more likely to be English speaking or Spanish speaking than Tewa speaking?

A. I don't think I can speculate on that question.

MR. LOVEJOY: Okay. That's all I have.

MR. VIRTUE: Okay.
Mr. Verheul, any questions?
MR. VERHEUL: No questions for this witness.
MR. VIRTUE: Any redirect from counsel from the applicants?
MR. DE ROMA: No redirect, Mr. Hearing Officer.
MR. VIRTUE: With that, I believe Ms. Armijo is excused.
MS. ARMIJO: Thank you, Mr. Hearing Officer.
MR. LOVEJOY: There --
MR. VIRTUE: Pardon my -- at this point, it's come to my attention that I did not allow members of the public to ask questions of Mr. Beers. And seeing that Mr. Beers is still present, if there are members of the public who -- who would like to ask him questions, I will have him come back up to the witness stand and answer questions. My apologies for that oversight earlier.
Are there any members of the public that have questions of Mr. Beers?
MR. DE VOLDER: Just a second.
MR. VIRTUE: I see -- is your question for Ms. Armijo or Mr. Beers? The gentleman who just raised his hand.

MR. DE VOLDER: Both for the lady that just spoke and --

MR. VIRTUE: Okay. We will have her stay and allow for additional questioning from the gentleman who raised his hand.

Please identify yourself for the record.

MR. DE VOLDER: I'm Mark DeVolder.

EXAMINATION

BY MR. DE VOLDER:

Q. Some people here in the audience may be familiar with the Japanese reactor incident Fukushima Daiichi in Japan. During tsunami conditions, that reactor was subjected to conditions which were not planned for in the original design.

So my question is the -- let me turn to my appropriate page.

Thank you.

The WMRM tanks, the influent tanks, were discussed by Mr. Beers, and there are six tanks with capacities of 50,000 gallons each. Two of those tanks are for normal use, four for emergency use.

My question is what happens if that 200-gallon -- 200,000-gallon reserve capacity in those four emergency tanks is exceeded?

A. I don't have enough -- I don't have enough

knowledge of that to answer that question. I would respectfully redirect your question to perhaps Mr. Beers.

MR. DE VOLDER: Mr. Beers --

MR. VIRTUE: Well, okay. Do you have other questions for Ms. Armijo?

You're going to have a chance to ask questions of Mr. Beers in a minute.

MR. DE VOLDER: I'm satisfied with that response.

MR. VIRTUE: Okay.

MR. DE VOLDER: Thank you.

MR. VIRTUE: Is that all you have for Ms. Armijo?

MR. DE VOLDER: Yes. Anything remaining would be for Mr. Beers.

MR. VIRTUE: Okay. Thank you.

So I'll ask Mr. Beers to come back up to the stand and stand for questions that members of the public may have. This gentleman has some.

So you've been previously sworn, Mr. Beers. You're still under oath.

ROBERT S. BEERS

having been previously duly sworn or affirmed, was examined and testified further as follows:

EXAMINATION

BY MR. DE VOLDER:

Q. My question pertains primarily to the solar evaporation tank, and I had discussed during my testimony some issues relating to concrete cracking of the secondary containment tank. So we have a liner, a monitoring system, a liner, and the concrete secondary containment.

So the question that I have is if somehow the contents of those liners is breached, now, even if it's -- even if it's monitored and noticed, what sort of leakage might we expect from a potentially cracked tank, secondary containment tank, made out of concrete?

And there are a lot of issues associated with nuclear facilities at Los Alamos that require seismically qualified structures. That was not discussed, and my concern is if we're in a seismically active zone, ordinary provisions made for seismic design of the concrete secondary containment.

MR. BUTZIER: Mr. Hearing Officer, I would like to interpose an objection. It's a compound question that was a little bit difficult to follow, and

also, as the question itself admit -- questioner itself -- himself admitted, one part of that question relates to something that he did not testify, and that is the seismology issues.

MR. VIRTUE: But have Mr. Beers answer the question the best of his ability, recognizing it was a compound question. If you don't feel like you can answer the part that's outside of the scope of your prior testimony, you may say so. So I'm just saying respond to the question the best you can as you understand it, and you can ask for clarification if you need to.

MR. BEERS: Okay.

I'd like to respond to the first part of your question. And I'd like to correct your characterization of the concrete portion of the SET as being secondary containment. That's not the case. There are two liners, two synthetic liners, a primary liner and a secondary liner. The secondary liner, I believe, would be the secondary containment for the tank.

The -- it was acknowledged during permit negotiations with NMED that the concrete floor of the SET had control joints, as is typical of concrete structures, and that those control joints might be places of leakage in the event the primary liner and the

secondary liner failed. As a result, it is a condition in Discharge Permit 1132 for another barrier, one could say, that is the soil moisture monitoring system that I discussed.

Q. (BY MR. DE VOLDER) Please repeat. Soil --

A. Soil moisture monitoring system.

As I indicated, that system is comprised of eight angled boreholes beneath the SET, and the permit requires that each quarter we log using a neutron probe the moisture content down that borehole. If there's a leak through a crack in the floor of the structure, the purpose of the moisture monitoring system is to identify that leak before it can reach the regional aquifer.

Does that help answer part one of your question?

Q. Thank you for clarifying that information.

A. And regarding part two, I cannot speak to that. I'm not an expert in seismology. I don't know if Danny Katzman can help out.

No.

MR. LOVEJOY: Let the record show Mr. Katzman shakes his head, indicating the negative.

MR. VIRTUE: Anything further, Mr. DeVolder?

MR. DE VOLDER: No.

MR. VIRTUE: Thank you very much.

Thank you.

That concludes the applicants' presentation in this case.

The next witness would be Ms. Arends on behalf of the Citizens group.

JONI ARENDS

having been first duly sworn or affirmed, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOVEJOY:

Q. Ms. Arends, state your name for the record, please.

A. Joni Arends, J-O-N-I A-R-E-N-D-S.

Q. Thank you.

Would you just initially summarize your professional experience over the last 30 years as it may bear on the testimony you're about to give.

A. Yes. In 1988, we learned -- I learned about the proposal to ship nuclear waste from Los Alamos National Laboratory through the center of Santa Fe on St. Francis Drive, down to I-25, to the proposed Waste Isolation Pilot Plant.

I was very concerned about the fact that I was seven miles -- seven blocks away from the -- from St. Francis Drive, and I was concerned, and I went to a

public meeting and heard the presentation by the Department of Energy and the New Mexico Environment Department and then the activists. And became involved in learning more about WIPP, the Waste Isolation Pilot Plant, and became active in that effort.

I also learned about the laws that apply to WIPP, as well as the regulations on the state, federal and local levels. And I was often a -- the cofounder of Concerned Citizens for Nuclear Safety, or CCNS, in 1988.

I have over 30 years of experience in observing and seeking to influence operations of the Department of Energy sites and the National Nuclear Security Administration and their contractors in the construction and operation of facilities across the country, as well as in New Mexico.

My formal education includes a bachelor of arts from St. John's College in 1994, a law degree and a master's in study of environmental law from Vermont Law School in 1998.

My relevant background includes experience in contesting conduct of the Department of Energy and others in administrative proceedings such as this, as well as judicial proceedings, the -- in federal court and in state court, in legislative contexts and in public debate.

My work has included development, study and maintenance of historical records of the operations of elements of the weapons complex -- and that's evidenced by my stack of papers here -- especially for the facilities that -- three DOE facilities here in New Mexico, Los Alamos, Sandia and WIPP.

And I offer that expertise to communities that are potentially impacted by Department of Energy operations, such as when LANL proposed to ship waste from a cleanup site here on trucks and then transfer it to rail up in San Antonio, Colorado -- or Antonito, Colorado. Excuse me.

My history -- the history is contained in many, many documents, and they include reports by the Department -- the Department of Energy, Inspector General, the Government Accountability Office, the Defense Nuclear Facilities Safety Board, which is an independent agency created by Congress in the late '80s, early '90s, to oversee in some sense the nuclear weapons complex across the country. Other reports include those by LANL, by DOE, by EPA, the Environmental Protection Agency, and by the New Mexico Environment Department.

CCNS was also very involved in the Centers for Disease Control and Prevention project called the Los Alamos Historical Document Retrieval and Assessment

Project, which was the preliminary steps of a five-step process to conduct a dose reconstruction for the people living offsite of the laboratory.

In 1997, I was an intern at the American Environmental Health Studies Project in Knoxville, Tennessee, and I worked with workers who were affected by a toxic incinerator at the DOE site there.

In 1998, my last semester of law school, I was a nuclear program intern at the Natural Resources Defense Council, and we were focused on the DOE's proposal to improve the stockpile stewardship of the nuclear weapons, which is a huge project and comprises about 70 percent of the laboratory's budget at this point in time.

And then when I returned to New Mexico, I became the CCNS waste programs director. I jumped into the Clean Air Act audits that CCNS was involved in. Those were those audits of LANL's compliance with the rad NESHAPs, radionuclide National Emission Standards for Hazardous Air Pollutants. CCNS had sued the Department of Energy for violation when Judge Mechem found that the lab was out of compliance and ordered the parties to settle, and we decided on -- for up to four independent audits of LANL's compliance.

During that process, I worked with technical

experts and learned a lot from them about the whole monitoring process for air emissions, as well as record-keeping, decision-making, monitoring equipment, et cetera.

In May, 2000, the Cerro Grande fire happened, and it was the largest -- at that time the largest wildfire in New Mexico history. It was 47,000 acres, and 7,000 of those acres burned here, on LANL property. And you can still see the burn scar across the mountain. That was really a turning point for addressing LANL in a different way, because the -- the dumps -- the dumps got burned, they provided pathways for contaminants, pollutants to move towards the Rio Grande when it rained or snowed.

So in May -- after -- shortly after the fire, we had a big conference down at the Eldorado Hotel, down at -- called Fire, Water and the Aftermath, and figuring out how to protect the Rio Grande from those contaminants. 400 people attended, as well as representatives from the Department of Energy, from LANL, from the Environment Department, Forest Service, et cetera.

And one of the things that the community wanted us to do was to learn more about the river and the impacts. And so CCNS went -- organized an

independent sampling trip along -- on the Rio Grande, leaving from the Buckman Landing and floated for a little while, but then we were able to join with the Environment Department and the DOE and LANL on their annual or semiannual sampling trips.

So we would go out in boats, Zodiac boats, collect samples. We -- I observed those things. I didn't -- we didn't collect any samples, but we observed that process. We watched the sample collection. We -- we learned how to do all of those things.

About the same time, the City of Santa Fe and the County of Santa Fe were proposing to take their San Juan-Chama water from the Rio Grande through the Buckman Direct Diversion project, and I was very involved in that, providing information that we had gathered -- I had gathered to provide to the Buckman, because there was a lot of concern because it was basically directly east of the dumps here.

So I'm almost done.

Soon thereafter, I met Bob Gilkeson, who is -- was a registered geologist, and he is a -- he was a -- it's hard to say was.

Bob was a registered geologist, and he was also a contractor up here on the hill, on the groundwater monitoring issues, and he taught me a lot.

He also did a lot of analysis of the seismic -- the probabilistic seismic hazard on the Pajarito Plateau, which is volcanic.

We -- Bob and I participated in the National Academies of Sciences study on the LANL groundwater monitoring program and provided information to the NAS that they had asked LANL to provide. And they refused, so we provided that information for them.

And then CCNS has been involved in DP-1132 since 1994. So we've been involved in this process for 26 years, and provided extensive comments.

So I have a broad -- a broad knowledge of the lab, the DOE, the workings, the National Nuclear Security Administration, the regulators, state and federal, as well as in different environmental venues, air, water, soil.

MR. LOVEJOY: Mr. Hearing Officer, we offer Ms. Arends as an expert in the history of postwar environmental performance at Los Alamos Labs.

MR. VIRTUE: Is there objection?

If not, she'll be allowed to testify as such.

MS. ARENDS: Thank you.

Q. (BY MR. LOVEJOY) The question now is can you recite the RLWTF history which I think bears on DP-1132?

A. Yes. The RLWTF went into operation in 1963,

and that was a time of the Cold War, and a lot of water was discharged through the Outfall 051 every year.

They received an NPDES permit, a National Pollutant Discharge Elimination System permit, for Outfall 051 in the late 1970s.

In 1994, the Environment Department initiated a Water Quality Act permit proceedings.

In 1998, LANL committed to zero discharge through a report by Dave Moss and others. It recognized that the RL -- that report recognized that the RLWTF would lose its Resource Conservation and Recovery Act wastewater treatment unit exemption if it stopped discharging.

About that time, I had returned to New Mexico, and I went on a tour of the RLWTF as well as the Outfall 051, and one of the reasons that CCNS is so concerned about this permit in particular is because when we went down into -- went down to the outfall, it was -- at that time, it was the hottest place I had ever been. I had a radiation detection, and it was hot. And I was very concerned because of the amount of radionuclides that had been discharged through the system and left there.

So further, in the late 1990s, the lab put out a site-wide Environmental Impact Statement, and that included an analysis where through the record of

decision LANL committed to a zero liquid discharge from -- from the RLWTF.

In the 2000s, the RLWTF was rebuilt as a zero liquid discharge facility. The -- and I just want to insert into the history -- I don't have the Bates, but there was a permitting process that began in 2005 where a draft permit for DP-1132 was put out. The public made comments, and then it was withdrawn. So some of these slides up here, this is really the third effort to get a DP-1132.

In 2010, the mechanical evaporative system went into operation. The solar evaporative system -- or tanks were built in 2012. The Outfall 051 discharges ended in November, 2010. And we know that from the monthly reports that they submit to the Environmental Protection Agency.

LANL announced that no discharges are planned as long as the evaporation units are available and no changes in LANL -- there's been no changes in LANL's scope and mission. There's been attempted changes, but they've been defeated.

We're very concerned about -- the Citizens are very concerned about the speculative likelihood of a discharge.

And while the Mason and -- affidavit to the

Triad notice of intent says that the same conditions apply for any discharge, we still don't understand why the -- on June 18th, 2019, the release happened through Outfall 051. The need and the basis needs to be explained, especially after not discharging for almost nine years.

Q. Did you reach any conclusion based on this history?

A. Yes. It is my opinion based on 30 years of experience that LANL's zero discharge project has been adopted for 20 years through formal reports as well as formal records of decisions through the National Environmental Policy Act, through the -- their EI -- Environmental Impact Statement, LANL has an institutional intention and commitment to operate the RLWTF as a zero liquid discharge basis.

Any consideration of permitting of discharges from Outfall 051 should be premised on the understanding that there will be no discharges.

Q. Continuing on and maintaining your viewpoint as a historian of various points of environmental compliance at LANL, can you explain what you would project as the effect of RCRA permitting for the RLWTF?

A. Yes.

MR. BUTZIER: Mr. Hearing Officer, I would --

I would object as part of my continuing objection.

MR. VIRTUE: I'm going to allow her to testify just in interest of having a fair -- in the interest of having a fair, full record, I'm going to allow her to testify about her understanding of the RCRA permitting process and how it might apply here.

MS. ARENDS: Thank you.

MR. LOVEJOY: I understand, Your Honor.

MS. ARENDS: So I participated in the Resource Conservation and Recovery Act as implemented by the New Mexico Hazardous Waste Act in 1998 for WIPP and then through the process of the hazardous waste permit for Los Alamos. And that process began around the 2005 time frame. The public hearing was finally in 2010. It was -- I think it was 13 -- 13 days of hearing. And we had hearing in Ohkay Owingeh, I believe in this building, in Pojoaque, Albuquerque and in Santa Fe at the community college.

So I want to talk first about the seismic threat. So if you -- so the Water Quality Act -- I -- should we -- maybe I should talk about the tanks first. Okay.

MR. BUTZIER: Mr. Hearing Officer, I'm sorry to interrupt.

I would like to -- I don't think I called the

seismology objection I made earlier a continuing objection. I would like to for the record just make an objection that seismology issues are beyond the scope of the discharge permit proceeding.

MR. VIRTUE: I -- that objection is noted for the record.

I don't -- you haven't qualified yourself as an expert on seismology. So I'm going to allow you to explain your understanding, whatever data you have to present, and I -- you're not testifying as an expert at this point.

MS. ARENDS: I think it would be more logical for me to talk about the tanks first.

MR. VIRTUE: Okay.

MS. ARENDS: So the premise of the RLWTF is that there are many tanks of all sizes for treatment of both the low-level radioactive waste as well as the transuranic, transuranic meaning plutonium-contaminated waters. And the plutonium waste stream is about 1 percent of the low-level waste stream. But there's a lot of different tanks.

So RCRA has regulations -- highly specific regulations for tank systems that are used for storing or treating hazardous waste, which is what happens at the RLWTF. An existing tank -- quote, unquote, existing

tank requires a written assessment certified by a professional engineer that attests to the tank's system integrity. The assessment must confirm the tank system's design, strength and compatibility and take into account specific factors like its age and its characteristics of the waste, and there must be a leak test and other integrity examinations. There's also a whole section on corrosion.

For new tank systems, the owner or operator must submit an assessment by a professional engineer attesting to the design, structural integrity and compatibility of the tank system, as part of their Part B application. Specific factors must be discussed. And that's at 260 -- 40 CFR 264.191. These include a requirement that the design ensure that the tank system will not dislodge if it is placed in a seismic fault zone.

And this is a factor in Los Alamos. And in fact, in RCRA there is a specific regulation about location, and Los Alamos County is listed as a place that has to meet the additional requirements for seismic compliance.

New tank systems must be inspected by an independent inspector before they are buried or put into use. There's tightness testing that was discussed

earlier today is required. Ancillary equipment must be supported and protected against physical damage and excess stress due to settlement, vibration, expansion or contraction.

There is a schedule for installation of secondary containment for new or existing tanks. Secondary containment means a system that prevents migration of waste or liquids to soil, groundwater or surface water at any time. It must also detect leaks and collect releases and accumulated liquids.

There are requirements as to the compatibility of materials, adequacy of support and conditions of pressure, settlement, compression or uplift. The containment system must be sloped to drain and remove liquids. Secondary containment must consist of a liner, a vault, a double-walled tank -- excuse me -- or equivalent device.

There are further specific requirements for containment. Ancillary equipment must be provided with secondary containment. Secondary.

And I would like to note that -- as a general matter that plans of the nature of LANL's construction plans for the low-level waste treatment facility building would normally be subject to public disclosure and a review and comment period and a public hearing

concerning the construction of a -- of the proposed building before any construction is improved -- approved or undertaken.

None of this process has occurred before the construction of the new low-level radioactive waste treatment facility, which is next door to the west of the existing RLWTF.

Further, RCRA regulations call for a specific program for monitoring wells and monitoring protocol. These are in 40 CFR 264.90 through 100. And this is where I worked with Bob Gilkeson a lot.

In general, there is a requirement of an upgradient well -- upgradient well to identify the background conditions. Then RCRA requires downgradient wells from the facility to be able to compare the upgradient findings with the downgradient, to see if the facility is contributing contamination to surface -- or -- Mr. Katzman probably talked about the complex geology. Upgradient wells and downgradient wells so that you can compare those to see if the facility is contributing anything to groundwater contamination.

At a minimum, these wells are required for a detection monitoring program. The specifics of a RCRA monitoring program are spelled out in a RCRA permit so that a departure is a violation. Unfortunately, the

monitoring wells identified in draft DP-1132 do not include the upgradient background well, and so the monitoring plan is not RCRA compliant.

Q. (BY MR. LOVEJOY) How does the RCRA system approach the question of seismic compliance in comparison to the Water Quality Act?

A. Yes. So the Water Quality Act at 20.6.2.3106C.(7) allows the Secretary to require additional information in the permit application. There are no requirements for seismic information.

In contrast, the Resource Conservation and Recovery Act requires in the application a series of requirements. At 40 CFR 270.14(b)(11), you have to provide facility information. If the facility is proposed to be located in an area listed in Appendix VI of Part 264, which Los Alamos County is, the owner or operator shall demonstrate compliance with the seismic standard.

And then there's a whole bunch of different requirements such as published geologic data or data obtained from field investigations carried out by the applicant.

And the applicant right now is doing some trenching studies further south of the RLWTF.

It says that the information must be of such

quality to be acceptable to geologists experienced in -- experienced in identifying and evaluating seismic activity.

So in the 2011 Environmental Impact Statement for LANL, it talked about -- let me go back.

Okay. So there can be no -- RCRA requires that there -- you have to show that either there's no faults that have displaced in a Holocene time are present and there's no lineations which suggest the presence of a fault within 3,000 feet of a facility.

So in the DOE's 2011 draft SEIS, Supplemental EIS, Environmental Impact Statement, they -- they said that the new paleoseismic data argue for pre-Holocene, which means in the last 11,000 years, surface-rupturing earthquakes, including an earthquake on the Pajarito fault approximately 1,400 years ago, an earthquake on the Pajarito fault approximately 5,000 to 6,000 years ago, which is consistent with an event during the same general time frame on the Guaje Mountain vault and a third earthquake on both the Pajarito and the Rendija Canyon faults approximately 9,000 years ago.

This paleoseismic event chronology demonstrates that the Pajarito fault often ruptures alone but sometimes ruptures with either the Rendija Canyon fault or the Guaje Mountain fault. When this

occurs, the resultant seismic movement and therefore the earthquake magnitude are larger than when the main Pajarito fault ruptures alone.

Given the evidence for the youthful -- excuse me. Given the evidence for youthful movement on the Pajarito fault system, future ruptures should be expected.

And so RCRA --

Q. What --

A. For these youthful faults and ruptures in the last 11,000 years, there's additional requirements under the Resource Conservation and Recovery Act.

Q. Why don't you -- what are those requirements?

A. Hmm?

Q. What are those additional requirements?

A. Additional requirements?

So more study needs to be done. The writers of RCRA, the EPA, were very concerned about seismic activity and hazardous waste facilities, or facilities that handle, treat, manage and store hazardous materials. So more studies are required.

Q. Okay.

What are you reading from there?

A. I'm reading from 40 CFR 270.14, the contents of a Part B application, at (b)(11).

Q. Has the need to meet seismic conditions, permitting conditions had an effect on other projects at Los Alamos?

A. Yes.

Q. What projects, what effects?

A. In the mid-2000s, the Department of Energy and the National Nuclear Security Administration proposed to build a -- what was called the Chemistry and Metallurgy Research Replacement Project, or CMRR, which would replace the old CMR building, Chemistry and Metallurgy Research building, which is not far from here. And at the time, when it was built, it was the largest building in New Mexico.

So they moved down the plateau next to the plutonium facility, and they proposed to build two buildings. One is the RLUOB, the Radiological Utility Office -- no, wait -- RU -- Utility Building -- and Office Building. And then next to it they were going to build a Super -- Super Walmart size nuclear facility.

And when we started -- when CCNS started and Gilkeson started bringing up these seismic requirements because they would be handling hazardous waste, they changed their plans a little bit, and they said that they would either have a deep foundation or shallow foundation, but they were still doing the analysis of

that. And there's a big, complicated story.

But the additional cost to address the seismic compliance issues raised a project that started off at $600 million to -- that raised up to $6 billion.

MR. BUTZIER: Mr. Hearing Officer, I would like to object on two bases. That was a long narrative response, and it was entirely irrelevant to this proceeding. I wasn't quick enough to get the microphone to my mouth before it started. I didn't want to interrupt the witness. But I would like to interpose that objection at this time.

MR. VIRTUE: Okay. The objection is noted.

MR. BUTZIER: Thank you.

MR. VIRTUE: We are getting further and further away from the specific issue. I -- and I'm allowing it because of your historical knowledge and background, but please keep your testimony going forward more closely to the groundwater discharge permit as opposed to going back in history.

MS. ARENDS: Yes. I'll bring it back, because the CMRR project is across the street from the RLWTF, and so that's why I was telling a big story, is because it's across the street. They're neighbors. And for that reason, we believe that these requirements should be met, because the risk from handling hazardous and

radioactive waste needs to be addressed.

MR. VIRTUE: Great. Let's proceed.

Q. (BY MR. LOVEJOY) Ms. Arends, you've presented prefiled testimony here, have you not?

A. Yes.

Q. And you have exhibits, I think numbers 1 through 4, that go with that; is that true? The items describing the low-level waste facility?

A. Right. Right. The plans and specs, the plans and specifications for the low-level -- the new low-level radioactive liquid waste facility.

Q. And what do they show as far as your testimony goes?

A. They show many tanks, many ancillary -- a lot of ancillary equipment. It's unclear whether there's secondary containment, which is necessary for managing, storing, treating hazardous waste, liquid hazardous waste.

Q. I'm going to show you an item marked Exhibit 7.

A. Okay.

Q. And ask you what that is.

A. Exhibit 7 is a series of maps showing the Pajarito fault zone, the complex Pajarito Plateau fault zone, the location of the Rendija Canyon faults, the

Guaje Mountain -- Canyon faults, which are appropriate because new analysis indicates that they end or they have horsetails at -- near the area of the RLWTF and the CMRR.

The second map shows -- Figure 2 shows the CMRR, and to -- directly east of the CMRR is the RLWTF, the old and the new facilities. This figure is from the 2011 SEIS, or Supplemental EIS, and there is conversation, discussion about the Rendija Canyon fault and the Guaje Mountain fault moving more south to this area where these plutonium operations are taking place.

Figure 3 is a map by Wohletz, who was a LANL scientist, of the Rendija Canyon fault along the western boundary of TA-55 and Guaje Mountain fault 2,500 feet east of the eastern boundary of TA-55. And so you have the CMRR here to the north. Directly north is the PF-4, which means plutonium facility. Directly to the east is the RLWTF.

This map shows --

Q. Are you on Figure 3 now?

A. Hmm?

Q. This map is what? Figure 3?

A. Figure 3.

So the black dashed lines show the trend of inferred faults, indicating that because this is such a

youthful -- the Pajarito fault system is such a youthful fault system, as DOE described in their 2011 Supplemental EIS, this map shows areas where our -- the brown patches along the black dashed lines are zones of intense fractures. And you can see that this whole area has many zones of intense fractures, intense fractures.

And then finally is a cross-section of the -- okay. So this is a cross-section of the fault zone, and this -- this is in a report called Lewis from 2009, and Lewis was -- is a LANL scientist. I don't know if she's still here. But she wrote a report about analyzing the probabilistic seismic hazard in that analysis.

And this is where I read from, from the -- this last bottom paragraph is about the youthful movement of the Pajarito fault system. And this is from DOE's own document.

MR. LOVEJOY: We move the introduction of the prepared testimony of this witness and Exhibits 1 through 4 and 7.

MR. VIRTUE: Objection?

MR. BUTZIER: Mr. Hearing Officer, we object to the admission of these documents and also to testimony that sought to offer conclusions that are of an expert nature beyond the scope of this witness' expertise.

We have very little context to understand what -- where these are coming from, and they're entirely irrelevant in a groundwater discharge permit hearing. To the extent there's some faulting shown, there may be relevance in a groundwater hydrology context, as Mr. Katzman testified, but that's not the purpose for offering these. This is seismology testimony beyond the scope of the witness.

MR. VIRTUE: Mr. Verheul, do you have -- does that conclude your objection?

MR. BUTZIER: Yes.

MR. VERHEUL: The Department also objects on essentially the same grounds, the irrelevance of these documents and the accompanying testimony to the issuance of a discharge permit, in addition to the conclusions drawn by this witness, to be entirely outside the scope of her expertise.

MR. VIRTUE: Okay.

I'm going to allow these exhibits to come into the record and give them the weight that I deem to be appropriate and make such recommendation to the Secretary in that regard.

I will note that a lot of the testimony was -- she qualified as an expert on historical activities at LANL. Her testimony went substantially beyond that,

and -- but I am going to let it in and give it the weight that I deem it to be appropriate. That's for the first four exhibits.

With regard to Exhibit Number 7, this exhibit is submitted in conflict with the rules which require a witness to present their exhibits at the time they file their statement of intent. So again I'm going to let it into the record. I don't believe that the source was properly validated. And I note it's submitted contrary to the rules we're acting under here, and again I will give it the weight that I deem it to be appropriate.

So Exhibits 1 through 7 are admitted subject to my ruling.

(Exhibits Citizens 1-1, 2-1 through 2-3, 3-1, 4-1 through 4-10 and 7 admitted into evidence.)

MR. LOVEJOY: Okay. Cross-examine.

MR. VIRTUE: Cross-examination from the applicants?

MR. BUTZIER: Thank you, Mr. Hearing Officer. May I just take 30 seconds before I cross-examine, if I do?

MR. VIRTUE: You may.

(Proceedings in brief recess.)

MR. BUTZIER: Mr. Hearing Officer, the

applicants have no cross-examination for this witness.

MR. VIRTUE: Okay.

Mr. Verheul?

MR. VERHEUL: I just have a few short questions.

CROSS-EXAMINATION

BY MR. VERHEUL:

Q. Good afternoon, Ms. Arends.

A. Good afternoon.

Q. You -- your qualifications in your resume, in addition to your statements in your prefiled testimony and here today orally, you've indicated that your training is primarily legal; is that right?

A. My schooling is primarily legal.

Q. Okay.

You are not a registered geologist; is that right?

A. I am not.

Q. You're not a professional engineer?

A. I am not.

Q. Okay.

I am going to show you something in the ground and surface water protection rules, 20.6.2, if I may.

Do you happen to have a copy of those in front of you?

A. I believe so.
Q. Okay. Well, even if you do, I've highlighted something which might make this easier. So if you don't mind, I'll approach.
A. What is it? 20 point --
Q. 6.2.3109B.
A. Say it again. 3 --
Q. 3109B.
Are you there?
A. Um-hum.
Q. Would you mind reading the first sentence to me?
A. I don't think I'm in the right place.
3109B?
Q. Yes. And 3109 -- I'll read the caption of 3109. It is Secretary Approval, Disapproval, Modification Or Termination of Discharge Permits, and Requirements for Abatement Plans.
A. Okay. On B, "The secretary shall, within 30 days after the administrative record is complete and all required information is available approve, approve with conditions or disapprove the proposed discharge permit, modification or renewal based on the administrative record."
Q. Great. Thank you.

Is it your understanding, then, that with regard to a proposed discharge permit the only possible outcomes are approval, approval with conditions or disapproval?

A. According to this sentence, yes.

MR. VERHEUL: I have no further questions.

MR. VIRTUE: Redirect for Mr. Lovejoy?

MR. LOVEJOY: None, Your Honor.

MR. VIRTUE: With that, Ms. Arends, you are excused.

MR. LOVEJOY: Perhaps there --

MR. VIRTUE: I'm sorry.

Are there questions from the public of this witness?

Yes.

Please identify yourself.

MR. DE VOLDER: Mark DeVolder.

EXAMINATION

BY MR. DE VOLDER:

Q. There was a discussion about ancillary equipment.

A. Yes.

Q. Could you please qualify that as to whether it means pumps or other types of equipment that do or do not have secondary containment?

A. Yes.

In what context do you want? Water Quality Act or the Resource Conservation and Recovery Act or both?

Q. My concern stems from the issue Mr. Beers discussed earlier about there being secondary containment in the form of the liner and the pond and also in the interim -- in the influent storage area, there was a discussion about secondary containment there.

So I don't have a good feel for if there are any additional secondary containment requirements for things like piping, pumps, valves, instrumentation, other things that might be included in that term of ancillary equipment.

A. Thank you for that clarification.

Okay. So in my written, filed testimony, I'm describing the requirements for secondary containment. Secondary containment means a system that prevents migration of waste or liquids to soil, groundwater or surface water at any time. The system must also detect leaks and collect releases and accumulated liquids. There are requirements as to compatibility of materials and adequacy of support in conditions of pressure, settlement, compression or uplift.

The containment system must be sloped to drain and remove liquids. Secondary containment must consist of a liner, a vault, a double-walled tank or equivalent device. Ancillary equipment must be provided with secondary containment, for example, a trench, jacketing, double-wall piping.

Yes.

Does that help?

Q. Yes, it does. Thank you. That answers my question.

MR. VIRTUE: Do we have any other questions of Ms. Arends from members of the public?

Yes.

Please identify yourself for the record.

MS. BEAUMONT: I'm the Reverend Holly Beaumont with Interfaith Worker Justice - New Mexico, resident of New Mexico for the last 33 years and a member of the public.

This is a public hearing; is that right?

MR. VIRTUE: Correct.

EXAMINATION

BY MS. BEAUMONT:

Q. I would like to ask Ms. Arends if you could summarize in your own words for those of us who are laywomen and laymen what your concerns are, CCNS -- what

your concerns are regarding this permit and the process.

A. Our concerns are many, but our main concern is that this is a permit -- we believe that this is the -- that this facility -- we believe that this facility must be permitted, but we believe that the Water Quality Act is the inappropriate permit. The correct permit is a Resource Conservation and Recovery Act permit, because this facility manages, treats, handles and stores hazardous waste.

And the Water Quality Act is not as protective of human health and the environment for a facility located in an active seismic zone, meaning that there has been surface faulting in the last 1,400 years, which is like a blink of an eye in geologic time.

And the concentration of nuclear facilities in that area raise additional concerns. We look at the model for the CMRR nuclear facility and see that some people made the decision not to build the building in that area.

We're concerned about many things. This -- this administrative record is 14,000 pages long. And it's complicated. There's a number of different issues depending on what your focus is. But I believe your concern is public health and safety, and we believe that the -- in response, we believe that the Resource

Conservation and Recovery Act is the appropriate regulatory vehicle for the Environment Department to regulate this facility.

MR. BUTZIER: Mr. Hearing Officer, I would just like to interpose an objection to the portion of that testimony that speculated about the reasons for constructing or not constructing a building.

MR. VIRTUE: The objection is noted. Again I'm going to let the statement remain in the record for purposes of completeness and will give it the weight that I deem it to be appropriate, the Secretary does.

Are there any further questions from members of the public of this witness?

Seeing none, Ms. Arends, you are excused.

Let's take a -- let's come back at 3:30. I have 3:18 on my watch. Come back at 3:30 and proceed with the Department's witness.

(Proceedings in recess from 3:17 p.m. to 3:36 p.m.)

MR. VIRTUE: We're going to go back on the record.

Mr. Verheul, you may proceed with your witness.

MR. VERHEUL: Thank you, Mr. Hearing Officer.

The New Mexico Environment Department calls

its witness, Mr. Pullen.

Has he been sworn in?

MR. VIRTUE: No. He needs to be sworn in.

STEVE PULLEN

having been first duly sworn or affirmed, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. VERHEUL:

Q. Please state your name for the record.

A. My name is Steve Pullen, spelled P-U-L-L-E-N.

Q. What is your current employment position?

A. I'm the manager of the Pollution Prevention Section of the Ground Water Quality Bureau within the New Mexico Environment Department.

Q. And would you please briefly describe your education and experience.

A. I earned a bachelor of science degree in geology at the University of Texas at Austin in 1983.

I have approximately 31 years of experience working in the environmental field, with three years in the private sector and the remainder doing regulatory oversight for the New Mexico Environment Department. The majority of my approximately 28 years at NMED was with the Hazardous Waste Bureau, where I worked as a permit writer and as manager of the bureau's compliance

program.

Since late 2015, I have been employed with the NMED's Ground Water Quality Bureau. With this bureau, I started as a permit writer, processing permit applications and performing routine monitoring of complex industrial facilities, including Los Alamos National Laboratory.

Regarding LANL, I performed the lead regulatory oversight role within the bureau for the RLWTF and the chromium and RDX groundwater contaminant plumes for approximately one year. Approximately two years ago, I was promoted to manager of the Pollution Prevention Section, one of the principal groundwater discharge permitting sections within the bureau.

I consider myself to have a high level of expertise as an environmental permit writer, to be very adept in evaluating regulatory compliance and to be a pretty good hydrologist.

My resume is Exhibit Number 2 of the Department's statement of intent to present technical testimony.

Q. And what is the purpose of your testimony today?

A. My purpose today is to present testimony regarding the US Department of Energy and Triad National

Security's application to discharge wastewater associated with the radioactive liquid waste treatment facility. I will also testify to the Department's associated draft discharge permit, specifically how this permit as proposed will ensure associated discharges happen in a safe and protective manner of groundwater.

The latest draft of DP-1132 is marked as NMED Exhibit 1. References to draft DP-1132 in my testimony refer to that version of the proposed permit.

Q. And, Mr. Pullen, what was your involvement in the permitting process?

A. As program manager, I oversee the permitting process for all domestic and industrial discharges within the State of New Mexico. Through a staff of permitting specialists under my purview, each application for discharge is evaluated, additional information is sometimes requested, and specific conditions are drafted and included in draft discharge permits.

I review all draft discharge permits for consistency, applicability of conditions and adherence to the regulatory framework.

With regard to this draft permit, though, I did not personally draft the original conditions, and I did not participate in many -- in the many meetings

between the applicants, interested parties and the Department in the preparation of these conditions. I have reviewed all conditions and found them to be appropriate.

Q. Did you prepare written testimony that explains in detail the permitting action in question today?

A. Yes. It was filed as NMED Exhibit Number 3.

Q. Do you have any revisions to any of your written testimony you'd like to make?

A. No.

Q. Do you adopt Exhibit 3 as your testimony under oath here today?

A. Yes.

MR. VERHEUL: Mr. Hearing Officer, at this time, I'd like to offer NMED Exhibit 1, the draft discharge permit, NMED Exhibit 2, the resume of Mr. Steve Pullen, and Exhibit 3, his prefiled written testimony into evidence.

MR. BUTZIER: No objection.

MR. VIRTUE: Are there objections?

MR. LOVEJOY: No objection.

MR. VIRTUE: If not, the NMED exhibits will be admitted.

MR. VERHEUL: Thank you.

(Exhibits NMED 1 through 3 admitted into evidence.)

Q. (BY MR. VERHEUL) Mr. Pullen, do you support issuance of DP-1132 in the form that was filed with your written testimony as NMED Exhibit 1?

A. I support issuance of the draft discharge permit, or Exhibit Number 1, with numerous changes as I will now explain. These necessary changes generally reflect two things.

Number one, the applicants' accomplishments in fulfilling permit conditions during the time the permit was in effect.

And number two, changes to the ground and surface water protection regulations that took effect on December 21, 2018.

The most significant of these changes to the -- most significant of these changes are the changes to the groundwater numerical standards at 20.6.2.3103 NMAC, the addition of several regulated contaminants at 20.6.2.3103 NMAC, and the addition of 13 additional contaminants added to the list of toxic pollutants.

Other necessary changes to the draft permit include changes referencing from LANS to Triad, a misreference to the consent order between the Department and DOE, and changed deadlines to reflect the

anticipated finalization of the draft permit.

The applicants' accomplishments and the associated necessary changes are identified in my written testimony. These changes are also addressed in Mr. Beers' written testimony where he summarizes the needed changes, provides two tables identifying changes due to partial or a complete fulfillment of specific conditions -- this is LANL Exhibit Number 7 -- and a red-line version of the draft permit with proposed changes. This tracked change version of the permit is LANL Exhibit Number 9.

I generally concur with Mr. Beers' proposed changes identified in his red-line version of the draft permit. However, I have a few exceptions.

First, I propose to not change the condition numbers in the permit. Instead, I believe it would be better to preserve the original draft numbers so as to maintain internal cross-references and to minimize confusion. I propose to remove the language associated with completed requirements and replace that language with the word "reserved."

I propose additional changes to the regulatory citations are necessary to reflect the new regulations. For example, the citation to toxic pollutants was changed in the new regulations from 20.6.2.7.WW to

20.6.2.T.(2) NMAC.

Due to comments received, I propose the addition of a definition of the phrase "untreated" in relation to the facility waste streams.

I propose that Condition 16.b be struck. The condition pertains to alternative total nitrogen limits associated with discharges to Outfall 051 prior to usage of the new reverse osmosis treatment units. The units have begun operation, and therefore the more stringent limits of Table 1 will apply.

Mr. Beers addressed this proposed change in his testimony, as well.

Due to comments I received, I propose we revise Condition Number 42, which in part addresses the time the public has to submit comments to the Department after submittal of a modified or amended closure plan to allow 90 days instead of the specified 30 days.

Q. And can you elaborate on why this discharge permit is needed and how it is protective of groundwater?

A. Yes, I can.

This groundwater discharge permit is needed for the same reason that all New Mexico discharge permits are needed, and these needs are basic and intuitive.

First, they are to protect public health and the environment.

Second, to address the statutory and regulatory requirements for a discharge permit.

Third, to prescribe a regulatory scheme for the oversight and monitoring of the operation of a complex facility whose associated fluids may adversely affect groundwater.

Fourth, to provide the public with an opportunity to have a voice in an important and concerning environmental issue within the community.

And lastly, the main reason this permit is needed and its primary focus is to minimize the potential for an adverse impact on groundwater.

Q. So then how is this discharge permit protective of groundwater?

A. Every condition of the draft permit, even those seemingly unrelated to groundwater protection, are included to protect groundwater.

The permit includes a number of detailed, sometimes unique conditions addressing administrative engineering controls.

Administrative controls include things like frequent inspections of the facility, detailed standard operating procedures, training requirements including

operator certification requirements, emergency response capabilities 24/7, regulatory oversight and inspections.

Engineering controls includes things like secondary containment for all piping and vessels managing liquids not treated to discharge levels, liquid level and liquid presence alarms in critical components of the system, the presence of a double thick, double synthetic liner with leak detection at the solar evaporation tank.

These permit-required administrative and engineering controls are included to prevent, minimize or effectively address the release or spill of a contaminated fluid at the RLWTF.

In addition, this permit is protective because it requires intentional discharges adhered to the stringent groundwater protection standards established by New Mexico's Water Quality Control Commission. That is, it requires the design and operation of a thorough and effective contaminant treatment system.

Finally, the permit is protective because it requires a groundwater monitoring and reporting program to ensure the effectiveness of the operational controls and discharge limits.

Q. Mr. Pullen, can you briefly describe how the New Mexico Environment Department notified the public of

this permit as it was first applied for and then as it continued through the permitting process?

A. I'll try and make this brief.

The Department has ensured through this entire permitting process that public notice occurred at all regulatory specified milestones. The principal public notice milestones are three.

First, the notice of the application's submittal, what is commonly referred to as the Public Notice 1.

Second, the notice of the availability of a draft permit for public comment, or PN2.

And finally, the notice that there would be a public hearing.

Each of these notification processes associated with the RLWTF took place in accordance with 20.6.2.3108 NMAC and may have occurred multiple times due to changing circumstances, such as the 2007 decision to add the solar evaporation tank, resulting in a significantly changed draft permit.

The public notice timeline was this.

Notice of receipt of an application occurred twice, in association with the first application submittal in November of 1996 and then again with the revised submittal in March of 2012.

Notice of the availability of a draft permit for public comment occurred six times. PN2 occurred numerous times for numerous reasons, but primarily to provide the public with the opportunity to review a draft discharge permit revised because of comments received during the previous public comment period. PN2 occurred in August of 2003, April of 2005, August of 2013, November of 2013, May of 2017 and March 9 of 2018.

Numerous hearing notices occurred between December, 2017 and the most recent notice published on October 9, 2019. The numerous notices were necessary to -- due to the remand of the August, 2018 permit and changes in the hearing date and location. The October, 2019 hearing notice is marked as NMED Exhibit Number 4.

The Department's public notice occurs in various forms. These include at a minimum newspaper ads, mail-outs and e-mails to interested parties, postings on the -- of the notice on the bureau's web page.

The Department held multiple public listening sessions and meetings during this permitting process. I provide a more complete description of the -- of the public notification process associated with this draft permit in my written testimony.

Q. Is there anything else you would like to add?

A. Yes. I'd like to address a public comment received by the Department regarding the permit.

A comment suggests that the groundwater monitoring wells in the regional aquifer and associated with the RLWTF are flawed for the purpose of monitoring a possible -- a possible contaminant release from the facility.

This suggestion, based on a 2007 report, is false. My office finds, based on more recent reports, that the groundwater monitoring wells referenced in the discharge permit, all located downgradient of the RLWTF and all utilized to monitor for the appearance of contaminant release from the RLWTF and the SET, are providing sufficiently defensible groundwater quality data required for regulatory and scientific purposes.

These wells include regional aquifer monitoring wells R-1, R-14, R-46 and R-60, intermediate depth well MCOI-6 and alluvial wells MCA-RLW-1 and MCA-RLW-2. That the regional monitoring wells are not impacted by residual drilling fluids is verified by measurable dissolved oxygen, positive oxidation-reduction potential, a circumneutral pH indicative of natural conditions in the regional aquifer.

Concentrations of redox parameters, including dissolved iron, manganese, total organic carbon, TKN, sulfate, chromium and uranium, are all within background levels for the regional aquifer, further demonstrating that there are no impacts from residual drilling fluids in the regional wells.

The Department will respond to all public comment when the administrative record on this proceeding is closed.

Finally, I'd just like to list a few of the aspects of this discharge permit and the Radioactive Liquid Waste Treatment Facility that I consider in my experience to be significantly unique. I provide this list primarily so that our audience will be more -- will have a more in-depth regulatory perspective on the facility and its permitting process.

First, as we are all aware, the Radioactive Liquid Waste Treatment Facility and its function at LANL are unique, certainly within New Mexico and perhaps within the country.

The facility has many complex wastewater treatment systems, including chemical neutralization, chemical separators, gravity filters, pressure filters, rotary vacuum filters, primary and secondary reverse osmosis systems, and an ion exchange system. I

generally see only two such systems associated with a wastewater treatment plant.

The facility is unique in that its influent secondary containment system is more robust than any other in my experience.

Three different discharge mechanisms, or ways that the liquid can be discharged, is far more than I generally see.

I have never witnessed a mechanical evaporator, which is a natural gas-fired system, as a discharge mechanism.

The solar evaporative system that is far more engineered than others that I have seen. I have never seen an evaporation performed in a tank, though occasionally we've seen earthen impoundments with double liners. I've seldom encountered leak detection systems for evaporative impoundments, and I've never encountered an associated soil moisture monitoring system.

Finally, regarding groundwater at LANL, I've seen no facility in New Mexico where the Department has dedicated as many personnel -- personnel resources to perform groundwater monitoring, investigation and remediation oversight. The Department has three bureaus with significant LANL groundwater involvement, including the Hazardous Waste Bureau, the DOE Oversight Bureau and

the Ground Water Quality Bureau.

I am confident that between the efforts of the applicants and the Department groundwater below the facility is continuously being better understood and its quality is slowly improving.

MR. VERHEUL: I offer the witness for cross-examination at this time.

MR. VIRTUE: Is there cross-examination from the applicants?

MR. BUTZIER: Applicants have no cross-examination questions.

MR. VIRTUE: Okay.

Is there cross-examination from the Citizens?

MR. LOVEJOY: Yes, there is.

CROSS-EXAMINATION

BY MR. LOVEJOY:

Q. When, Mr. Pullen, did you take on responsibilities -- oh, dear.

Mr. Pullen, when did you take on responsibilities involving DP-1132?

A. Do you need precise dates or approximate time frames?

Q. Why don't you give me the month.

A. When I started with the bureau in September of 2015.

Q. And this facility you just pointed out has a number of unique aspects to it, such as the mechanical evaporation system, the method of evaporating passively through impoundments and -- and the various other novel aspects.

Given these novel features, did somebody in the Environment Department take a look at whether this facility is really appropriate for Water Quality Act permitting?

A. The facility has been inspected on numerous occasions. The facility -- facilities for LANL's application was carefully reviewed and any additional information was requested. I consider the Department's knowledge -- the Ground Water Quality Bureau's knowledge and this discharge permit to be sufficiently protective of groundwater quality.

Q. Well, it needs to be within the ambit of legal requirements, does it not? For requirements for permitting?

MR. VERHEUL: Mr. Hearing Officer, I object to the question. It requires a legal conclusion from Mr. Pullen, who did not -- has not presented himself as a legal expert.

MR. VIRTUE: I'll allow him to respond to the question based on his understanding of the question.

MR. PULLEN: Can you please rephrase the question, Mr. Lovejoy?

MR. LOVEJOY: Okay.

Q. Well, the facility changed over time during the application process, did it not?

A. It changes continuously.

Q. And at one point, you certainly heard that there was a project known as the zero liquid discharge project for the RLWTF, did you not, you and the Department?

A. I heard reference to that project. Yes.

Q. And during the permitting process, the solar evaporation tanks were added, right?

A. Correct.

Q. And during the permitting process, the mechanical evaporation system was put into use, correct?

A. You're causing me to go back to a period when I was not involved with the permit, but my review of the record is that yes, the mechanical evaporation system was put into effect in approximately the 2010 time frame, and the -- it's my recollection that the first permit for this facility was issued in 2006.

There was a public notice for a permit in 2006. I'm sorry. It wasn't issued. It was public noticed.

Q. Well, with all these changes, at some point did someone in the Environment Department say "Okay, we need to step back and review the legal basis for issuing a permit for this facility"?

A. We would review the regulatory basis for this facility, issuing a permit for this facility.

Q. What do you mean by the regulatory basis?

A. Whether it has a complete application, whether the applicants submitted necessary information for us to draft a permit. As far as the legal basis for this permit, I'm not aware of the Department making that kind of an evaluation, but that doesn't mean it did not occur.

Q. If it happened, you don't know about it.

A. That's correct.

Q. You state in your prefiled testimony, which is NMED Exhibit 3, that a discharge permit is required for the RLWTF because one -- I'm looking at page 2, toward the bottom -- "A discharge permit is required for the RLWTF because; 1) the Applicants are discharging effluent in a manner such that the effluent may move directly or indirectly into the -- into groundwater within the meaning of 20.6.2.3104 NMAC."

Did I read that testimony correctly?

It goes over to page 3.

A. Yes, you read it correctly.

Q. And you also state following on that "2) the discharge is such that effluent may move into groundwater of the State of New Mexico which has an existing total dissolved solids (TDS) concentration of less than 10,000 milligrams per liter within the meaning of 20.6.2.3101.A NMAC," correct? (As read.)

A. Correct.

Q. And you say also that "3) the discharge is into or within a place of withdrawal of groundwater for present or reasonably foreseeable future use within the meaning of the Water Quality Act (WQA) NMSA 1978, Section 74-6-5.E.3 and 20.6.2.3103 NMAC," correct? (As read.)

A. Correct.

Q. Okay.

And the draft permit, NMED Exhibit 1, at page 9, recites essentially the same matters, correct?

A. That's correct.

Q. And the discharges that you referred to in your testimony and in the permit are not actually occurring now, are they?

A. There are discharges occurring to the mechanical evaporation system. There has been a recent discharge to Outfall 051. There has never been a

discharge to the solar evaporation tank.

Q. The SET, solar evaporation tank, is not yet in service, correct?

A. That's correct.

Q. So discharges to the SET are not what you're referring to in those three passages that I quoted.

A. That's correct. But that's not uncommon, for our permits, which often address different discharge points, some of which may be under construction, some of which may be operational.

Q. Okay. You state in your testimony, and it's on a couple pages later, referring to the MES, that its natural gas-fired evaporator has been the sole disposal method for the RLWTF for several years, correct?

A. I'm sorry. Where are you reading from?

Q. I'm on page 5, starting on page 7 through page -- rather line 7 through line 9.

A. That's correct.

Q. And the MES disposes of effluent by mechanical evaporation, correct?

A. That's correct.

Q. And it's gas powered so it essentially boils the water off?

A. I envision it as a teakettle.

Q. Big teakettle.

So the wastewater that enters the mechanical evaporation system emerges in the vapor phase and goes up in the air, right?

A. That's correct.

Q. And the regulations state that a discharge plan consists of conditions -- you probably know this from memory -- conditions for any discharge of effluent or leachate which may move directly or indirectly into groundwater, right?

A. Correct.

Q. And groundwater is defined as interstitial water which occurs in saturated earth material which is capable of entering a well in sufficient amounts to be utilized as a water supply, unquote, true?

A. True.

Q. And effluent directed to the MES enters a closed system of tanks and pipes, doesn't it?

A. Engineered to be closed, presumed to be closed. Yes.

Q. And the water doesn't touch the ground on the way.

A. Not intentional.

Q. So pumping of effluent to the MES and its evaporation are not the presently occurring discharge you're referring to in the passages I quoted.

A. No. That's incorrect.
Q. Would you care to explain?
Do you understand why I ask?
A. Yes, I think I do.
Q. Okay.
A. If we can go back to my written testimony on page 2, where, as you point out, permit requires the -- a discharge permit is required for the RLWTF because the applicants are discharging effluent in a manner such that the effluent may move directly or indirectly into groundwater within the meaning of the specific regulation.
That condition -- that language says the applicants are discharging effluent in a manner such that it may move directly or indirectly into groundwater. I believe that the discharge from the treatment system to the MES may move indirectly into groundwater.
Q. Can you describe the pathway you have in mind?
A. Well, this is a system -- a plumbing system between the treatment systems and the MES, and if there were to be a leak in that plumbing system and it get through the secondary containment systems associated, it may move indirectly into groundwater.
Q. Is there a leak?

A. I hope not. I've seen --
Q. I'm not asking about your hopes.
Is there a leak?
A. I'm not familiar with any leak associated with the MES.
Q. Has there been a leak between the treatment tanks and the MES any time since 2010?
A. Not that I'm aware of.
Q. Okay.
Well, what's the likelihood that the water -- wastewater going from the treatment tanks to the MES may, as you say, reach groundwater?
A. I would say there is a very low likelihood. I cannot quantify that, but a very low likelihood.
Q. Is it highly unlikely?
A. It is highly unlikely, yes.
Q. Thank you.
You see quarterly reports about the operations of the RLWTF, don't you, quarterly monitoring reports?
A. Yes, I do.
Q. And based on those reports since November of 2010, there have been no discharges from Outfall 051 except for a single one on June 18th, 2019, but otherwise none since 2010; is that true?
A. That's correct.

Q. The Ground Water Quality Bureau is concerned to know of any discharges that may reach groundwater, true?

A. Yes, sir.

Q. And that's -- underlies the requirement for a notice of intent to discharge pursuant to 20.6.2.1201 NMAC; is that true?

A. That's one of the bases for requiring a notice of intent to discharge.

Q. And the Water Quality Act regulation concerning notice of intent to discharge requires that the discharger state the quantity of the discharge, doesn't it?

A. An estimated quantity, yes.

Q. And there's another Water Quality Act regulation that requires the applicants' discharge plan to state the quantity and other factors about the discharge, true?

I can cite you to 20.6.2.3106C.(1).

A. I believe that's correct.

Q. And the -- there's a Water Quality Act regulation that requires the public notice of the application to state expected quality and volume of the discharge, correct?

A. Yes.

Q. And quantity also, I believe.
A. I -- that was what you said originally, but --
Q. Okay.
So the Ground Water Quality Bureau wants to know the location and quantity of any intended discharge, true?
A. Yes, sir.
Q. This information has a bearing on the terms of a permit that the bureau might propose issuing, doesn't it?
A. Yes, it does.
Q. Okay.
As you understand it now, in what circumstances do the applicants intend to discharge from Outfall 051?
A. My understanding is 051 will be utilized when there is insufficient capacity at the other discharge locations.
Q. What other discharge locations do you mean?
A. The MES and the SET.
Q. So Outfall 051 is an option that the lab would use in those stated conditions; is that right?
A. I think option is a good characterization.
Q. You've used that word yourself, haven't you?
A. I have.

Q. And is it your understanding that after DP-1132 was first issued on August 29, 2018, those were the conditions, what you've stated, under which the applicants intended to discharge through Outfall 051?

A. I'm sorry.

Q. Were the conditions that you just articulated concerning insufficiency of other discharge locations -- were those the conditions under which the applicants intended to discharge through Outfall 051 when DP-1132 was issued in August of 2018?

A. It's been my understanding from the inception that the discharge through Outfall 051 was to satisfy any insufficient capacity situations at the other discharge points.

Q. And is that true today?

A. I understand that they discharged in June of this year to test the operational capability of the system.

Q. Who told you that?

A. Well, other than hearing it today, I -- I can't recall exactly who told me that.

Q. At the time of that discharge, was the MES functioning?

A. Yes, I believe it was.

Q. Was it unavailable for any reason, like

maintenance or malfunction?

A. Not that I'm aware of.

Q. Who was the person that decided that there should be a discharge in June of this year?

A. I do not know the answer to that question.

Q. Do you know who is in charge of deciding to discharge from the RLWTF in general as a matter of management structure?

A. I certainly don't know a name, and I'm not even sure at what level of management within the laboratory or their contractors would make that decision. No.

Q. Were you surprised to hear that there was a discharge in June of 2019?

A. I was -- yes. I would say I was surprised.

Q. Would you say that concerning the factors determining whether there would be a discharge you had been misinformed?

A. No. I don't know that the factors determining a discharge to 051 had ever been discussed. So I can't say that I was misinformed on that.

Q. Well, hadn't you been informed that discharges would take place from 051 when the other discharge locations were unavailable or there was a lack of capacity?

A. Somehow I was informed of that fact. Yes.
Q. And was the source of that Los Alamos or its contractors?
A. To the best of my recollection, yes.
Q. So right now looking forward, any discharge from Outfall 051 in your understanding is contingent on the conditions that you've stated, namely the insufficient capacity or unavailability of the other discharge points; is that true?
A. Well, first of all, I'd like to say that the permit does not address when the applicant or permittee can utilize these various forms of discharge. So it has not been a major topic of conversation.
I now believe that in the future they will discharge to 051 when they need the extra capacity or they need to test the system.
Q. And that's different from the understanding you had --
A. My previous understanding. That's correct.
Q. And still as expressed, that's only a potential discharge, is it not, in the sense that it depends on the availability or whether the other discharge points are available or not, or whatever it determines that there would be a test of operational capability?

A. As far as I know, the laboratory may have a schedule for testing operational capability, and in that sense, it would not be a potential discharge, it would be a planned discharge, and --

Q. Is -- go ahead.

A. And as far as capacity limitations, I -- they're about to put the S on line so that's going to expand their capacity. I don't know what the laboratory's intentions are with regard to generating this waste stream, whether they're going to at some point in the future have insufficient capacity. I -- I do not know what the intentions of the laboratory are in that regard.

Q. But as for a schedule for testing operational readiness, as far as you know today, the schedule is once every eight or nine years, right?

A. I have not heard of any schedule, one year or eight or nine years.

Q. Do you have the regulations there?

We have extra copies if you'd like.

A. I do.

Q. Would you look at 20.6.2.3106, please.

A. Sure.

Okay.

Q. And subsection A describes old or

grandfathered facilities, does it not?
A. It does.
Q. And subsection B describes new discharges, true?
A. Correct.
Q. And the division between old and new is June 18th, 1977, true?
A. Correct.
Q. When will the DP-1132 permit come into effect, assuming the Department approves it?
A. Let me see. If the Department approves the permit, it will be effective immediately.
Q. Isn't there a provision in the statute saying if it's a new discharge the permit -- the permit becomes effective when there is a discharge?
A. Yes.
Q. You don't consider a discharge to the MES to be a new discharge?
A. No.
Q. Was there an MES in 1977?
A. There was an MES in 2010, and no, it's not a new discharge. It's been an ongoing discharge since 2010. Newly permitted, but it's been an ongoing discharge.
Q. It was new then, in 2010?

A. The MES?
Q. Yes.
A. That's my understanding. Yes.
Q. And is the SET a new discharge now?
A. We, with regard to the RLWTF, consider discharges from the treatment facility to be the discharge. So there's been -- and prior to 2010, there were discharges to the outfall. Starting in 2010, there were discharges to the MES. And once the SET is completed, there will be continued discharges to the -- to that unit.
Q. So what's the definition of discharge you're using when you give that explanation?
A. This is a discharge from the Radioactive Liquid Waste Treatment Facility to one of three locations. It's -- it's a discharge.
Q. Even though the wastewater so released may go through an evaporator which sends the water up into the atmosphere as vapor, you consider it a discharge?
A. As I explained a while ago, it's a discharge that may infiltrate to groundwater.
Q. Well, just to clarify your definition, if the Secretary issued a discharge permit for a facility that is not discharging, when would that permit become effective?

A. It would become -- the permit becomes effective immediately. There's a function of how long the permit term lasts. The permit term either lasts five years from when the discharge initiates, or it would initiate after the discharge actually commenced, and that period could be no longer than seven years. That's found in the regulations. I could find that for you if you like.

Q. It's cited in the permit, isn't it, right at the end?

A. I don't know that the permit references this -- this seven-year option to initiate. That wouldn't make sense at -- for this permit, because the discharge has been ongoing. The permit will become effective when the Cabinet Secretary deems it appropriate to issue the permit and my bureau chief signs the permit.

And it will be -- it will be in effect for five years.

Q. Somewhere in that -- somewhere in that answer, which was fairly long, you said that the permit becomes effective upon the discharge, did you not?

A. I said that's what the rules say.

Q. Yes.

A. But this permit will become effective

immediately upon signature.

Q. Okay.

You worked on the 2010 Hazardous Waste Act permit for Los Alamos, did you not?

A. I did.

Q. I will represent to you -- and I'm -- it's accurate, and I'm sure you remember, but it has language concerning the RLWTF as follows. It says, 4.6, "TA-50 Radioactive Liquid Waste Treatment Facility. The permittees shall discharge all treated wastewater from the TA-50 radioactive liquid waste treatment facility (RLWTF) through the outfall permitted under Section 402 of the federal Clean Water Act, or as otherwise authorized by the terms of an applicable Clean Water Act permit that regulates the treatment and use of wastewater. If the permittees intentionally discharge through a location other than the permitted outfall or as otherwise authorized, they will fail to comply with this requirement, and as a consequence the wastewater treatment unit exemption under 40 CFR Section 264.1(g)(6) will no longer apply to the RLWTF." (As read.)

Did you consider that language any time in your work on this DP-1132?

A. No, sir.

Q. Did you give any thought to the fact that loss of the wastewater treatment unit exemption might affect the availability of a permit under the Water Quality Act?

A. No, sir.

Q. In directing effluent for evaporation in the MES, is the lab releasing treated water through locations other than the NPDES-permitted Outfall 051?

A. I'm sorry. Could you repeat that question?

Q. In directing effluent for evaporation in the MES, is the lab releasing treated water through locations other than the NPDES-permitted Outfall 051?

A. Yes, I think they are.

Q. And would directing effluent to the SET, evaporation tank, also be releasing treated water through locations other than the NPDES-permitted Outfall 051?

A. Yes.

MR. LOVEJOY: I'm done.

MR. VIRTUE: Mr. Verheul, do you have any redirect?

MR. VERHEUL: I do not.

MR. VIRTUE: All right.

Do we have any questions from members of the public for this witness?

Yes.

Please identify yourself.

MR. DE VOLDER: Mark DeVolder.

EXAMINATION

BY MR. DE VOLDER:

Q. I would like to know based on your discussion of the liners in the SET, do you happen to know the composition of the liners?

A. I am not certain. No. I believe they're a synthetic material.

Q. Are you familiar with the hazard analysis term "common cause failure"?

A. No, sir.

Q. In a common cause failure, if you have the same material, and it ages the same way or goes through the same environmental insults and so on, it can fail in the same manner. So to deal with this problem, sometimes dissimilar materials are used so that if one layer fails then the dissimilar material will not fail in the same manner.

So I do have concerns about the composition of those liners.

Second issue, I saw a photograph earlier in Mr. Beers' presentation about the MES, this is the evaporator facility, and there was discussion about

secondary containment.

I would like to know, is there a plastic tent surrounding the MES?

A. I saw that same photograph, and I've seen the unit in person, and there is a tent. It appears to be a fabric coating of some kind. Whether it's plastic or not, I do not know.

Q. I believe when I worked at the laboratory I had also seen that tent.

Do you happen to know what the role of that tent is? Is this for personnel protection during the winter, for example?

A. I'm sure it serves multiple functions. Just what those are, I'm uncertain.

Q. Do you happen to know if that tent is sealed?

A. I do not know.

Q. If it is some sort of a synthetic or plastic material, do you have any idea of it will degrade due to sunlight at 7,300-foot altitude at the laboratory?

A. With sufficient time I suspect it could degrade.

Q. It occurred to me that this is a natural gas, natural gas evaporator system.

Does it strike you kind of strange that there's a natural gas evaporator inside of a plastic

tent?

A. No.

MR. DE VOLDER: Those are my questions, and I thank you.

MR. PULLEN: Thank you.

MR. VIRTUE: Are there any other questions from members of the public?

Okay. We're at that point of allowing rebuttal if any of the parties have rebuttal.

Do the applicants have any rebuttal they want to present at this time?

MR. BUTZIER: Is this witness excused?

MR. VIRTUE: Oh, yes. Mr. Pullen is excused.

MR. PULLEN: Thank you.

MR. BUTZIER: Do you mind if we take a five- or 10-minute break and finish up after that, or would you --

MR. VIRTUE: That would be fine.

Let's take a five-minute break. 4:35, come back at 4:40.

MR. BUTZIER: Thank you.

(Proceedings in recess from 4:35 p.m. to 4:50 p.m.)

MR. VIRTUE: We're going to go on the record.

I'm going to change the order slightly. We

have one person from the public who wants to make a brief statement and needs to be out of here by 5 o'clock. So I'm going to allow her to come up and be sworn and make her statement, and then we'll continue.

Terra Hite, if you'd come forward.

TERRA HITE

having been first duly sworn or affirmed, gave public comment as follows:

PUBLIC COMMENT

THE REPORTER: Would you state and spell your full name, please.

MS. HITE: Terra Hite, T-E-R-R-A H-I-T-E.

THE REPORTER: Thank you.

MS. HITE: You're welcome.

I'm Terra Hite. I'm a nurse. I'm a mother. I'm a citizen of Northern New Mexico, a native to Northern New Mexico, and I live in Los Alamos County.

And I just want to make a brief statement.

There was -- a lot of this is not my expertise, but I want to say that there is -- on planet earth there is more waste, and I think it's really important that we keep that in mind, that we really consider where things go and what contaminants affect other people.

And I was here a little bit this morning, I

was able to hear a couple of people speak, Kathy Sanchez, Alex Jaramillo, and I just really want to encourage the people who have the power to make decisions to consider those who have the least voice and the least power in our world, which is women of color, and to really consider the -- what they came here to say this morning about how their communities are affected and how we are affected.

So I appreciate your time. Thank you.

MR. VIRTUE: Thank you, Ms. Hite.

Any questions for Ms. Hite?

Okay.

While we're on the public testimony, if there's anyone else present from the public who would like to testify, please identify yourself.

Okay. Seeing none, we will go back to the rebuttal.

Mr. Butzier, let us know what your intentions are.

MR. BUTZIER: Yes, Mr. Hearing Officer. The applicants do not propose to provide any rebuttal testimony.

MR. VIRTUE: And, Mr. Lovejoy, do you have any rebuttal?

MR. LOVEJOY: We do not.

MR. VIRTUE: Mr. Verheul?
MR. VERHEUL: None.
MR. VIRTUE: Okay. I -- that then brings us to that point where we discuss posthearing procedures.
I first -- just reiterate that we're going to keep the record open until Monday close of business solely for the purpose of written statements from the public.
And then after that, I want to require, Mr. Lovejoy, I think his motion regarding the record in writing.
MR. LOVEJOY: Okay.
MR. VIRTUE: And I'm going to give you until November 22nd to file that.
I'm going to allow the other parties until December 2nd to response -- to file responses. Excuse me.
And the hear -- the court reporter has indicated she can have a transcript by December 6th. So my intention would be to rule on Mr. Lovejoy's motion regarding the record on or about that date so that the parties know what constitutes the record before they're -- they have to start working on their posthearing submittals.
So that's the schedule that we will follow.

If we -- based upon that schedule, that would make proposed findings, conclusions and closing arguments due on January 6th, which I believe is a Sunday.

And then my report would be due February 5th, I believe -- oh, excuse me. Yeah, February 5th. And I'm going to give the parties 15 days to comment on my report.

And at that point, the matter will go to the Secretary. I may decide to make revisions to my report based upon the comments. So I may ask for additional period before I finalize my report. But 30 days after my report's finalized, the Secretary's decision will be due.

I will formalize this in a notice that the hearing clerk will send out, hopefully within -- around the time I rule on Mr. Lovejoy's motion.

MR. LOVEJOY: On that --

MR. VIRTUE: Mr. Lovejoy?

MR. LOVEJOY: -- Mr. Hearing Officer, is it possible -- may we reply on that motion?

You didn't mention a date for that.

MR. VIRTUE: Well, let me give you -- I'll give you to -- until December 6th to reply, which means that I'll try and rule as soon thereafter as I can. I'm not going to put a date out there.

Again my goal is to get the record finalized before -- in a reasonably soon -- reasonably soon so that people can know what the record's going to be before they start preparing posthearing submittals.

I will encourage counsel to try and stipulate as to what should go in the record, if you could. That would be -- that would expedite things. I mean, sitting from where I'm sitting, I wasn't around when the prior record was created. So if you have back-and-forth briefing, I'm going to have to go back, look through that record, make a determination.

So I would encourage you to try and stipulate as to what should go in the record. It doesn't seem to me to be that complex, but I wasn't around. So I'll let you all work on that. But it seems to me a stipulation is something that is certainly possible and would expedite getting the record finalized and getting posthearing submittals filed.

MR. LOVEJOY: Your Honor, I have a residual question concerning today's proceedings, and that is simply whether our Exhibit Number 5 is admitted. It's part of the record, administrative record, and I think you admitted it with some -- a cautionary remark about disregarding the handwritten notes or something like that.

MR. VIRTUE: That's correct. I admitted it --
MR. LOVEJOY: Okay.
MR. VIRTUE: -- with the understanding we don't know the source of the handwritten notes.
MR. LOVEJOY: Okay.
MR. VIRTUE: I have a note here that Exhibit 6 has not been fully identified. I was going to address that.
MR. LOVEJOY: We dropped that one in the interest of time.
MR. VIRTUE: Okay. So Exhibit 6 will not be admitted. Okay.
Is there anything further to come before the hearing?
MR. VERHEUL: Yes, Mr. Hearing Officer. And this relates to the posthearing process --
MR. VIRTUE: Yes.
MR. VERHEUL: -- if you will.
After the hearing that was held in April of last year, there was a renewed motion to dismiss on the part of the Citizens groups, and I wonder if you had contemplated that and had looked at that potential impact on the timeline that you just laid out.
MR. VIRTUE: Is that motion still pending? Is that what you're saying?

MR. VERHEUL: No. The -- you ruled certainly on the prehearing --

MR. VIRTUE: Yes. Okay.

MR. VERHEUL: -- motion to dismiss. Last year there was a prehearing motion to dismiss followed by a posthearing motion to dismiss.

MR. VIRTUE: Okay. My -- my intention -- I think I indicated this in my order denying the latest motion -- that I think those issues can be addressed fully in the posthearing submittals. I think it would be appropriate to make the arguments in the posthearing submittals. I don't see where a new motion would add to the process.

MR. VERHEUL: So you contemplate written closing argument being submitted in addition to proposed findings of fact and --

MR. VIRTUE: Yes. That's correct. If I didn't mention that, I certainly meant to. Yeah. Proposed findings and closing arguments, any issues raised in the motion to dismiss on both sides can be addressed by both sides.

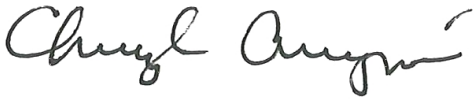
MR. VERHEUL: You may have mentioned it, but thank you for clarification.

MR. VIRTUE: If there's nothing further, the hearing is adjourned.

(Proceedings adjourned at 5:00 p.m.)

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, CHERYL ARREGUIN, the officer before whom the foregoing proceeding was taken, do hereby certify that the witnesses whose testimony appears in the foregoing transcript were duly sworn or affirmed; that I personally recorded the testimony by machine shorthand; that said transcript is a true record of the testimony given by said witnesses; that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this proceeding is taken, and that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.



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