



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

March 30, 2023

Edward Kolodziej, Senior Project Manager
General Electric Company
1 River Road, Building 5-7W
Schenectady, NY 12345

RE: Draft Discharge Permit Renewal, DP-1065, General Electric Aviation, Deep Zone Groundwater Remediation Facility

Dear Edward Kolodziej:

The New Mexico Environment Department (NMED) hereby provides notice to General Electric Company of the proposed approval of UIC General Discharge Permit, DP-1065, (copy enclosed), pursuant to Subsection H of 20.6.2.3108 NMAC. NMED will publish notice of the availability of the draft Discharge Permit in the near future for public review and comment and will forward a copy of that notice to you.

Prior to making a final ruling on the proposed Discharge Permit, NMED will allow 30 days from the date the public notice is published in the newspaper for any interested party, including the Discharge Permit applicant, i.e., yourself, to submit written comments and/or a request a public hearing. A hearing request shall set forth the reasons why a hearing is requested. NMED will hold a hearing in response to a timely hearing request if the NMED Secretary determines there is substantial public interest in the proposed Discharge Permit.

Please review the enclosed draft Discharge Permit carefully. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline.

Please submit written comments or a request for hearing to my attention at the address below, via email to andrewc.romero@env.nm.gov or to pps.general@env.nm.gov, or directly into the NMED Public Comment Portal at <https://nmed.commentinput.com/comment/search>. If NMED does not receive written comments or a request for hearing during the public comment period, the draft Discharge Permit will become final.

Thank you for your cooperation during the review process. Feel free to contact me with any questions at (505) 660-8624.

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469
Telephone (505) 827-2900 | www.env.nm.gov/gwqb/

Edward Kolodziej, DP-1065

March 30, 2023

Page 2 of 2

Sincerely,

Andrew Romero, Environmental Scientist

Encl: Draft UIC General Discharge Permit, DP-1065

cc: Julie Einerson, GE Contract Environmental Manager, julie.einerson@ge.com
John Billiard, Technical Services Director, jwb@axisgroupinc.com
William Pearson, NMED GWQB, William.pearson@env.nm.gov



**NEW MEXICO ENVIRONMENT DEPARTMENT GROUND
WATER QUALITY BUREAU
UNDERGROUND INJECTION CONTROL
GENERAL DISCHARGE PERMIT**



Certified Mail- Return Receipt Requested

Facility Name: General Electric Aviation, Deep Zone Groundwater Remediation Facility

Facility Location: 751 Woodward Road S.E., Albuquerque, New Mexico 87102
Section 32, Township 10N, Range 3E
Bernalillo

Legally Responsible Party: General Electric Company
c/o Angelica Todd
1 River Road, Building 5-7W
Schenectady, NY 12345
610-213-2747

Remediation Oversight Agency Contact: Superfund Oversight Section
Bill Pearson
(505) 670-1295

Remediation or Injection Plan Identification: U.S. EPA Region Six Record of Decision Former Air Force Plant 83/General Electric South Valley Superfund Site September 30, 1988
Administrative Order Docket Number CERCLA 6-16-89 General Electric Company South Valley Site, Air Force Plant 83/General Electric Operable Unit
100-Percent Design Report, Deep Zone Remediation System, Smith Environmental Technology (Formerly Canonie), 1996 as approved by EPA and NMED
Renewal DP-1065

Permitting Action:

PPS Contact Andrew Romero
(505) 660-8624

EFFECTIVE DATE: **TERM ENDS:**

Justin D. Ball
Chief, Ground Water Quality Bureau
[Subsection H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.]

I. UIC GENERAL DISCHARGE PERMIT

The New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) issues this Underground Injection Control General Discharge Permit (UIC Permit) for the subsurface emplacement of additive fluids through a Class V UIC injection well for the purpose of facilitating vadose zone or groundwater remediation. The GWQB issues this UIC Permit to General Electric Company (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

In issuing this UIC Permit, the GWQB has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met. The activities authorized by this UIC Permit are principally governed by 100-Percent Design Report, Deep Zone Ground Water Remediation System, (Canonie, 1995) as approved by EPA and NMED and the (Injection Plan), under the authority of U.S. EPA Region Six Record of Decision Former Air Force Plant 83/General Electric South Valley Superfund Site September 30, 1988 and Administrative Order Docket Number CERCLA 6-16-89 General Electric Company South Valley Site, Air Force Plant 83/General Electric Operable Unit, with oversight by the Superfund Oversight Section. Compliance with this UIC Permit requires compliance with the terms, requirements, and conditions of the Injection Plan. The term of this UIC Permit shall be no longer than five years from the effective date of this UIC Permit.

The injection activities, the location of the injection site, the type of injection and quantities of additives being used are briefly described as follows:

Injection Activities (summary: including injection well type, number of wells, and injection frequency)

Copy of the Injection Plan Attached (required):

Summary of Injection Plan:

The Deep Zone Groundwater Remediation System is designed to treat extracted groundwater from the Rio Grande Aquifer (i.e. Deep Zone Aquifer). The treatment system removes volatile organic compounds (VOCs) from extracted groundwater to concentrations below Applicable or Relevant and Appropriate Requirements (ARARs), prior to injection back into the aquifer. ARARs have been established and are identified in the attached injection plan. Groundwater extracted by the Deep Zone Groundwater System is treated by air stripping followed by liquid-phase granulated activated carbon. The air stripper off-gases are discharged directly to the atmosphere. Treated water is discharged to the Deep Zone Aquifer via an array of 11 injection wells. The Deep Zone Groundwater Treatment System is designed to process up to 1,250 gallons per minute (gpm) of groundwater flow (1,800,000 gal per day). Normal operating throughput ranges are between 250 - 550 gpm over the past 12-months.

Injection Site Information

Depth to most shallow groundwater (required): 33 to 167 ft

Existing concentration of total dissolved solids (TDS) in groundwater (required): < 500 mg/L

Location (required): 1/4 Mile East of the South Broadway Blvd and Woodward Road Intersection

County (required): Bernalillo

Latitude: 34.983047000000006

Longitude: -106.318145999999998

Map Showing Area of Injection Sites Attached (required):

Additives Being Used (including volumes, manufacturer, and mixing ratios)

A small amount of Aquamag is added to sequester inorganic compounds to avoid scaling in the treatment plant components. After treatment and prior to injection, carbon dioxide is added to reduce the treated water pH prior to injection

Anticipated Precipitation, Dissolution, Adsorption, and Desorption Products

N/A

Public Notice Posting Locations

2 inch by 3 inch Newspaper Ad required for Renewal applications.

Newspaper: Albuquerque Journal

3 inch by 4 inch Newspaper Ad required for New, Modification, and Renewal/Modification applications.

Newspaper:

2 feet by 3 feet sign posted for 30 days in a location conspicuous to the public at or near the facility required for New, Modification, and Renewal/Modification applications.

Sign Location: 751 Woodward Road S.E., Albuquerque, New Mexico 87102

8.5 inch by 11 inch or larger posted off-site location conspicuous to the public (e.g. public library). Required for New, Modification, and Renewal/Modification applications.

Flyer Location: South Broadway Public Library, 1025 Broadway SE, Albuquerque, NM 87102

This UIC Permit consists of the complete and accurate completion of this UIC Permit form as determined by the GWQB.

Issuance of this UIC Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

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Signatures

Signature must be that of the person listed as the legally responsible party on this application.

I, the applicant, attest under penalty of law to the truth of the information and supporting documentation contained in this application for an Underground Injection Control General Discharge Permit.

Applicant's Signature

Signature: Edward Kolodziej

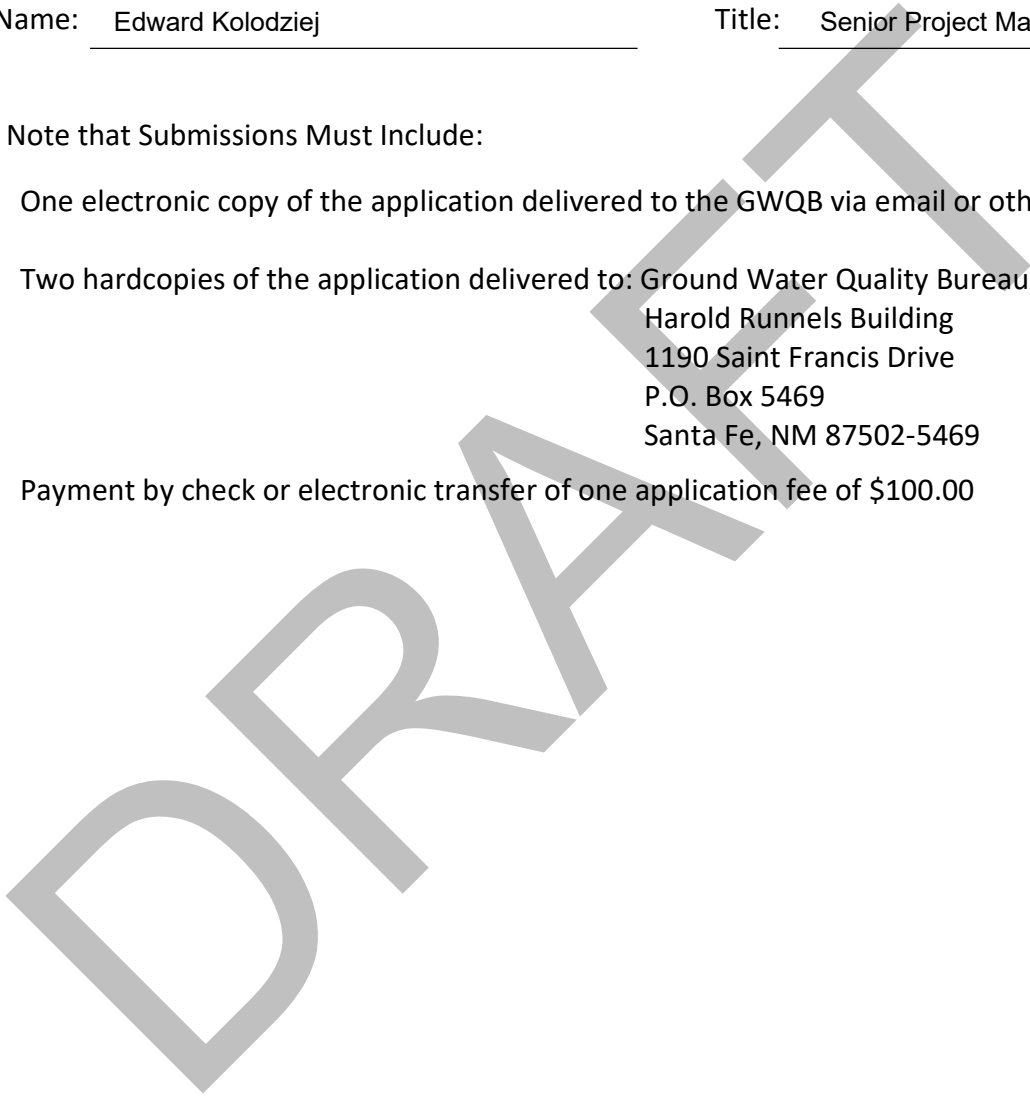
Date: February 10, 2023

Printed Name: Edward Kolodziej

Title: Senior Project Manager

Applicant Note that Submissions Must Include:

- 1- One electronic copy of the application delivered to the GWQB via email or other format
- 2- Two hardcopies of the application delivered to: Ground Water Quality Bureau
Harold Runnels Building
1190 Saint Francis Drive
P.O. Box 5469
Santa Fe, NM 87502-5469
- 3- Payment by check or electronic transfer of one application fee of \$100.00



II. FINDINGS

In issuing this UIC Permit, GWQB finds:

1. The Permittee is injecting fluids so that such injections will move directly or indirectly into groundwater within the meaning of Section 20.6.2.3104 NMAC.
2. The Permittee is injecting fluids so that such fluids will move into groundwater of the State of New Mexico which has an existing concentration of 10,000 mg/L or less of TDS within the meaning of Subsection A of 20.6.2.3101 NMAC.
3. The Permittee is using a Class V UIC well as described in 20.6.2.5002(B)(5)(d)(ii) NMAC for in situ groundwater remediation by injecting a fluid that facilitates vadose zone or groundwater remediation.
4. The Permittee is injecting fluids into groundwater in order to achieve the remediation goals identified in the Injection Plan.

III. AUTHORIZATION TO DISCHARGE

The Permittee is authorized to inject chemical additives into groundwater in accordance with this UIC Permit and the Injection Plan under the oversight of Superfund Oversight Section.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3109 NMAC]

IV. CONDITIONS

The conditions of this UIC Permit shall be complied with by the Permittee and are enforceable by GWQB.

1. The Permittee shall perform remediation activities in accordance with the Injection Plan and shall notify GWQB of any changes prior to making them.

[20.6.2.3107 NMAC]

2. The Permittee shall monitor the injection activities and their effects on groundwater quality as required by the Injection Plan and shall provide GWQB with electronic copies of the required reporting and any pertinent documentation of activities at the site.

[20.6.2.3107.A NMAC, 20.6.2.3109.A NMAC]

3. If the GWQB or the Permittee identifies any failure of the Injection Plan or this UIC Permit to comply with 20.6.2 NMAC not specifically noted herein, GWQB may require the Permittee to submit a corrective action plan and a schedule for completion of corrective actions to address the failure.

Additionally, the GWQB may require the Permittee to submit a proposed modification to the Injection Plan, this UIC Permit, or both.

[20.6.2.3107.A NMAC, 20.6.2.3109.E NMAC]

4. ADDITIONAL MONITORING REQUIREMENTS – (RESERVED) - Placeholder for any added monitoring and reporting requirements.

5. TERMINATION – Within 30 days of completion of activities authorized by this UIC Permit the Permittee shall submit a closure report and a request to terminate the UIC Permit to the GWQB for its approval. The closure report shall identify how the injection well(s) was (were) closed in accordance with the Injection Plan. The Permittee shall provide Superfund Oversight Section with a copy of this closure report.

[20.6.2.5005 NMAC, 19.27.4 NMAC]

6. INSPECTION and ENTRY – The Permittee shall allow a representative of the NMED to inspect the facility and its operations subject to this UIC Permit and the WQCC regulations. The GWQB representative may, upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.

The Permittee shall allow the GWQB representative to have access to, and reproduce for their use, any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this UIC Permit and the WQCC regulations.

Nothing in this UIC Permit shall be construed as limiting in any way the inspection and entry authority of GWQB under the WQA, the WQCC Regulations, or any other local, state, or federal regulations.

[20.6.2.3107.D NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]

7. MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the injection plan that would result in a change in the volume injected; the location of the injections; or the concentration of the additives being injected by the facility, the Permittee shall notify GWQB prior to implementing such changes. The Permittee shall obtain approval (which may require modification of this UIC Permit) by GWQB prior to implementing such changes.

[20.6.2.3107.C NMAC, 20.6.2.3109.E and G NMAC]

8. COMPLIANCE with OTHER LAWS – Nothing in this UIC Permit shall be construed in any way as relieving the Permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits, or orders.

[NMSA 1978, § 74-6-5.L]

9. PERMIT FEES – Payment of permit fees is due at the time of UIC Permit approval. Permit fees shall be paid in a single payment remitted to GWQB no later than 30 days after the UIC Permit effective date.

Permit fees are associated with issuance of this UIC Permit. Nothing in this UIC Permit shall be construed as relieving the Permittee of the obligation to pay all permit fees assessed by GWQB. A Permittee that ceases injecting or does not commence injecting during the term of the UIC Permit shall pay all permit fees assessed by GWQB. An approved UIC Permit shall be suspended or terminated if the facility fails to remit a payment by its due date.

[20.6.2.3114.F NMAC, NMSA 1978, § 74-6-5.K]

Injection Plan

South Valley Superfund Site, Operable Unit 6, Albuquerque, New Mexico

February 10, 2023

This Injection Plan was developed in follow-up to discussions among representatives of U.S. Environmental Protection Agency (EPA), the New Mexico Environment Department (NMED), and the General Electric Company (GE) during a conference call on December 19, 2022. The purpose of the call and this plan is to outline the monitoring and closure guidelines related to remedial action completion. The plan consists of four parts:

1. Treatment System Description,
2. Injection Wells Description,
3. Monitoring Description, and
4. Remediation Closure Guidelines.

1. Treatment System Description

The Deep Zone Groundwater Remediation System was started in 1996 and is an ongoing remediation system. System design, operation, maintenance, and monitoring is fully described in the EPA- and NMED-approved project documents including:

- a. 100-Percent Design Report, Deep Zone Ground Water Remediation System, (includes all four volumes and construction drawings), Canonie, 1995.
- b. Current Performance and Compliance Monitoring Plan, Axis 2018.
- c. Monthly, Quarterly, Semi-Annual, and Annual Reports, 1996 to present.
- d. Five-Year Review Reports, EPA, 1995, 2000, 2005, 2010, 2015, and 2020.

Consistent with the Record of Decision (ROD, EPA, 1988) and Administrative Order (AO, EPA, 1989), the Treatment System is designed to extract, treat, and inject treated groundwater in the Deep Zone Aquifer. The treatment system removes dissolved volatile organic compounds (VOCs) from extracted groundwater, as necessary, to reduce concentrations below Applicable or Relevant and Appropriate Requirements (ARARs), prior to injection into the aquifer. The EPA and NMED-approved list of VOCs to be monitored and the associated project ARARs are identified in Table 2 (attached).

The Deep Zone Treatment System is designed to process from 250 gallons per minute (gpm) up to 1,250 gpm of groundwater flow (approximately 1,800,000 gallons per day). The current average operating throughput is approximately 550 gpm (792,000 gallons per day). Groundwater extracted by the Deep Zone Groundwater System is treated by air

stripping followed by liquid-phase granulated activated carbon. The air stripper off-gases are discharged directly to the atmosphere. Emissions at start-up were below requirements for air emissions permitting and were covered by a City of Albuquerque Air Emissions Registration which is no longer required. Treated water is discharged to the Deep Zone Aquifer via an array of 11 injection wells. Figure 1 illustrates the location of the extraction and injection wells.

Since 1996, the EPA and NMED approved through various submissions the following key revisions to the Deep Zone Groundwater Remediation System:

- a. Added three new extraction wells (EW-004, EW-005, EW-006).
- b. Terminated operation of extraction wells EW-001, EW-002 and EW-006.
- c. Replaced defective extraction and injection wells (EW-003, IW-635, IW-636, IW-637, IW-638). Replacement wells have an 'R' designation.
- d. Altered extraction rates based on field and data observations.
- e. Plugged and abandoned injection well IW-632.
- f. Installed additional injection wells IW-641 and IW-642.
- g. Plugged monitoring wells no longer needed.
- h. Added monitoring wells P83-22D-2, P83-31 and P83-32.

2. Injection Wells Description

There are currently 11 injection wells that reintroduce treated water to the Rio Grande Aquifer (Deep Zone Aquifer). Each injection well consists of a 10-inch diameter stainless steel casing with 50-slot screen sections. Table 1 provides the coordinates and elevations of the casing and screen sections for each injection well. Figure 1 illustrates the location of each injection well.

Each injection well is located inside a secured concrete vault constructed such that the top of the vault is coincident with the ground surface. Each vault top and lid is traffic rated. Each vault has a flood alarm switch that when activated will shut off the Deep Zone Treatment Plant and operating extraction wells to prevent unintended flooding. Each vault is also secured with alarm contacts that will alert the treatment plant operator or the security monitoring company in the event unauthorized persons try to enter a vault.

Each injection well has a flow meter inside the vault that reads to a central control system at the treatment plant. Flows to each injection well are manually adjusted to accommodate the required injection rate for that well. Water levels inside each injection well are obtained monthly and reported as required.

Each injection well receives treated water from the Deep Zone Treatment Plant. Treated water is sampled monthly at compliance sample point SP-425 and analyzed for VOCs associated with the Deep Zone Groundwater Remediation System as shown on Table 2. From the beginning of operations to present day, VOCs were not detected at or above

ARARs in any compliance sample. Since August 22, 2005, no site-related VOC has been detected in a compliance sample above its laboratory reporting limit (see Table 2).

Note that when an injection well (or extraction well) is not operated at a minimum value, substantial biofouling occurs plugging the well screen and rendering the well deficient. For example, EW-003R was offline for a period of approximately six months. There was a two-inch thick biofilm on the interior of the well screen that required significant work to rehabilitate, prior to placing the well back into service. Biofouling likely extends into the surrounding formation as well, although specific measurements at this site are not available. Accordingly, these extraction and injection wells need to operate via the Deep Zone Groundwater Treatment System at a minimum throughput to maintain remedial action integrity and meet the requirements set forth in the AO (EPA, 1989).

3. Monitoring Description

As described in the project documents listed above, the Deep Zone Remediation System effectiveness is measured by analyzing groundwater collected from monitoring wells, extraction wells, and sample points inside the Deep Zone Treatment Plant. Groundwater and treated water are collected, analyzed, and reported as outlined in the EPA-and NMED-approved Performance and Compliance Monitoring Plan and its associated Standard Operating Procedures (PCMP, Axis 2018). Data collected via the monitoring program are entered and stored in the database for this site. Groundwater data are then reported as required for the monthly, semi-annual, and annual reports. Copies of these reports are routinely provided to the EPA and NMED. These data are also reviewed by the EPA and incorporated into its Five-Year Review Reports.

Table 1 provides the well completion information. Table 2 lists the VOCs analyzed, their respective laboratory reporting limits, and the associated ARARs. Table 3 lists the wells proposed for quarterly sample collection in the Deep Zone Remediation System monitoring network. Figure 1 illustrates the network of monitored wells.

Throughout the remedial action as set forth in the AO (EPA, 1989), operation and maintenance activities were modified based on site conditions to assure the integrity of the remedial action: The following observations and conditions were encountered during the conduct of the remedial action from its start in 1996 to present (approximately 25 plus years).

- Trichloroethylene (TCE) has historically been the VOC detected at the highest concentration and broadest distribution in the study area.
- The remedial action has been successful in reducing concentrations of TCE from a high of 690 µg/L at well WB-01(4) in April 1992 to values at or below ARARs at all monitoring wells during the November 2022 sampling event.

- Combined Deep Zone Remediation System influent VOC concentrations have been below ARARs since October 2005 and have had no detectable VOC concentrations since April 2018.
- With all three extraction wells operating, the Deep Zone Groundwater Remediation System extracts, treats, and injects groundwater at a rate of approximately 792,000 gallons per day (550 gpm). Currently, extraction well EW-003R is temporarily off to evaluate the effect on VOC concentrations in nearby monitoring wells without EW-003R operating. Without EW-003R operating, throughput is approximately 461,000 per day (320 gpm).

4. Remediation Closure Guidelines

Closure guidelines are not included as part of this document. Those guidelines will be developed at a later date.

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