Nevada Division of Environmental Protection
Bureau of Water Pollution Control Underground Injection Control Program
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Notice of Intent (NOI) – Form U210

UIC General Permits for Groundwater Remediation (Long- and Short-Term)

Attach to Completed UIC Permit Application Form U200.

For associated fees, please visit the NDEP website: https://ndep.nv.gov/water/water-pollution-control/permitting/permitting-fees

Facility/Site Name: _____

NDEP BCA Facility ID: _____ **Case Officer:** _____

Petroleum Fund ID: _____ **District Health Dept. UST ID:** _____

Mark one or the other you are applying for:

- ☐ **Long-Term (more than six months)**
- ☐ **Short-Term (six months or less)**

For Short-term projects, indicate the month/year injection will begin: _____

Mark if New or Modification Submission:

- ☐ **New**
- ☐ **Modification**

If you are seeking a minor modification, review the items below and supply information that will cover the basics for the minor change, for example - a new map w/location of well, well data.

To apply for inclusion under the UIC General Permit – Remediation, mark the category that applies to the type of injection planned. If Category 1, mark all substances to be used.

☐ **CATEGORY 1:** Injection of one or more of the following substances into a well:

- ☐ ≤ 20% hydrogen peroxide solution (by relative/estimated mass of limiting reagent) per injection well/combined total
- ☐ Oxygen without O_2 infuser
- ☐ Hydrogen releasing compounds Ozone
- ☐ Activated Carbon
- ☐ Carbon Sources
- ☐ Ozone
- ☐ Surfactant
- ☐ Nutrient Solutions
- ☐ Nutrient Solutions with microbial cultures
- ☐ Sulfate, persulfate or polysulfide
- ☐ Potassium and sodium permanganate
- ☐ Reducing agents
- ☐ Oxidizing agents

☐ **CATEGORY 2**: Injection of water that has been treated for remediation purposes to meet groundwater quality criteria.

Provide the number of proposed injection wells temporary borings: _____

1. **Facility/Site Map:** Attach a scaled map of the property(ies) on which the injection is proposed and the surrounding properties. The map should include but not be limited to the following:
    a) All injection wells (include open excavation and injection gallery)
    b) All major structures (i.e. buildings, streets, etc.) and property lines
    c) All underground utilities and tank(s) within 100 feet of any on-site or off-site injection well(s)
    d) All wells (e.g. drinking, monitoring, dewatering) and surface bodies of water on property
    e) Location of all sensitive receptors within 3,000 feet of the site (including wetlands; aquifer recharge zones; well fields where groundwater is extracted for municipal or other beneficial use)
    f) Groundwater contours (amsl) and groundwater flow direction.

2. **Provide the following documents:**

    a) The most recent, approved CAP/work plan and

    b) The Letter of Concurrence by the Bureau of Corrective Actions (BCA) or District Health Department Case Officer.

3. **Chemical Requests**: Attach a completed and signed UIC form 'U240 – Chemical Use Request' for each proposed chemical to be injected. Include SDS and MSDS sheets when available.

4. **For Long-term project requests only:** Collect background water samples from the farthest up-gradient well and down-gradient well for the following water quality parameters - field parameters: pH, ORP, conductivity, dissolved oxygen; lab parameters: sulfate, nitrate, total iron.

5. **Plume Map**: Current plume map (scaled) of contaminants of concern (COC) including those that exceed the Federal Drinking Water Standards and/or State Action Levels. All current occurrences of plume migration off the property must be thoroughly documented.

6. Depth to groundwater (range): _____

7. **Injection Well Information:** Using **Table 1** provided at the end of this document, submit the information below for each injection well. Alternatively, the information may be submitted in tabular form as a separate, attached document.
    a) Injection Well ID and status (i.e. new, existing, or proposed)
    b) Depth and screened interval of injection well(s), open excavation, and/or injection gallery
    c) The well screen is _____ (above, within, or below) the water table.
    d) Volume, mass and frequency of injection
    e) Average and maximum injection rate
    f) Average and maximum injection pressure

8. **Monitoring Well Information:** Using **Table 1** provided at the end of this document, submit the information below for each injection well. Alternatively, the information may be submitted in tabular form as a separate, attached document.
    a) Monitoring Well ID and Status
    b) Depth and screened interval of monitoring well(s)
    c) The well screen is _____ (above, within, or below) the water table.

9. Document Light Non-Aqueous Phase Liquid (LNAPL or "free product") or Dense Non-Aqueous Phase Liquid (DNAPL) within the last 3 months at the site. Injection is prohibited in these wells.

10. Injection well construction plans and drawings that include: surface and subsurface construction details (size of the hole, type of casing, type and grade of cement), process/treatment systems, additive ports, valves and gauges, and pumps. Show how wellheads will be secured to prevent: 1) leakage of surface water or other contaminants, and 2) tampering by unauthorized persons.

11. Drilling logs for injection and monitoring wells (if wells already drilled). For site excavations, please show all 3 dimensions (depth, width, length) of each excavation, and locate them on the map under #1.

12. Attach a scaled cross section which shows well depth, screen interval, and water table (correlated at each well) for the injection and monitoring wells.

13. Attach *Affidavit of Intent to Abandon Well* from the Division of Water Resources (DWR). If an affidavit is not available, please provide a *Plugging (P) Waiver* from DWR or a plugging/grouting plan which provides the following:

a) proposed course of action
b) plugging material
c) estimated volume of material used per well

14. Briefly describe:

a) the business at the remediation site
b) the cause and nature of the contamination
c) all permits issued by the Bureau of Water Pollution Control.

15. For technologies using chemicals with the potential for strong exothermic reactions, including hydrogen peroxide over 12%, provide the following:

d) Details on what precautions and monitoring will be taken to ensure in-situ chemicals reactions do not cause adverse impacts to water quality and property (e.g. surface asphalt, underground storage tanks, etc.), and cause migration of chemical and groundwater into underground utilities and/or to the surface.
e) Discuss the corrosive issues that could arise from certain chemicals and/or chemical reactions with underground objects subject to corrosion such as metal piping, storage tanks, etc.
f) Discuss baseline concentrations of constituents in the aquifer that can act as catalyst (e.g. iron) with hydrogen peroxide and similar chemicals.
g) All injection wells will need to be tested for hydraulic parameters with clean water to show the wells can reasonably accept the proposed injected volumes, and information provided with this NOI.

Please note that if the above information is insufficient, the bureau may require plans to be reviewed, modified and stamped by a Nevada registered Professional Engineer.

Nevada UIC Notice of Intent (NOI) – Form U210

Notice of Intent Instructions:

The following are notes to assist with completing the NOI and the attachments to the application. Please address all sections. Complete the *UIC Permit Application – Form U200* with Owner/Operator information and signature. **Attach the NOI to Form U200**.

Enter Facility/Site Name, NDEP BCA Facility ID, Case Officer, Petroleum Fund ID (if applicable), District Health Department UST ID (if applicable). Mark with an "X" if the project is Long-Term (more than six months) or Short-Term (six months or less).

Mark with an "X" next to all the injection substances. The 350 gallons/well per month limit may be waived depending on the injection activities.

1. Facility/Site Map: Attach a scaled map of the property(ies) on which the injection is proposed and the surrounding properties. The map should include all injection wells, extraction well (if applicable), all major structures and property lines, all water wells and surface bodies of water, location of sensitive receptors within 3,000 feet of the site (including wetlands; aquifer recharge zones; well fields where groundwater is extracted for municipal or other beneficial use), dewatering wells, groundwater contours (amsl), groundwater flow direction, and the legal property boundaries. Identify the location of remediation wells on adjacent properties. A map of the one-mile radius pursuant to UIC regulations will not be required for these general permits

2. Submit a copy of the approved Workplan. The workplan must include details of routine monitoring and sampling associated with injection activities. Attach the Letter of Concurrence for the Injection Workplan from the Bureau of Corrective Actions Case Officer or the District Health Department Case Officer. Applications without the Letter of Concurrence cannot be processed. The Nevada Division of Environmental Protection (Division) strongly suggests that injections occur only in *injection wells* and not in *monitoring wells* due to the potential for dilution of groundwater samples. If injection must occur in *monitoring wells*, the Workplan should include specifications that sampling of the monitoring wells will occur no sooner than 30 days after injection.

3. Attach a completed and signed UIC form 'U240 – Chemical Use Request' for each proposed chemical to be injected. Include SDS and MSDS sheets when available. Form U240s and all other UIC forms can be found at: https://ndep.nv.gov/water/water-pollution-control/permitting/underground-injection-control-uic/forms.

4. Collect background sample from one up-gradient and one down-gradient monitoring well. Sampling for metals shall be collected unfiltered and reported as total metals. If there is a turbidity issue, the well should be further developed and evaluated. If the well water cannot be cleared up, the sample may be filtered only with a **one (1) micron filter** and all actions documented and reported.

5. Attach a current plume map (**scaled**) for the Contaminants of Concern (COC) that exceed the Federal and State Drinking Water Standards and/or State Action Levels. The map must show the most recent data for the plume. Additional historic plume maps may also be submitted if they provide further information. All current occurrences of plume migration off the property must be thoroughly documented.

6. Enter the range of depth to groundwater (below ground surface – bgs).

7. Using **Table 1** provided at the end of this document, submit the following information for each injection well. Alternatively, the information may be submitted in tabular form as a separate, attached document.
   - Injection Well ID and status (i.e. new, existing, or proposed)
   - Depth and screened interval of injection well(s), open excavation, and/or injection gallery
   - The well screen is _____ (above, within, or below) the water table. *Below is not authorized by NDEP.*
   - Volume, mass and frequency of injection
   - Average and maximum injection rate
   - Average and maximum injection pressure (30 psi. max.)

NOTE –If the proposed volume, rate or injection is greater than these limitations, please apply for a UIC UNEV permit. Surfacing of injectate and/or groundwater is prohibited by the permit.

8. Using **Table 1** provided at the end of this document, submit the information below for each injection well. Alternatively, the information may be submitted in tabular form as a separate, attached document.
- Monitoring Well ID and Status
- Depth and screened interval of monitoring well(s)
- The well screen is _____ (above, within, or below) the water table.

NOTE – The Division typically does not allow monitoring wells if groundwater is above the well screen. Obviously, if groundwater is below the well screen, the well is not suitable for monitoring.

9. Document all observances of Light Non-Aqueous Phase Liquid (LNAPL or "free product") or Dense Non-Aqueous Phase Liquid (DNAPL) within the last three months at the site. Injection is prohibited in these wells.

10. Submit well construction plans and drawings that include surface and subsurface construction details (size of the hole, type of casing, type and grade of cement), process/treatment systems, additive ports, valves and gauges, and pumps). Show how wellheads will be secured to prevent: 1) leakage of surface water or other contaminants, and 2) tampering by unauthorized persons.

11. Submit drilling logs for injection and monitoring wells, if already drilled.

12. Attach a sample scaled cross section showing well depth, screen interval, and water table (correlated at each well) for the injection and monitoring wells.

13. A plugging and abandonment plan must be submitted by attaching the *Affidavit of Intent to Abandon Well* from the Division of Water Resources (DWR). If an affidavit is unavailable, please submit a *Plugging (p) Waiver* from DWR or a plugging plan which discusses the material, amount of material per well and proposed course of action. The Division may require proof of well closure once remediation has ceased for temporary wells.

14. Briefly describe the business at the remediation site, the cause and nature of the contamination. In addition, list all other permits issued by the Bureau of Water Pollution Control.

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ATTACHMENT 1: Well Information Tables

Table 1: Injection Well Information Table

Well ID	Status: new, existing, proposed	Well Depth (ft bgs)	Screened interval (ft bgs)	The well screen is (above, within, below) the water table.	Injection						
					Volume (gal)	Mass (lbs)	Frequency	Pressure (psig)		Rate (gpm)	
								Max	Average	Max	Average

ft bgs: feet below ground surface; gal: gallons; lbs: pounds; psig: pounds per square inch gauge; gpm: gallons per minute

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Table 2: Monitoring Well Information Table

Well ID	**Status: new, existing, proposed**	**Well Depth (ft bgs)**	**Screened interval (ft bgs)**	**The well screen is ______ (above, within, below) the water table.**

ft bgs: feet below ground surface