State of Nevada

Division of Environmental Protection
Bureau of Water Pollution Control
Underground Injection Control Program

Program Description

December 2004

I. INTRODUCTION

Groundwater is one of Nevada's most precious resources. Compared with other states, very few large rivers and streams wind through its broad valleys. About 84 percent of the State lies within the Great Basin, wherein streams flow to enclosed basins or "sinks" rather than to the sea. Due to natural arid-climate processes and because of increasing withdrawals for agricultural and municipal uses, Nevada streams generally decrease in volume toward this terminal portion of the system. In general, groundwater recharge occurs at mountain range fronts, with groundwater flow toward basin sinks, or “playas”, which act as discharge areas. Both surface water and groundwater quality generally decreases toward the basin sinks. Groundwater increases in total dissolved solids (TDS) along the flow path, sometimes discharging to surface streams, and eventually discharging in the playa areas, especially during high water years, with further increase in TDS of shallow groundwater due to evaporation or plant transpiration. In part because of naturally abundant mineralization in Nevada, and due to the above processes, some groundwater resources are above primary drinking water standards for certain constituents such as arsenic and fluoride.

Human contamination of groundwater can occur in several ways: infiltration of pollutants contained in surface waters; introduction through improperly cased wells; leaching of naturally-occurring or man-made substances deposited on or in the soil or placed into landfills; and, most directly, the injection of fluids into wells that penetrate aquifers or formations connected to aquifers. The contamination of groundwater is an ongoing concern in Nevada, especially with limited recharge potential. Groundwater contamination associated with leaking underground storage tanks is well documented and identified at various sites throughout the State. Furthermore, other types of point source and non-point source contamination have been identified across Nevada, and are currently under corrective actions and remediation.

This program description is being updated to incorporate program changes that reflect the new Federal Class V Rule, adopted December 7, 1999 by the U.S. Environmental Protection Agency (EPA). This revision updates the description of Nevada’s entire UIC program. Accompanying the modified program Description is Appendix A, State of Nevada Other Sensitive Groundwater Area Plan (OSGWA Plan). The OSGWA Plan, as explained in the Federal Class V Rule, is required to be submitted to the EPA as part of a modified program description, by states choosing to identify and delineate Other Sensitive Groundwater Areas (OSGWAs).

It should be noted the Nevada UIC Program is unique compared to other state and federal UIC programs because the Nevada Revised Statutes require permits for all injection activities, including Class V wells.

II. PROGRAM SCOPE AND GENERAL PROVISIONS

The Safe Drinking Water Act (SDWA), passed by Congress in 1974, and amended in 1977, 1980, 1986, and 1996 requires UIC activities to be regulated in all states. The Nevada Division of Environmental Protection (NDEP) applied for primary enforcement authority for the Underground Injection Control (UIC) program pursuant to Section 1422 of the SDWA, and 40 CFR, Parts 144, 145,146 and 124 for Class I, II, III, IV and V injection wells. EPA approved Nevada's application for primary enforcement authority for all classes of injection wells effective October 5, 1988.

The Nevada law upon which the State UIC program is based is Chapter 445A of the Nevada Revised Statutes (NRS). This law requires the State Environmental Commission (SEC) to "adopt regulations controlling the injection of fluids through a well to prohibit those injections which may result in the presence of contaminants in underground water which supplies or may reasonably be expected to supply any public water system, ...and which may result in that system's noncompliance with any regulation regarding primary drinking water or may otherwise have an adverse effect on human health." Such regulations were adopted by the SEC, effective on February 4, 1987, and can be found under Nevada Administrative Code (NAC) 445A.810 through 445A.925.

The NDEP was designated by the Governor (letter dated August 31, 1987) as the lead agency to administer the federal UIC program. NRS 445A.300 through NRS 445A.730 (Nevada Water Pollution Control Law), inclusive, contains the enabling legislation for NDEP to implement a UIC program. All classes of wells are regulated solely by NDEP. NDEP is therefore the lead agency for the regulation of all injection wells in Nevada. Nevada's Underground Injection Control Program is based on the premise that every aquifer in the State is an existing or potential underground source of drinking water. State law prohibits the emplacement of fluids through an injection well without a permit. Injection is allowed only if it will not degrade the quality of a USDW. State UIC regulations contain a detailed description of wells in each of 5 classes of injection wells at NAC 445A.844, summarized below:

Classes of Injection Well
I. Wells injecting below the lowermost USDW, hazardous or non-hazardous waste, excluding certain municipal wastes
II. Wells disposing of brines associated with oil and gas production
III. Wells used to enable mineral extraction
IV. Wells injecting hazardous fluids above or into USDWs
V. All other well types, including large capacity septic systems, motor vehicle waste disposal wells, and geothermal production wells

Two key federal definitions which became effective in 1999 (2001 in Nevada regulations):

> *Well means: A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.*
>
> *Subsurface fluid distribution system means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.*

Specific Prohibitions. Class I and most Class IV wells are prohibited by the State UIC regulations. The injection of any hazardous waste through a well is prohibited (Class IV Wells), except under conditions where injection wells are used to inject contaminated groundwater that has been treated and is being injected into the same formation from which it was drawn, if such subsurface emplacement of fluids is approved by the EPA, or the State, and only in cases pursuant to provisions for cleanup of releases under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), or pursuant to requirements and provisions under Nevada Administrative Code 445A.226 to 445A.22755, inclusive.

Conversion to and construction of new Motor Vehicle Waste Disposal Wells in Nevada after April 5, 2000 is prohibited, according to amended State UIC regulations. Cesspools and other types of "vertical" injection wells or drywells used for injection of untreated sanitary waste are prohibited by the State UIC regulations and by the Nevada Division of Health regulations with the exception of engineered leach or drain fields, approved and permitted by the Nevada Division of Environmental Protection or local and state health authorities.

Specific exclusions. The federal regulations exclude onsite sewage treatment systems with the capacity to serve 20 or fewer persons. Nevada uses a system capacity of 5,000 gallons per day as the cut-off value, which is similar to the federal value of 20 persons per day. The State Health Division, Clark and Washoe county health departments, or Carson, Douglas, Lincoln, Lyon, and Mineral County building departments regulate these small-capacity sewage systems. Large-capacity septic systems and other treated sewage effluent injection activities are subject to UIC permit requirements. Also, consistent with federal UIC regulations, Nevada excludes "a fluid associated with active drilling" from the definition of an injected fluid.

Aquifer exemptions. NRS 445A.465 provides that "No permit may be issued which authorizes any discharge or injection of fluids through a well... which would result in the degradation of existing or potential underground sources of drinking water." The technology exists to convert water of almost any quality to drinking water if the need justifies the cost. For this reason, NDEP considers all aquifers in the State to be USDWs.

The State regulations contain provisions to exempt aquifers on a case-by-case basis from the USDW designation. The aquifer exemption in no way exempts any injection well from the requirement for a permit pursuant to NRS 445A.465. Federal UIC permits issued prior to state primacy approval exempted the Railroad Valley aquifer in Nye County for a radius of one-quarter mile around five existing Class II wells, and the Blackburn Field Aquifer in Eureka

County for a radius of one-quarter mile around one existing Class II well. The State has not exempted any new aquifers since receiving primacy in 1988.

III. PROGRAM ACTIVITIES

1. Inventory

Inventories of wells since 1988 include Class II wells, including disposal and enhanced-recovery (ranging from 8 –15 wells) and Class V wells including remediation, geothermal, mine dewatering, aquifer storage and recovery, non-contact, etc (ranging from 400-1000 wells)

Since obtaining primacy and prior to 1999, NDEP collected inventory information through permit activities, inspections, referrals, and outreach to the regulated community. A comprehensive survey from 1999-2001, emphasizing motor vehicle and other commercial or industrial sites at more than 7000 facilities statewide, yielded inventory information never collected before. This Class V Well Inventory identified more than 80 sites requiring permits or closure activities, and confirmed the absence of injection wells at most of the other commercial or industrial sites. This method of inventory collection is likely to be repeated for new or missed facilities in the future, in addition to inspections and referrals from other regulatory agencies. As a note, a generic survey was conducted in 1990, which only provided estimates based on voluntary responses.

As of late 2004, approximately 40 motor vehicle waste disposal wells have been tentatively identified (not confirmed) across the State. Of these, 7 have been plugged and removed from service by October 2004.

It is important to note subsurface distribution systems, including large-capacity septic systems, are considered injection wells, and some of these "large systems" can be made up of many small leach fields. Inventory data on large-capacity septic systems is continuing in 2004 on sites such as schools, mobile home parks and RV parks.

Classes of Injection Well	2004 Well Inventory	Number of Permits
I. Wells injecting below the lowermost USDW, hazardous or non-hazardous waste, excluding certain municipal wastes	Prohibited	Prohibited
II. Wells disposing of brines associated with oil and gas production	13	10
III. Wells used to enable mineral extraction	0	0
IV. Wells injecting hazardous fluids above or into USDWs	0	0
V. All other well types, including large capacity septic systems, motor vehicle waste disposal wells, and geothermal production wells	650	Ind - 114 Gen - 154

2. Permits

Nevada law requires all injection wells to apply for and maintain a permit pursuant to:

> Nevada Revised Statute 445A.465 states:
>
> Injection of fluids through well or discharge of pollutant without permit prohibited.
>
> 1. Except as authorized by a permit issued by the department pursuant to the provisions of NRS 445A.300 to 445A.730, inclusive, and regulations adopted by the commission, it is unlawful for any person to:
>
> (a) Discharge from any point source any pollutant into any waters of the state or any treatment works.
>
> (b) Inject fluids through a well into any waters of the state.
>
> (c) Discharge from a point source a pollutant or inject fluids through a well that could be carried into the waters of the state by any means.
>
> (d) Allow a pollutant discharged from a point source or fluids injected through a well to remain in a place where the pollutant or fluids could be carried into the waters of the state by any means.

As of 2004, there are approximately 267 UIC permitted facilities with over 600 Class V wells in Nevada. The main types, and the majority of wells, of Class V permitted facilities under the UIC program are for groundwater remediation projects, injection of geothermal fluids at commercial facilities, and aquifer storage and recovery wells. For Class V wells added under regulation changes in 2001, which are mainly motor vehicle waste disposal wells, owners/operators of these types of wells will be notified based on the 1999 Class V Well Inventory results of identified facilities with potential wells. This process is currently under way, and owner/operators are being notified of the requirement to close their wells or obtain a permit by deadlines cited in the regulations (Ref. NAC 445A.8491-445A.8499) either via written notification or by technical field staff during site visits.

The NV Program will give priority to those Class II and Class V wells that have the highest potential to degrade ground water or more significantly, impact drinking water sources based on the following criteria:

1. Injection wells known to be injecting fluids containing hazardous contaminants
2. Injection wells known or suspected to be contaminating underground sources of drinking water;
3. Potentially affected population; and
4. Injection wells violating existing State requirements.

Any person proposing to construct, modify, and/or operate an injection well in the State must first make application to NDEP for a permit. The State has authority to issue individual, area, and general permits, having a five-year or less duration.

1. Individual permits are issued for one injection well.
2. Area permits - an application for an area permit can be made for more than one well of similar design and construction located within the same geographical area controlled and operated by the same owner and/or operator. Land status can be public and/or private.

3. General permits – see "General permits" section below.

Please note with the new injection well definition (NAC 445A.838) of 2001, injection wells vary in type, construction, size and depth. Injection wells now include leach and drain fields as well as vertical wells.

All Permittees must comply with well construction and operation, monitoring, and reporting requirements prescribed by the State UIC regulations. Injection wells must be situated, constructed, cased, and cemented so as to prevent migration of both injection and formation fluids outside of the zone of injection. For the appropriate types of wells, pressure observation fittings must be provided at the wellhead to allow periodic testing of the well. Upon completion of a new injection well, the Permittee must furnish constructed drawings, copies of drilling logs and results of tests made during construction, and an interpretive report dealing with subsurface conditions encountered during drilling, including injection zone characteristics, confining layers, faulting, etc. Injection may not begin until the Director has reviewed this information and has given approval to commence operation

The application must be signed by the owner or operator of the facility, and must contain sufficient information to allow a determination of whether or not migration of the injection fluid outside of the injection zone will occur. Such information includes the characteristics of the injection fluid, nature of the receiving formation, construction of the injection well, injection pressures, and rate of injection of fluid. The application must also contain complete information on wells, mines, quarries, etc., that penetrate the receiving formation within an area of review established by the regulations. A corrective action plan must also be submitted for poorly constructed or abandoned and unplugged wells within the area of review.

Public notice of a permit application, along with a description of the injection facility and the action proposed to be taken on the application, must be published in a daily newspaper serving the area in which an injection well is to be located. NDEP is also posting public notices on its website. A public comment period of 30 days following publication of the notice must be allowed, and a public hearing on the permit application will be held if public interest warrants it. After public notice requirements have been satisfied and public comments have been considered and addressed, NDEP will issue, modify or deny the permit. The permit will contain conditions that ensure the integrity of the well and the protection of groundwater.

An injection well permit is issued generally for a period of five years and may be re-issued prior to expiration upon application by the Permittee. NDEP has the authority to issue a permit with a term of less than 5 years if there is a reason or concern that validates such action. The permit may be transferred to a new owner if the new owner has 1) submitted a transfer notification with signature acknowledging responsibility for the permit conditions, and 2) presented evidence of financial responsibility that ensures funds necessary to properly plug the well upon abandonment. It may be revoked, terminated or modified for non-performance, failure to comply with permit conditions, misrepresentation of facts, because of a hazard to public health or the environment, or other good cause.

General permits. Certain Class V wells may be authorized by general permit in accordance with NAC 445A.891-445A.896. General permits cover 154 of the 278 permitted facilities. Lacking statutory authority for issuing permits by rule, NDEP can use the general permit mechanism to regulate Class V wells that have a low potential for ground water degradation, and are all of the same type and/or grouped within a specified geographic area. If a facility does not meet or is unlikely to meet the requirements for a general permit, an individual permit will be required. Examples of Class V wells eligible for general permits:

- Geothermal wells using a closed loop that return fluid to the geothermal aquifer used for domestic heating and inject no more fluid than an annual average of 1,800 gallons per day;
- Drainage wells for swimming pools having a capacity of 100,000 gallons or less;
- Drainage wells to drain the runoff from a storm;
- Large-capacity septic systems
- Wells used to inject a mixture of water and sand, mill tailings or other solids into subsurface mines;
- Wells used to inject remediation enhancement products at remediation sites;
- Wells used to inject fluid that has passed through various interceptors designed to collect oil, grease and sediment; and,
- Other shallow injection wells from various commercial or institutional operations, which have a consistent, non-contaminated waste stream. Well types might include, but are not limited to, industrial process waste and drainage wells, laundromat wells, food processing wells and vehicle wash water diposal wells.

Financial Assurance. Class II and commercial geothermal injection well Permittees are also required by the Nevada Division of Minerals (NDOM) regulations to post a surety bond in favor of the State of Nevada in the amount of at least $10,000 per well or $50,000 state-wide to guarantee that abandoned wells are properly plugged. NDEP may use the bond filed with the NDOM. While generally adequate, NDEP may require additional bonding if necessary for a particular well. The Memorandum of Understanding between NDOM and NDEP allows NDEP to use the bond filed with NDOM if the Permittee fails to plug an abandoned well in accordance with the UIC regulations. A similar understanding exists between NDEP and the Bureau of Land Management. Permittees are required to supply the Division with financial assurance of some form, and in cases of small shallow wells, submit an Affidavit from the Nevada Division of Water Resources.

3. Compliance Assessment

UIC Monitoring Reports Individual and general permits typically contain conditions, limitations and monitoring requirements. These conditions can include, based on the injection activity: 1) routine injectate and ground water sampling and analysis, 2) routine monitoring of injection pressures, rates and temperature to show limitations are not being exceeded, 3) narrative descriptions of activities related to injection, 4) water level measurements, 5) submission of well logs and other injection well survey results, and 6) other special conditions. Permittees are required to submit monitoring reports on a routine basis, usually quarterly. For certain project types, reports are due on a semi-annual and annual basis. Monitoring reports are due every quarter (or required interval), whether injecting or not, unless the Permittee has received a

written waiver from the UIC Program. Enforcement actions are taken when non-compliance with permit conditions are identified in these reports.

Inspections. In order to ensure compliance with the State UIC regulations and permit conditions, NDEP conducts field inspections, sometimes annually, of all injection wells. Significant infractions discovered by such field inspections are addressed through abatement orders with schedules of compliance for corrective action. Penalties authorized by State statute are sought depending on circumstances surrounding the infraction.

Mechanical Integrity Testing (NAC 445A.916 through 445A.921) specified by the State UIC regulations shall be conducted on all Class II injection wells and designated Class V wells (geothermal recharge wells) at least once every five years. NDEP does not propose to require mechanical integrity testing on gravity-fed Class V wells such as urban runoff wells, dry wells, etc. Acceptable tests for determining mechanical integrity are specified by the State UIC regulations. The Permittee must provide a 45-day advance notice of the intent to conduct a mechanical integrity test, and it is the intent of NDEP to witness each test.

Each subject Permittee is required to monitor injection pressure, rate of injection, and volume of injection fluid with a frequency specified by the State UIC regulations, as stipulated in the permit. Records of all monitoring data must be maintained by the Permittee for a period of three to five years. Reports of the data and other pertinent information must be submitted to NDEP in accordance with the regulations and the authorizing permit.

Mechanical integrity testing will be conducted on Class III wells as needed.

Injectate Characterization and Quality Assurance. Injection well operators may be required to sample the injectate at or near the injection wellhead and receiving environment to verify their compliance status. NDEP may require split sample collection in accordance with the QA/QC Plan. Violations detected in either case could lead to an enforcement action.

4. Enforcement

The State will protect groundwater through implementation of an effective enforcement/compliance program and will take appropriate enforcement action against any class of well found to be in non-compliance. Individual enforcement/compliance tasks are:

- Through inspections and permit monitoring, identify all wells in non-compliance or significant non-compliance and take appropriate action. Coordinate enforcement activities with local, state and Federal agencies as appropriate

- Investigate reports of unauthorized injections and take timely and appropriate actions to protect groundwater quality. Responding to such reports is a high State priority and will be addressed as necessary.

- For Class II wells and geothermal Class V wells, after coordinating with NDOM / BLM

on compliance/enforcement issues, send respective agencies documentation of all outcomes via correspondence (hardcopy and/or electronically).

- Take enforcement action against all facilities or operators identified by EPA for national enforcement action. Action will be taken within 60 days of notification by EPA to the State and submittal of the names, locations, and other data which EPA may have gathered.

Each Permittee has a regulatory responsibility to comply with the terms and conditions of the permit. Failure to do so renders the Permittee vulnerable to enforcement by the State. In case of minor infractions, these actions may begin with a simple letter from NDEP to the Permittee informing them of noncompliance and requiring specific corrective actions necessary to ensure compliance with the permit. Nevada statutes also provide authority to issue formal orders that incorporate compliance schedules; initiate a civil action against a violator; and to request the attorney general to institute criminal proceedings. The statutes establish a civil penalty of not more than $25,000 for each day of violation of State law, permit, rule, regulation, standard or final order. The criminal penalties associated with a willful or criminally negligent violation amount to $25,000 for each day of each violation, or by imprisonment for not more than one year, or both fine and imprisonment. A second conviction carries a fine of not more than $50,000, or imprisonment of not less than one or more than six years, or both.

The civil and criminal penalties currently contained in the statutes are intended to provide a deterrent to potential violators that are equivalent in substance to that provided by Federal law. The State will demonstrate its authority whenever appropriate so that the regulated community will be aware of the consequences of non-compliance. Amendments to the SDWA provide EPA with the authority to assess civil penalties of not more than $5,500 (1997) if an infraction is related to a Class II injection well. Aside from Class V wells, the only injection wells found in Nevada are Class II wells. Class I and Class IV wells are prohibited, with exception of Class IV wells associated with CERCLA and State Corrective Action projects, and Class III wells are currently nonexistent in the State.

Emergency Action. Authority exists under the State UIC regulations to take emergency action to halt or suspend construction or operation of an injection well or facility if such facility poses a danger to public health or safety.

Temporary permits with a duration of 90 days or less without an application being submitted are also authorized upon a determination that such a permit is necessary to prevent an imminent and substantial endangerment of public health or a substantial delay in the operation of an oil, gas or geothermal production facility that has other permitted injection wells. The former provision only applies to emergency cases, and do not apply to remediation projects which are not an imminent threat to a receptor water wells or public health. The latter provision is designed to accommodate a mishap to a permitted, operating injection well that necessitates its closure. For example, a temporary permit can be issued to allow construction of a new well alongside the damaged one. Another example of an activity that justifies a temporary permit is the re-injection of groundwater that has been pumped and treated to remove a toxic or hazardous contaminant as part of a clean-up plan approved by NDEP and EPA. Under Nevada revised regulations, a

temporary permit may also be issued for pilot projects or other limited duration tests, where either the pilot project is necessary to determine the project feasibility or the specific permit monitoring requirements for a prospective injection permit; or, where the limited duration of a test does not justify time or fiscal resources for a permit to inject fluids, provided there are no imminent environmental concerns.

5. Plugging and Abandonment of Injection Wells

The State regulations require that a permit applicant provide, as part of a plugging and abandonment plan that becomes a condition of the permit, a current estimate of the cost to properly plug the well for which the application is made. This estimate must be reviewed annually during the life of a permit by the Permittee. NDEP must be informed when the annual review indicates that the cost of plugging has increased by more than 10 percent over the original or most recent estimate. The applicant must provide evidence to NDEP that a surety bond in favor of the State of Nevada in an amount not less than that of the cost estimate contained in the Plugging and Abandonment Plan has been obtained. After plugging and abandonment of any well is complete, the Permittee must certify that the work was done in accordance with the plan, and the surety (if required) covering abandonment can be released.

It is the intent of NDEP to witness as many plugging operations as staff resources will allow. Working agreements with the NDOM, Division of Water Resources, and U.S. Bureau of Land Management allow NDEP to accept witnessing by their technical staffs of a plugging and abandonment operation, thus extending NDEP's resources. In most cases, plugging will be certified by not only the Permittee, but by a representative of a regulatory agency.

6. Compliance Assistance

Public outreach and education is a priority in the Nevada UIC program. The program is currently conducting outreach efforts to local governments and the public through various formats, including an NDEP website (http://ndep.nv.gov/bwpc/uic01.htm) explaining Class V well requirements and related permitting requirements. Public workshops are held when important information needs to be disseminated to the public, and have been conducted to educate interested parties about the Class V Rule impacts to Nevada as well as to inform them about other significant modifications made to the UIC regulations. In addition, mass mailings are used as an outreach tool to educate the public, local government officials, consultant and engineers, and other interested parties.

7. Data Management.

The State has implemented and is maintaining a database for permit compliance tracking and enforcement. The database is routinely used for tracking permits, fees, inspections, and enforcement actions. Upgrades are planned to the database which will expedite internal and external reporting.

8. Integration with other programs/agencies

The UIC program at NDEP is working cross-programmatically with the Source Water Program, the National Pollutant Discharge Elimination System (NPDES) program, and other programs to implement state ground water protection measures. Since 1998, the Nevada UIC Program has been coordinating with the Wellhead Protection Program and the Public Water System Program at the State Health Division for source water assessment and protection. This effort includes the development of maps of ground water protection areas and other sensitive ground water areas, which can be used to enhance regulatory decision-making and water resource planning.

Other programs at NDEP have historically regulated discharges brought into the UIC program through the federal Class V Rule (December 1999) and subsequent state code changes, which clarify the definition of a "well" to include subsurface fluid distribution systems. Consequently, leach or drain fields are now defined as a well. Various permits for shallow well injection (primarily leach fields) have historically been issued and continue to be issued by NDEP programs other than the Underground Injection Control Program, under authority of Nevada's UIC regulations; Water Pollution Control regulations, NAC 445A.070 to 445A.348, inclusive; and Nevada's Mining Facilities regulations, NAC 445A.350 to NAC 445A.447, inclusive. All permits for injection wells, regardless of which State program authorizes such injection, must be at least as stringent as Nevada's UIC regulations. The Bureau of Mining Regulation and Reclamation (BMR&R) authorizes various types of shallow injection activities, primarily associated with storm water and heap leach drain downs.

At the Director's discretion, the Underground Injection Control Program may issue permits in lieu of permit issuance by the other programs, if the Director determines that protection of underground sources of drinking water is better served by this action. The UIC Program will continue to work with all programs that oversee UIC wells to ensure compliance with the UIC regulations, and to develop and maintain a comprehensive inventory of wells in the State.

Chapter 522 of the Nevada Revised Statutes governs oil and gas producing wells in the Nevada, and the Nevada Division of Minerals (NDOM) has adopted the implementation of these regulations. Geothermal wells are also regulated by the NDOM under authority granted by Chapter 534A of the Nevada Revised Statutes. The Nevada UIC program is not however, dependent on the authority attained by NDOM because NDOM implementing regulations do not regulate injection wells to the extent required by federal law. The NDOM's authority principally involves regulation of the industry to ensure that no waste of oil or gas resources occurs. They have adopted regulations for the spacing, construction, operation, measurement of hydrocarbons (for royalty purposes) and abandonment of oil and gas production and injection wells. However, only approximately one page of their regulations deals with injection wells. The NDOM does require bonding of both injection and production wells. NAC 445A.871 of the Nevada UIC regulations requires an applicant to submit documentation that a valid and sufficient bond in favor of the State in a sum equal to the estimated cost contained in the plan for the plugging and abandonment of the well has been obtained. If an applicant has obtained a bond with the NDOM that is sufficient to cover the cost of plugging and abandoning the well, then an additional bond payable to NDEP does not have to be obtained. However, if the bond is not sufficient to cover

these costs, then the bond amount may be increased by the UIC Program such that the coverage is adequate.

The NDOM also issues permits for all oil, gas, and geothermal wells pursuant to NDOM regulations. Regulations adopted by the NDOM in some cases parallel the State UIC regulations, but not to the level which EPA requires for State primacy. Therefore, the Nevada UIC program cannot and does not rely upon the NDOM's regulatory authority. A Memorandum of Understanding has been developed between NDEP and the NDOM to ensure coordination of activities, including sharing of information and data between the two agencies and allowing NDEP to utilize the performance bond required by NDOM to plug abandoned wells. This cooperative effort provides an additional check on underground injection activities in Nevada and reinforces the State UIC program. A similar Memorandum of Understanding exists between NDEP and the United States Bureau of Land Management for injection wells constructed on Federal lands.

The Memorandum of Understanding with both agencies facilitates the sharing of information and data, sharing of resources, and allows the NDEP to utilize the performance bond required by the NDOM and BLM to plug abandoned wells. NDOM issues drilling permits for all oil, gas and geothermal wells. The Memorandum of Understanding includes provisions for the NDEP and NDOM to exchange applications, information of abandoned wells and inspection reports and provides for access to all relative files. This will ensure that activities subject to each agency's jurisdiction are discovered and properly permitted. The Memorandum of Understanding also states that each agency is responsible for enforcement of its own regulations, permits and permit conditions. This recognizes that each agency has different mandates. For example, the NDOM is principally tasked with ensuring geothermal injection wells will not cool the mineral resource, especially if a nearby geothermal developer could potentially be impacted. The NDEP is tasked with ensuring that the spent geothermal water is disposed of into the geothermal reservoir in a way that will not degrade nearby waters.

IV. RESOURCES AND ADMINISTRATION

The Department of Conservation and Natural Resources (DC&NR) is one of 14 major operating departments in Nevada State Government. The DC&NR is responsible for the establishment and administration of goals, objectives and priorities for the preservation of the State's natural resources. The Director's office provides administrative, technical, budgetary and supervisory support for eight divisions, three special programs and selected boards and commissions. Included within the DC&NR is the Division of Environmental Protection (NDEP), whose mission is to protect and enhance the environment of the State of Nevada consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, the operation of existing industries, the pursuit of agriculture, and economic development activities. The NDEP includes four offices and eight bureaus and carries out planning, implementation and oversight of the State's air, solid/hazardous waste, and water pollution control programs. The NDEP implements the UIC program within The Bureau of Water Pollution Control. An organization chart for the Bureau of Water Pollution Control is available at the website.

The NDEP currently employs a full-time Environmental Scientist IV Supervisor and a full-time Environmental Scientist III positions (core staff) to implement the UIC program. The UIC staff works with the bureau's support staff for clerical, administrative and legal services. No funds come out of the UIC funding for these support positions. Primary tasks performed by the core staff are inspections/mechanical integrity tests, enforcement/compliance, permitting, public information and education, training, technical assistance, quality assurance, coordination and administration of the UIC Program and reporting to EPA. NDEP participates in workshops, training sessions, seminars, and conferences that contribute to UIC program effectiveness.

Funds to administer the UIC program in Nevada are comprised of Federal grant monies, which are matched by State funds derived from UIC permit fee revenues. Projected budgets and estimated time resources are broken out by tasks, illustrated using numbers from the Nevada UIC Workplan for two-year cycles based on the state fiscal year. Current expenditures include these baseline as well as "special project" activities, which are not funded from the UIC grant, but from a separate funding source provided by the Safe Drinking Water State Revolving Funds (SRF). The special projects funded by the Safe Drinking Water SRF are the Class V injection well inventory (completed June 30, 2002) and the State's Other Sensitive Groundwater Area (OSGWA) plan. A contract position assigned to collecting Class V inventory data is also being funded from SRF set-aside until 2005.

Overall, the State predicts that the core UIC workload will continue to increase due to Nevada's sustained and rapid growth rate. This will likely necessitate future budget increases and potential staff increase.